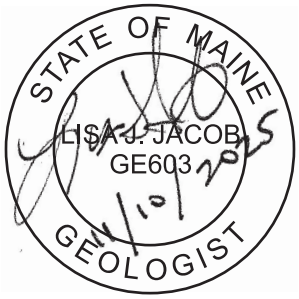
PHASE II EXPANSION APPLICATION
SITE ASSESSMENT REPORT
JUNIPER RIDGE LANDFILL
VOLUME II

Prepared for

STATE OF MAINE BUREAU OF GENERAL SERVICES,
as Owner
and
NEWSME LANDFILL OPERATIONS, LLC
as Operator



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EXECUTIVE SUMMARY

This Site Assessment Report (SAR) has been prepared on behalf of the Maine Bureau of General Services (BGS), as the owner of Juniper Ridge Landfill (JRL) in Old Town, Maine, and NEWSME Landfill Operations, LLC (NEWSME), as operator[1] of JRL, by Sevee & Maher Engineers, Inc. (SME) for the proposed non-hazardous solid waste landfill Expansion of the JRL Facility (Phase II Expansion). This SAR summarizes information compiled regarding the Phase II Expansion and surrounding area to-date and presents the information required in Section 401.2.C of the Maine Solid Waste Management Rules (Rules), effective April 12, 2015, as amended. The purpose of this report is to identify site characteristics and provide recommendations for landfill design and construction, identify all potentially impacted sensitive receptors, and assess groundwater flow time of travel. This report also demonstrates the suitability of the Phase II Expansion site under the prohibitive and restrictive siting criteria of the Rules (ref. 401.1.C(2) and (3)).

The following table summarizes the contents of this SAR.

TABLE 1

SUMMARY OF SAR CONTENTS

Section	Description
Section 1.0	Introduction and history of previous site permitting and the most recent 9.35 million cubic yard (MCY) landfill expansion approved in 2017.
Section 2.0	Description of site setting and summary of available published data relating to the Phase II Expansion, including climate, wetland and surface water features, floodplains, natural resources, and seismicity.
Section 3.0	Summary of previous subsurface investigations and soils laboratory testing.
Section 4.0	Summary of Phase II Expansion site geologic characteristics.
Section 5.0	Summary of Phase II Expansion site hydrogeologic characteristics.
Section 6.0	Identification of sensitive receptors surrounding Phase II Expansion and analysis of groundwater time of travel.
Section 7.0	Summaries of JRL historical and proposed Phase II Expansion environmental monitoring programs.
Section 8.0	Findings and conclusions of Site Assessment Report.

[1] NEWSME, an indirect subsidiary of Casella Waste Systems, Inc. (CWS), operates JRL under an Operating Services Agreement (OSA) that was entered into between the State of Maine and CWS on February 5, 2004, and amended on July 24, 2006, November 2, 2006, and December 21, 2015.

PHASE II EXPANSION APPLICATION
SITE ASSESSMENT REPORT
JUNIPER RIDGE LANDFILL

1.0 INTRODUCTION

BGS, as the owner, and NEWSME, as the operator, are proposing the Phase II Expansion of the JRL facility located in Old Town, Maine. For the purposes of this SAR, the term "Phase II Expansion" refers to the currently proposed landfill expansion; the term "Site" refers to the existing permitted landfill and the entire JRL property owned by BGS.

The existing Site was selected through a comprehensive site search, initiated by James River Paper Company, Inc. in 1988, that involved the identification and evaluation of over 58 potential landfill sites within a 20-mile radius of the Old Town papermill. The landfill was first permitted in 1993, with construction beginning in 1996. The landfill was originally operated by James River Paper Company, Inc. The State of Maine purchased the landfill in 2004 from the Fort James Operating Company, a successor of James River. On February 5, 2004, the State of Maine and Casella Waste Systems entered into an Operating Services Agreement (OSA) for operation of the Site. The original JRL consists of ten landfill Cells located over approximately 68 acres.

In 2006, a Preliminary Information Report (PIR) (SME, 2006) was submitted for an expansion (so-called Phase I Expansion) of approximately 115 acres and 22.4 million cubic yards (MCY) of disposal capacity. The Maine Department of Environmental Protection (MEDEP) approved the 2006 PIR in a letter dated April 13, 2007 (MEDEP, 2007). The letter stated that "the proposed landfill expansion appears to be environmentally feasible" and noted that "none of the siting criteria of Chapter 401.1.C(2) (MEDEP, 2015a) prohibited the proposed landfill." Ultimately, this 2006 expansion project was approved in 2017 as a smaller expansion footprint of 54 acres and 9.35 MCY. The currently proposed Phase II Expansion incorporates the additional areas previously approved by the MEDEP's 2007 letter.

JRL has been constructed as a secure landfill to protect the groundwater beneath the site and surface waters surrounding the site. The initially approved landfill was constructed with an underdrain, composite liner, and leachate collection system. The Phase I Expansion was constructed with a double composite liner, leak detection system, and leachate collection system. Leachate generated at the Site is collected, stored, and transported to an off-site wastewater treatment plant for treatment. A glass-lined, above-ground storage tank replaced the former leachate pond (which was located to the southwest of the existing landfill) in 2009. During the summer of 2009, the MEDEP approved the use of the former leachate pond for stormwater detention of runoff from the intermediate covered portion of the inactive landfill, as long as the pond was not used for leachate storage at the same time. The pond was renamed Detention Pond 1A during Cell 15 construction in 2023.

To date, landfill Cells 1 through 16 have been constructed, covering approximately 115 acres of the permitted 122-acre solid waste footprint. The final permitted cell of the Phase I Expansion, Cell 17, is anticipated to be constructed in 2026. The liner construction details for Cells 1 through 17 are summarized in Table 1-1.

TABLE 1-1

SUMMARY OF PERMITTED LANDFILL CELL LINER CONSTRUCTION

Landfill Cell Identification	Landfill Liner Details
Cell 1	Primary Liner – 24 Inches Compacted Glacial Till, 80-mil HDPE Geomembrane
Cell 2	Primary Liner – 24 Inches Compacted Glacial Till, GCL, 80-mil HDPE Geomembrane
Cells 3 through 10	Primary Liner – 24 Inches Compacted Clay, GCL, 80-mil HDPE Geomembrane
Cells 11 through 17 [1]	Primary Liner – 12 Inches Compacted Clay, GCL, 80-mil HDPE Geomembrane Secondary Liner – 12 Inches Compacted Clay, 60-mil HDPE Geomembrane

Notes:
[1] In areas where the base grades of Cells 11 and 16 are closer than five feet to bedrock, the secondary liner is augmented with a GCL and an additional 12 inches of compacted clay.

HDPE – high-density polyethylene
GCL – geosynthetic clay liner

At the end of 2023, the remaining permitted capacity at JRL was approximately 5.3 million cubic yards MCY, representing about five years of disposal capacity using 2023 utilization rates.[2] The anticipated usage rate based on an average of the last three years (2021, 2022, and 2023) is about 880,000 tons per year or 1.05 MCY per year. To meet the long-term solid waste disposal needs of the State of Maine, BGS, and NEWSME propose to expand the Site's current permitted solid waste boundary by approximately 57 acres and increase the JRL facility's overall waste disposal capacity by 11.9 MCY.

In 2023, a PIR (SME, 2023) was submitted for the currently proposed Phase II Expansion of 11.9 MCY. The MEDEP approved the 2023 PIR in a letter dated November 6, 2023, which is included in Appendix A. The letter stated that "the Phase II Expansion is environmentally feasible and that the prohibitive siting criteria of 06-096 C.M.R. ch. 401, §1(C)(2) have been met."

[2] In 2023, the capacity consumed at JRL was about 975,800 cubic yards.

2.0 SITE SETTING AND FEATURES

This section presents background information regarding the surrounding land use, Site layout, regional hydrogeologic setting and groundwater use, regional climate, surface water features, floodplain/shoreland/resource protection zones, and seismicity in proximity to the Phase II Expansion area. The information comes from published sources as well as previous investigations conducted for the existing Facility.

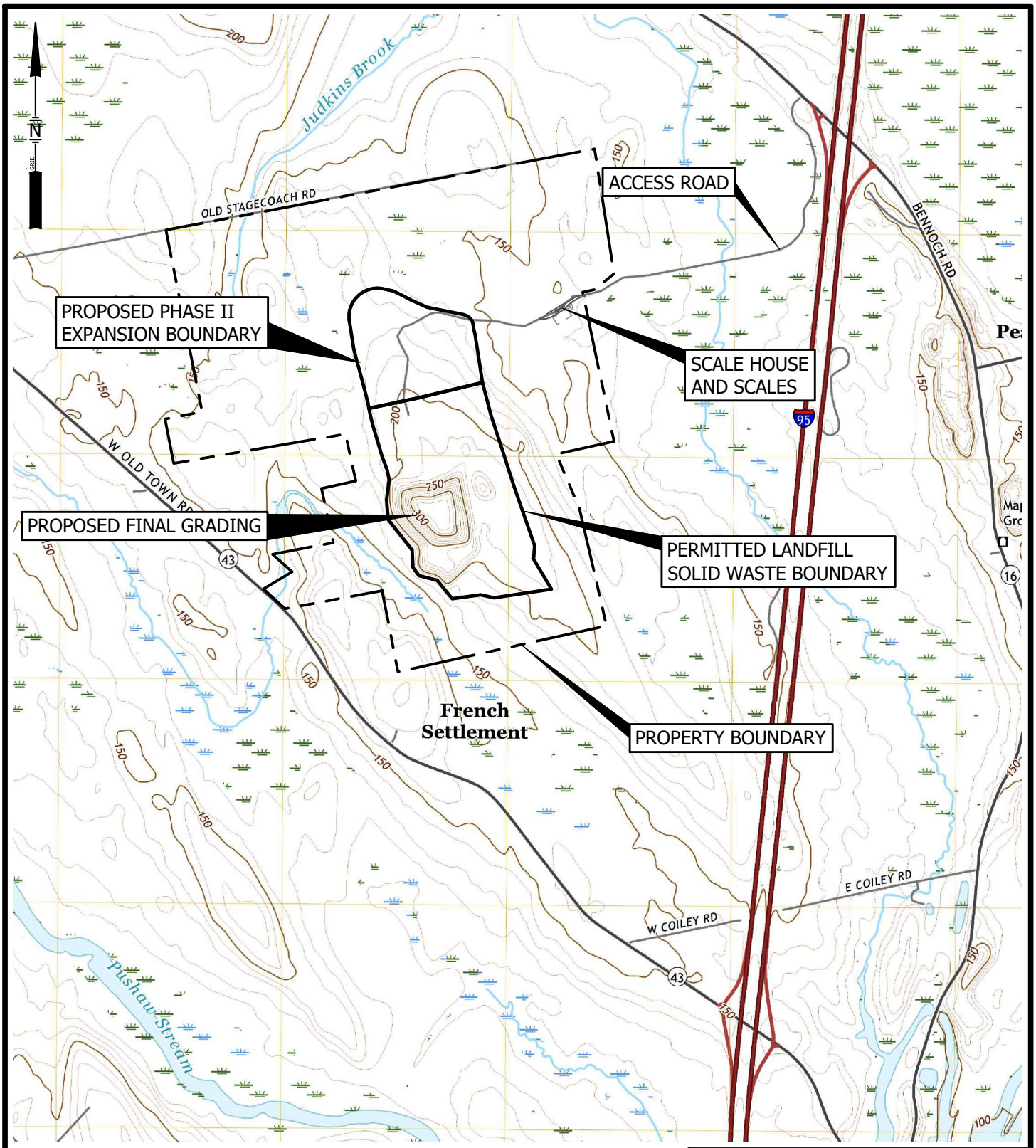
2.1 Site Setting and Cultural Features

The Site is located west of Interstate I-95 in the City of Old Town (Old Town) approximately 1.4 miles southwest of Exit 199, as shown on the United States Geological Survey (USGS) Topographic Quadrangle in Figure 2-1. Existing ground elevations within the Phase II Expansion footprint range from approximately 160 feet above National Geodetic Vertical Datum (NGVD) to 200 feet NGVD, similar to those of the existing landfill. The Phase II Expansion is located north of and contiguous to the existing permitted landfill within an approximate 780-acre parcel of land owned by the BGS, as depicted in Figure 2-1. Access to the Site is by means of a paved, approximately two-mile-long, private road that joins Route 16 in Alton, Maine.

The Site is located in a locally designated landfill "L-1" zone that is surrounded by a rural residential and farming "R-3A" Zone, as defined by the City of Old Town Zoning Ordinance (City of Old Town, 2010). Similar to the permitted portion of the landfill, the Phase II Expansion is located on a wooded parcel of land with mixed hardwoods and softwoods. The undeveloped area surrounding the Phase II Expansion consists of mature woodlands.

The original landfill location was selected in part because of its isolated nature and the topographic features separating the Site from existing dwellings along Route 43, Old Stagecoach Road, and Route 16. The distances from the Phase II Expansion's solid waste boundary to surrounding Site features are summarized in Table 2-1 and shown on Figure 2-2. The setback distances from the Phase II Expansion solid waste boundaries, required per Chapter 401 Section 1.E(II) (MEDEP, 2015a), are described in detail in Volume I of this Application.

Existing dwellings along regional roads are supplied with potable water from drilled or dug wells that are hydrogeologically isolated from the permitted landfill and the Phase II Expansion by topographic features, wetlands, and streams, as shown on Figures 2-2 and 2-3.



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLE
OLD TOWN, MAINE - 2021
GREENBUSH, MAINE - 2021

1000 0 2000 FEET

DWG: SITELOC LMN: USGS MAP CTB: SME-STD REV: 5/30/2025

FIGURE 2-1
USGS TOPOGRAPHIC MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

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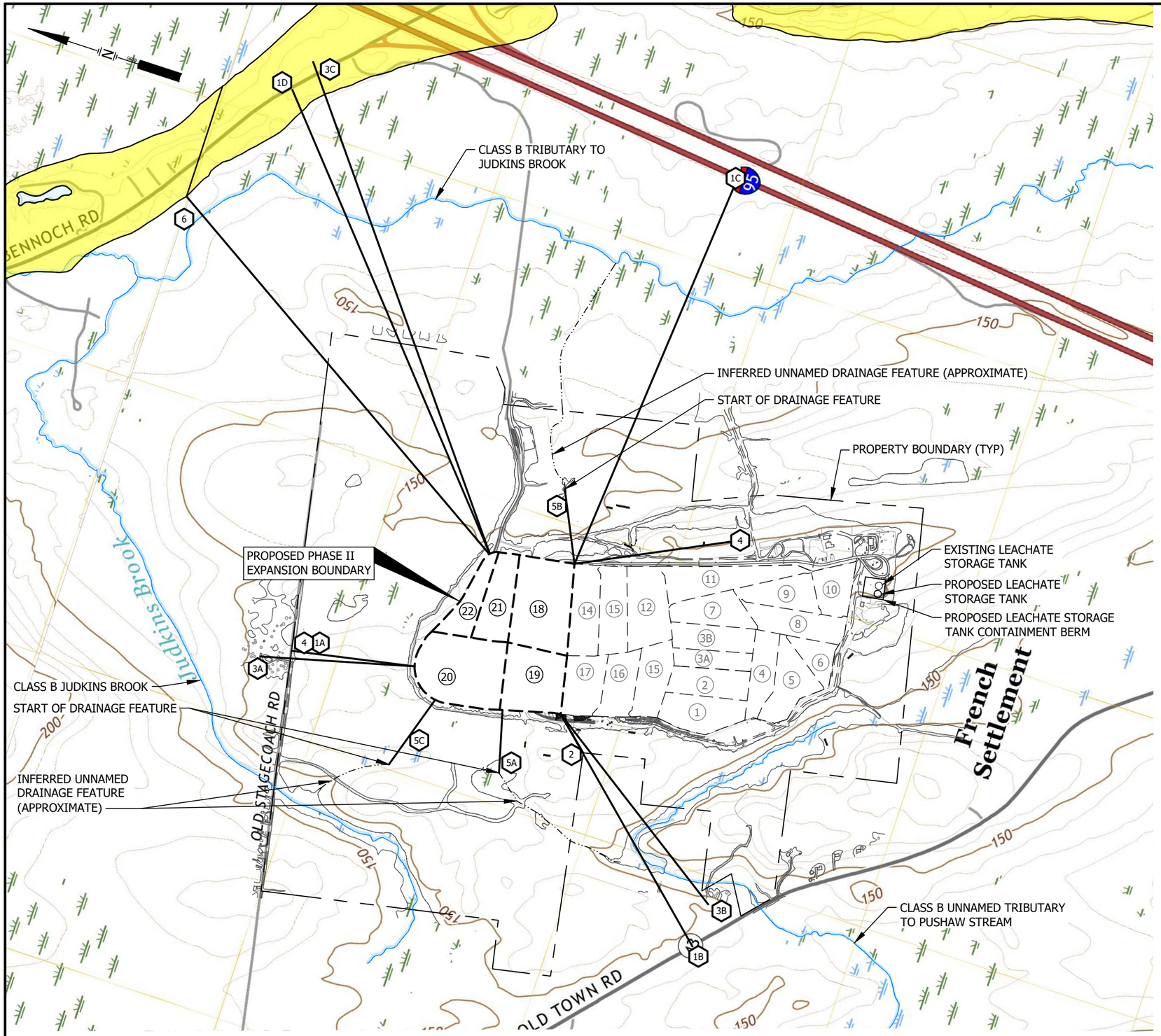
TABLE 2-1

GENERAL SITE SETTING

Feature	Approximate Distance to Phase II Expansion Solid Waste Boundary
Route 43	3,020 ft
Nearest residence along Route 43	2,720 ft
Route 16	5,720 ft
Nearest residence along Route 16	5,900 ft
Interstate 95	4,620 ft
Old Stagecoach Road	1,400 ft
Nearest residence along Old Stagecoach Road	1,760 ft
Nearest property line	513 ft
Old Town/Alton Town Line	1,400 ft
Unmapped and unnamed drainage to Class B Judkins Brook (East)	817 ft
Unmapped and unnamed drainage to Class B Judkins Brook (West)	907 ft
Unmapped and unnamed drainage to Class B Pushaw Stream (West)	712 ft
Nearest Significant Sand and Gravel Aquifer	5,300 ft



DISTANCES TO SURROUNDING FEATURES		
FEATURE ID	DISTANCE FROM PHASE II BOUNDARY (FEET - APPROXIMATE)	DESCRIPTION
1A	1,400 FEET	OLD STAGECOACH ROAD
1B	3,020 FEET	ROUTE 43
1C	4,620 FEET	I-95
1D	5,720 FEET	BENNOCH ROAD (ROUTE 16)
2	513 FEET	NEAREST PROPERTY LINE
3A	1,760 FEET	NEAREST RESIDENCE (OLD STAGECOACH ROAD)
3B	2,720 FEET	NEAREST RESIDENCE (ROUTE 43)
3C	5,900 FEET	NEAREST RESIDENCE (ROUTE 16)
4	1,400 FEET	OLD TOWN/ALTON TOWN LINE
5A	712 FEET	DRAINAGE FEATURE TO CLASS B WATER COURSE
5B	817 FEET	DRAINAGE FEATURE TO CLASS B WATER COURSE
5C	907 FEET	DRAINAGE FEATURE TO CLASS B WATER COURSE
6	5,300 FEET	NEAREST SIGNIFICANT SAND AND GRAVEL AQUIFER

LEGEND:

- PROPERTY LINE
- (18) PHASE II EXPANSION CELL NUMBERS
- (11) EXISTING LANDFILL CELL NUMBERS
- PHASE II EXPANSION CELL LIMITS
- EXISTING LANDFILL CELL LIMITS
- 1A FEATURE ID (SEE TABLE THIS DWG)

NOTES:

1. BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
   OLD TOWN, MAINE - 2021
   GREENBUSH, MAINE - 2021

600 0 1200 FEET

FIGURE 2-2
PHASE II EXPANSION DISTANCES TO SURROUNDING FEATURES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

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DWG: GW LMN: SITE CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 10/30/2025

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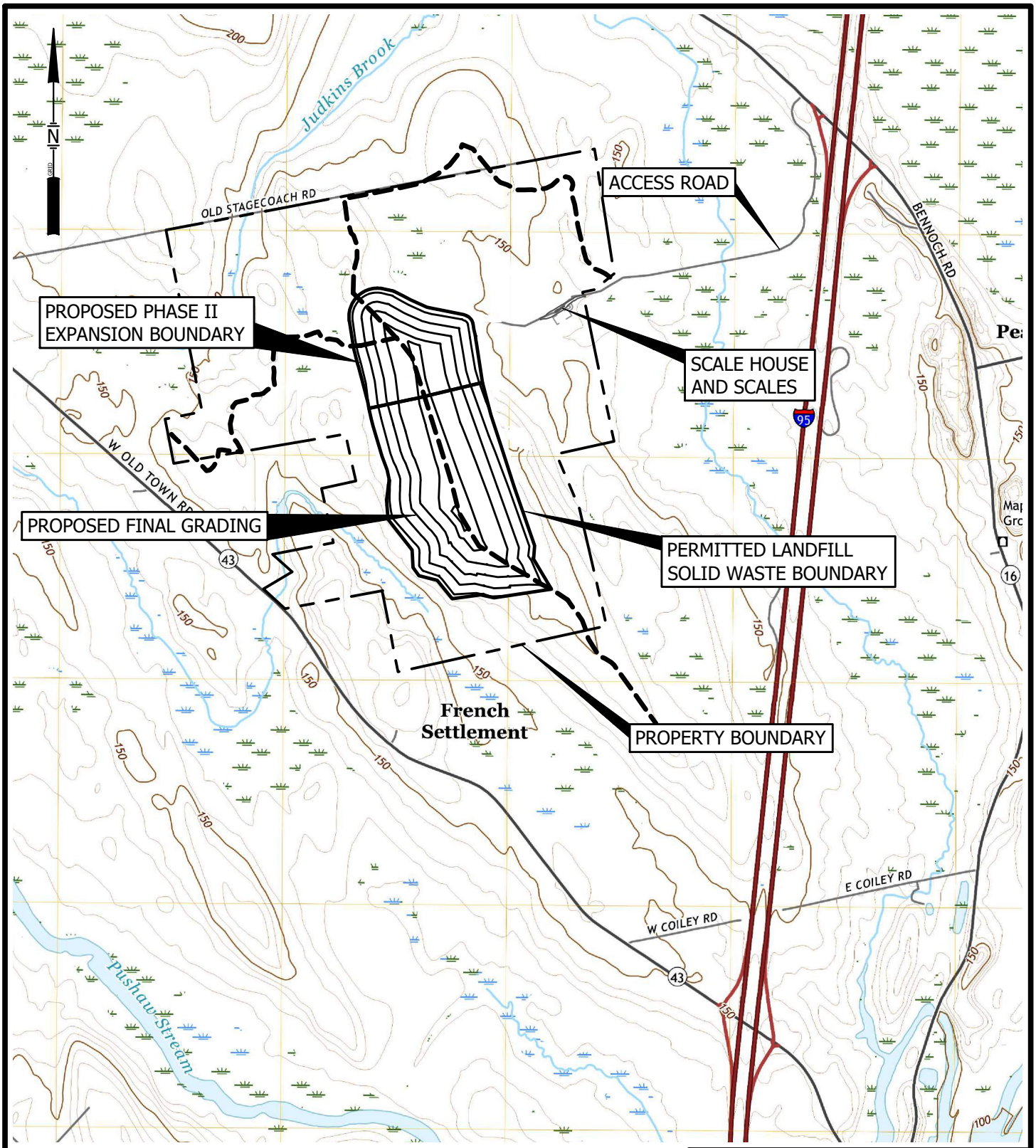

BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLE
OLD TOWN, MAINE - 2021
GREENBUSH, MAINE - 2021

1000 0 2000 FEET

DWG: SITELOC LMN: WATERSHED CTB: SME-STD REV: 6/2/2025

FIGURE 2-3
SITE WATERSHEDS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

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2.2 Regional Climate

A review of the National Oceanic and Atmospheric Administration (NOAA) climatological records for the last 30 years indicate that the Bangor area experiences a mean annual precipitation of approximately 43.1 inches per year and a mean annual temperature of approximately 45.3 degrees Fahrenheit (°F) (NOAA, 2024). July is typically the warmest month of the year when the temperature reaches an average of 69.7°F, and January the coldest having an average temperature of 19.0°F. Mean annual snowfall totals 73.4 inches per year, with January receiving the most snow.

In a Maine woodland setting like JRL, about one-third to one-half of the mean annual precipitation is returned to the atmosphere through evapotranspiration, primarily between May and September. The remainder of the precipitation infiltrates into the groundwater system or drains overland as surface flow. Groundwater recharge is limited when the ground is frozen, a condition that exists generally from the months of December through April in this region of Maine. Modeling studies have suggested that groundwater recharge on northern Maine glacial till sites may range between three and six inches per year (Gerber and Hebson, 1996).

2.3 Surface Water Features and Wetlands

The Site watersheds are illustrated in Figure 2-3. The approximately 780-acre site is divided into three watersheds: one draining to the east; one to the northwest; and another draining to the southwest.

The northwest watershed contributes to Judkins Brook (Class B), which eventually joins Birch Stream (Class A) northeast of the Site, and isolates existing groundwater users northwest of the landfill along Route 43 and existing groundwater users located west of Judkins Brook along Old Stagecoach Road. One existing residence on Old Stagecoach Road is located east of Judkins Brook and approximately 1,760 feet north of the Phase II Expansion. This residence will also remain hydraulically isolated from groundwater from the JRL site. The north/south oriented watershed divide north of the Phase II Expansion results in groundwater flow directions away from the landfill to the east and west. While this residence is located within the same watershed as the northwest corner of the Phase II Expansion, groundwater flow from the northwest corner of the Phase II Expansion will discharge to an unnamed tributary to Judkins Brook (Class B) and will not flow toward this residence. This is further described in Sections 5.0 and 6.0.

The southwest watershed contributes to an unnamed tributary (Class B) that empties into Pushaw Stream (Class B) and isolates existing groundwater users located to the southwest of the landfill along Route 43.

The watershed east of the Phase II Expansion empties into another unnamed tributary (Class B), which flows east and eventually drains to Judkins Brook. These surface water features isolate the landfill site groundwater from existing groundwater users along Route 16.

There are no Class AA or SA surface waters within 1,000 feet of the Phase II Expansion footprint and no classified surface waters within 100 feet. The mapped Class B unnamed tributary east of the Site has a drainage divide, with the southern portion of this feature draining south to Pushaw Stream. Both Birch Stream and Pushaw Stream empty into the Stillwater River (Class B), which flows to the Penobscot River (Class B). The distances to surface water features are summarized in Table 2-1 and shown on Figure 2-2.

The existing JRL and Phase II Expansion are located along the higher topography on the Site along the ridge of a glacially deposited drumlin. There are wetlands at the Site that are generally situated in the lower topographic areas of the Site. The Maine Geologic Survey Freshwater Wetland Map and National Wetlands Inventory Freshwater Wetlands mapping are shown on Figures 2-4 and 2-5, respectively.

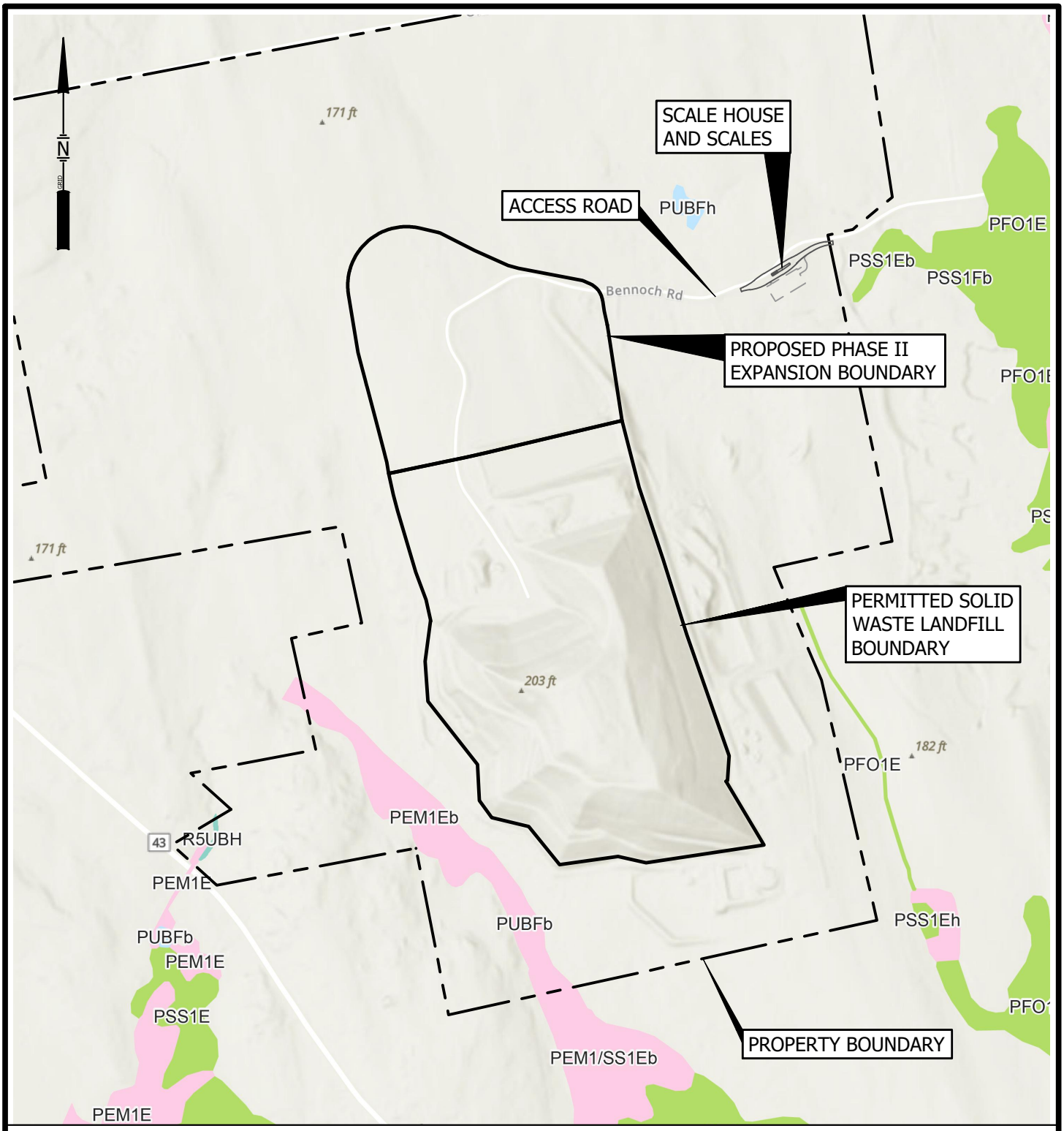
An on-site wetlands determination was conducted by Biodiversity Research Institute (BRI) of Portland, Maine in November and December 2022. Based on this study, the Phase II Expansion is surrounded by a large wetland complex. The wetland mapping conducted by BRI is included in and discussed in Volume V of the Phase II Expansion Application.

2.4 Floodplain/Shoreland/Resource Protection Zone.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map 230112 1926 D (FEMA, 2023), the Phase II Expansion is not located within a 100-year floodplain. The Zone Map for the City of Old Town prepared by James W. Sewall Company was reviewed to determine the locations of the City of Old Town resource protection "P-1" zones and shoreland zones. The Phase II Expansion is not located within the City of Old Town's resource protection "P-1" zones or shoreland zones. Figure 2-6 illustrates the location of the mapped FEMA 100-year floodplain for surface water bodies adjacent to the Site, and the Town's resource protection "P-1" zones and shoreland protection zones in the vicinity of the Site.

2.5 Earthquakes in the Site Vicinity

Figure 2-7 illustrates the distribution and magnitude of earthquake epicenters in Maine for the period 1900 to October 2024. One-hundred and sixty-two (162) documented earthquakes have occurred within a 50-kilometer radius of the Site with magnitudes ranging from 0.2 to 4.5 on the Richter scale (Weston Observatory, 2024). The largest magnitude earthquake within this 50-kilometer radius occurred in 1928 with a magnitude of 4.5 on the Richter scale and was located approximately 25 kilometers from the Site. The Weston Observatory historical data (i.e., from 1990 to October 2024) for earthquakes located within 50 kilometers of the proposed Phase II Expansion is included in Appendix B.



LEGEND

- Freshwater Emergent Wetland
- Freshwater Forested/Scrub Wetland
- Freshwater Pond
- Riverine
- PFO4E Wetland classification

NOTE:

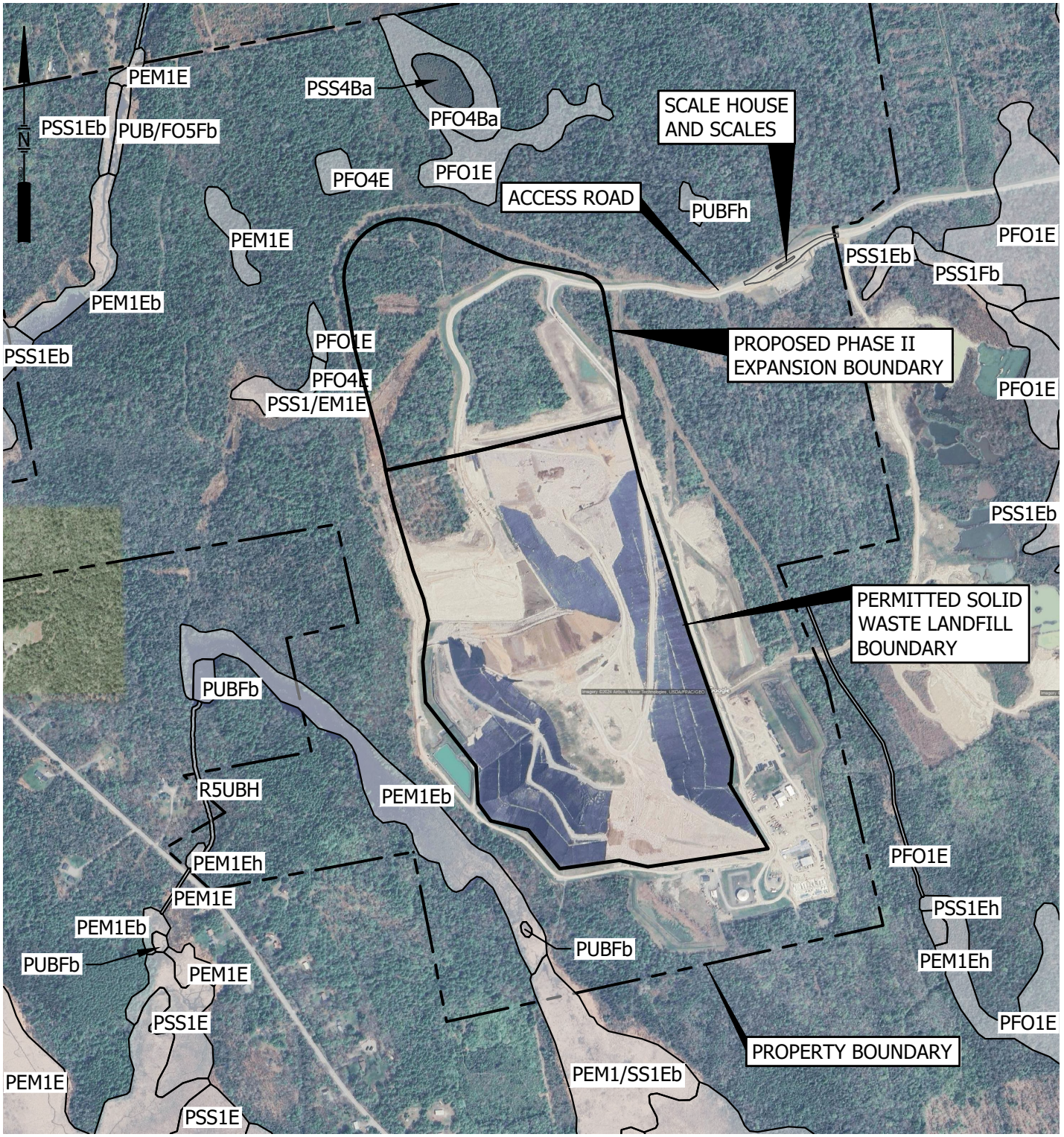
BASE MAP FROM ARCGIS ONLINE MAP VIEWER.

DWG: SITELOC LMN: MGS-WETL-FRESH CTB: SME-STD REV: 6/2/2025

FIGURE 2-4
MAINE GEOLOGIC SURVEY
FRESHWATER WETLANDS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 2-4-EX, 6/2/2025 9:47:58 AM, bwb



LEGEND

NATIONAL WETLANDS INVENTORY FRESHWATER WETLAND

PEM1E WETLAND CLASSIFICATION

500 0 1000 FEET

NOTES:

AERIAL IMAGE FROM GOOGLE EARTH.

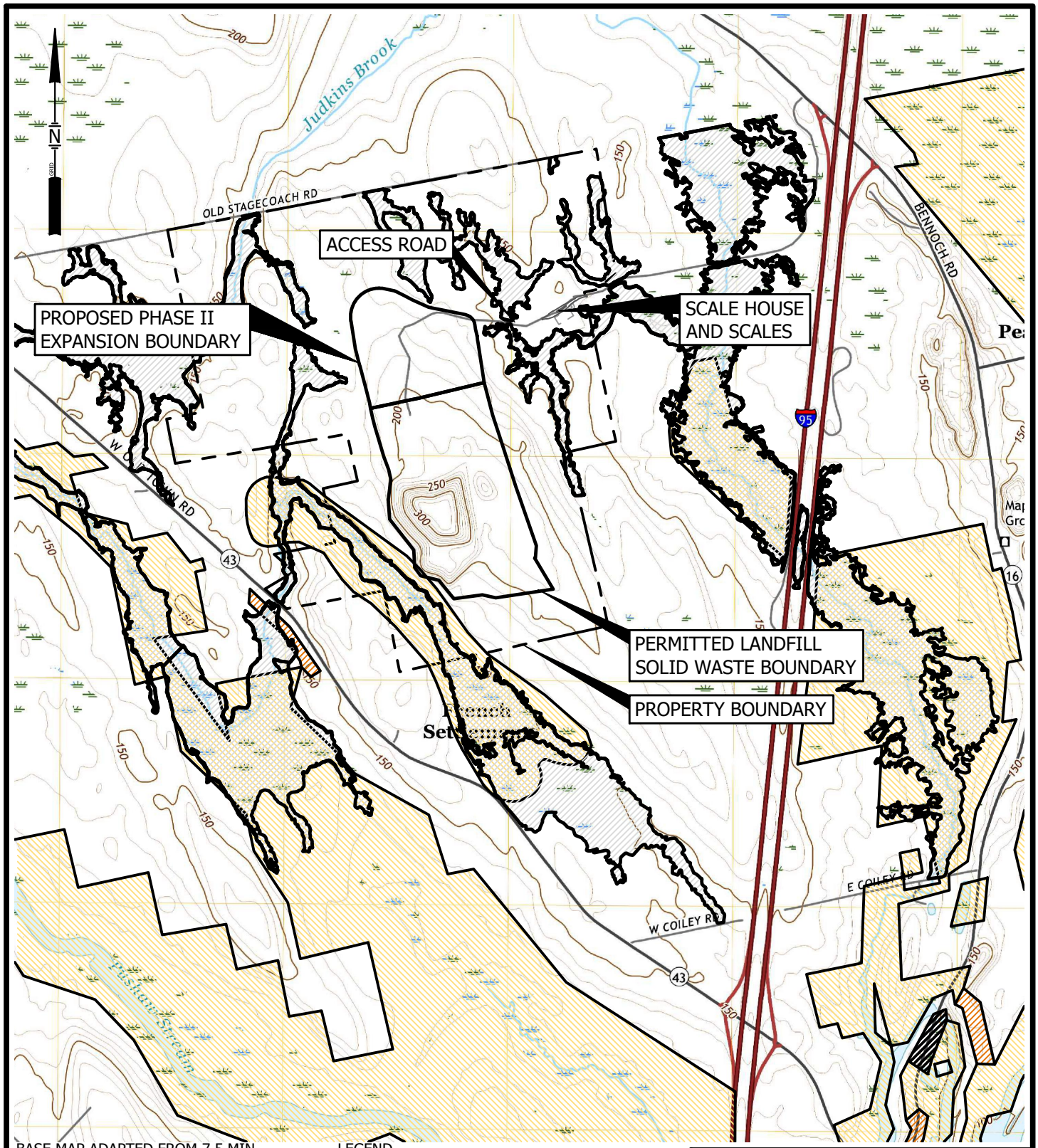
WETLAND BOUNDARIES FROM NATIONAL WETLANDS INVENTORY.

DWG: SITELOC LMN: MGS-WETL-UPDATE CTB: SME-STD REV: 6/2/2025

FIGURE 2-5
NATIONAL WETLANDS INVENTORY
FRESHWATER WETLANDS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 2-5-EX, 6/2/2025 9:49:21 AM, bwb



BASE MAP ADAPTED FROM 7.5 MIN USGS TOPOGRAPHIC QUADRANGLE OLD TOWN, MAINE - 2021

MAPPING SOURCES

100-YEAR FLOOD BOUNDARY TAKEN FROM FLOOD INSURANCE RATE MAP DATED APRIL 17, 1978.

SHORELAND AND RESOURCE PROTECTION ZONES FROM ZONING MAP, CITY OF OLD TOWN, MAINE, DATED MARCH 2010.

LEGEND

- 100-YR FLOODPLAIN
- RESOURCE PROTECTION ZONE
- SHORELAND ZONING

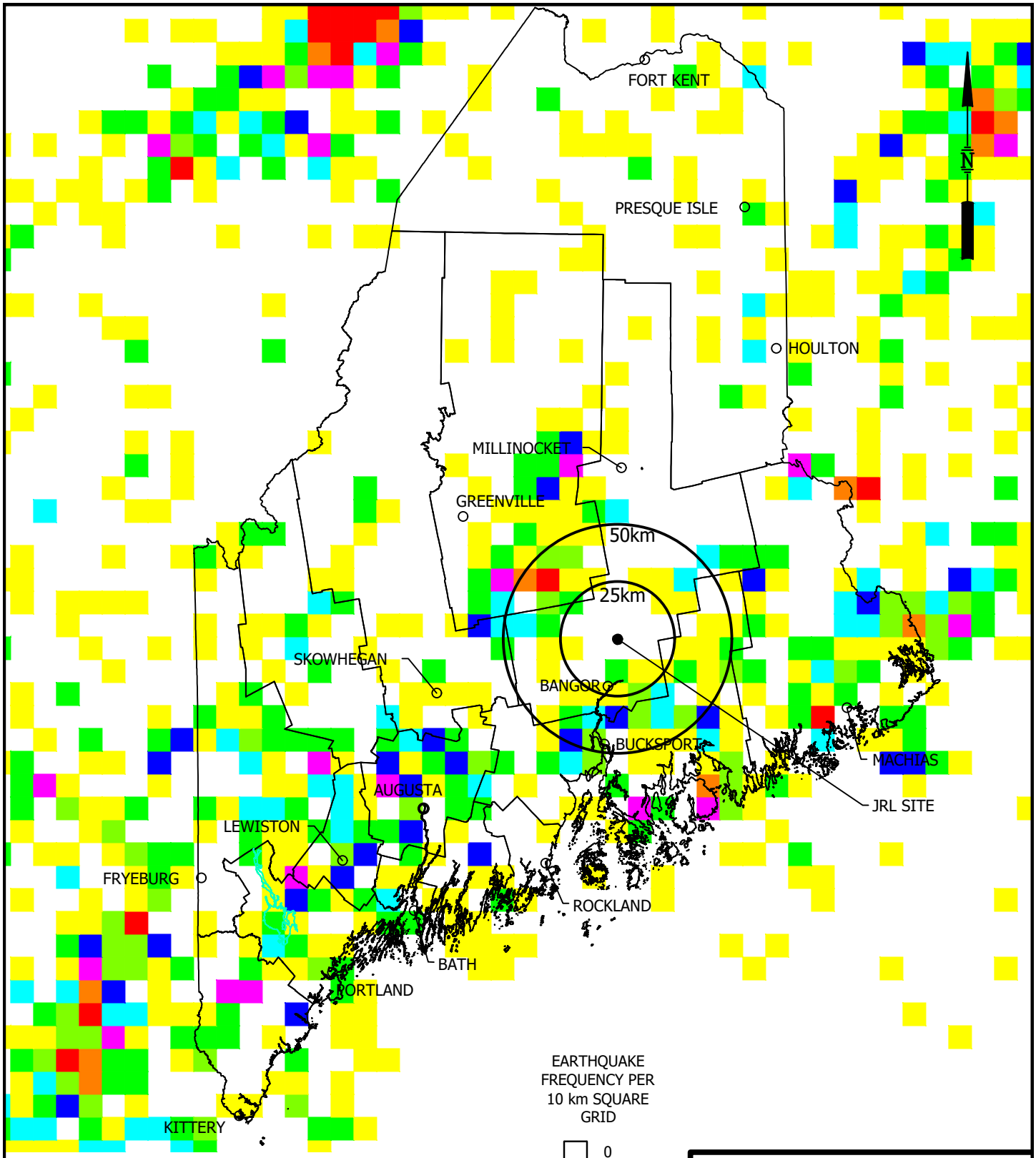
1000 0 2000 FEET

DWG: SITELOC LMN: SHORE-RP-FEMA CTB: SME-STD REV: 5/30/2025

FIGURE 2-6
SHORELAND, RESOURCE PROTECTION, AND 100-YEAR FLOODPLAIN ZONES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 2-6, 6/3/2025 3:52:39 PM, bwb



NOTES

1. FIGURE COMPILED FROM WESTON OBSERVATORY DATA.
2. FIGURE REPRESENTS DISTRIBUTION OF EARTHQUAKES BY FREQUENCY ACROSS MAINE 1900 TO 2024.

30 0 60 120 KILOMETERS

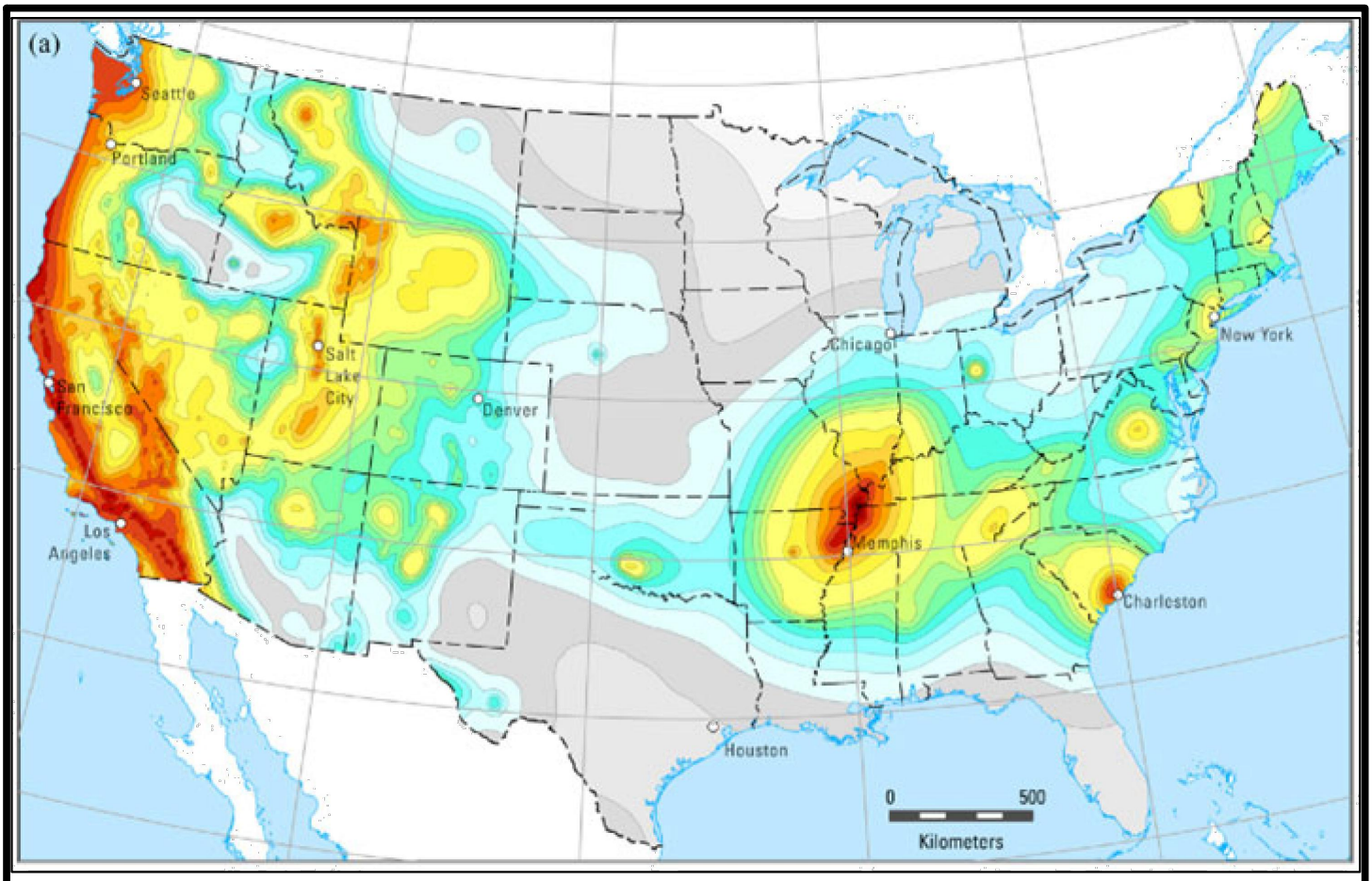
DWG: QUAKES2024 LMN: QUAKE CTB: SME-STD REV: 5/30/2025

FIGURE 2-7
EARTHQUAKE EPICENTERS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\SME\Professional\Engineering\QUAKE\ACAD\2024\QUAKES-2024.dwg, FIG 2-7, 5/30/2025 11:50:30 AM, bwb

The 2023 National Seismic Hazard Model shown in Figure 2-8 indicates the Phase II Expansion location is an area where there is a 2 percent probability in 50 years that there will be a 0.2-second spectral acceleration for an earthquake in the range of 0.24 g to 0.32 g (the acceleration relative to Earth's gravity [i.e., g-force]) (Peterson, Mark D., et al., 2024).



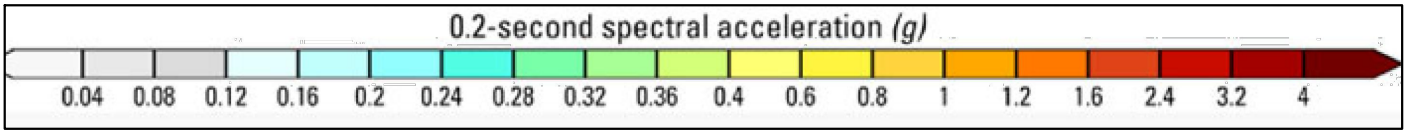


FIGURE LEGEND

MAPS OF 0.2s SPECTRAL ACCELERATION TOTAL MEAN HAZARD FOR 2% PROBABILITY IN EXCEEDANCE IN 50 YEARS, NEHRP SITE CLASS BOUNDARY B/C (V_{S30}=760 m/s), CALCULATED FOR THE 2023 NSHM FOR CONTERMINOUS UNITED STATES.

FIGURE 2-8
2023 NATIONAL SEISMIC HAZARD MODEL
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: SEISMIC CTB: SME-STD REV: 8/6/2025

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 2-8, 8/6/2025 7:35:20 AM, sjm

3.0 SUMMARY OF PREVIOUS SITE INVESTIGATIONS

A summary of previous reports and investigations conducted to characterize the Phase II Expansion area and surrounding Site are presented in the remainder of this section. The approximate locations of these explorations are shown in Figure 3-1 and consisted of:

- Subsurface investigations that included the excavation of test pits and drilling of soil and deep bedrock borings to sample and evaluate soil and bedrock lithologies;
- Bedrock coring for lithologic mapping, measurement of fracture frequency, and to estimate bedrock porosity;
- Surficial geophysical surveys using electrical earth resistivity and Very Low Frequency-Electromagnetic (VLF-EM) methodologies to evaluate possible bedrock fracture zones and structural features;
- Borehole geophysical logging to identify structural features in bedrock and fracture orientation;
- Approximately 11,800 lineal feet of seismic refraction transects;
- Photolineament mapping;
- Bedrock outcrop mapping;
- Installation of multi-level piezometer clusters and monitoring wells to measure seasonal groundwater fluctuation and determine groundwater flow rates and directions during the wet- and dry-seasons;
- In-situ hydraulic conductivity testing of the till and bedrock formations in monitoring wells and piezometers;
- Soil property testing, including water content, density, porosity, specific gravity, Atterberg limits, hydraulic conductivity, and grain size distribution;
- Laboratory hydraulic conductivity testing of undisturbed tube samples to measure the vertical hydraulic conductivity of the till;
- Natural gradient groundwater tracer tests to measure groundwater velocities in the till and bedrock;
- Age-dating of groundwater to provide corroborative information on groundwater velocities;
- Bedrock groundwater pumping tests to evaluate fracture interconnectivity;
- Investigations of the basal till underlying the Phase II Expansion area to assess its vertical hydraulic conductivity; and
- Tracer test to measure the horizontal groundwater velocity in the shallow bedrock flow system.

LINE 5

TOTAL LINE 5 LENGTH
3281 FEET

LINE 4

TOTAL LINE 10 LENGTH
2297 FEET

LINE 10

LINE 11

TOTAL LINE 11 LENGTH
1312 FEET

TOTAL LINE 4 LENGTH
5250 FEET

N

PROPOSED PHASE II
EXPANSION BOUNDARY

LINE 6

LINE 7

LINE 8

LINE 9

LINE 3

LINE 2

LINE 1

A

A'

B

B'

PERMITTED LANDFILL
SOLID WASTE BOUNDARY

PROPERTY LINE

250 0 500 FEET

NOTES

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.

2. REMAINDER OF BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 6/24/21. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS,INC, CUMBERLAND, MAINE.

3. PROPERTY LINE LOCATIONS ARE A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALSBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION-DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988.

4. LOCATIONS OF EXPLORATIONS ARE APPROXIMATE.

5. DRAWING SHOULD NOT BE USED FOR DESIGN, QUANTITY TAKE-OFFS, GRADES, SURVEY ETC.

LEGEND

TP-23-05	TEST PIT LOCATION
P-220B	PIEZOMETER LOCATION
MW-06-02	MONITORING WELL LOCATION
OW-06-05	OBSERVATION WELL LOCATION
PW-08-01	AIR ROTARY BORING
LINE 1	EARTH RESISTIVITY AND VLF-EM SURVEY LINES AND DESIGNATIONS
A A'	INTERPRETED GEOLOGIC PROFILE LOCATION

FIGURE 3-1
SITE INVESTIGATION MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

DWG: FIGURES LMN: SITE-INVESTIGATION CTB: SME-STD-HALF REV: 6/4/2025

\\Nserver\cfs\Casella\OldTownLandfillExpansion\Phase II Expansion\Acad\Figures\FIGURES.dwg, B_FIG 3-1, 6/4/2025 2:00:30 PM, bwb

3.1 Subsurface Characterization - Proposed Landfill Expansion Area

3.1.1 Test Pits

Eighty-six (86) test pits were excavated within the footprint and areas immediately adjacent to the Phase II Expansion under the direction of an SME Maine-Licensed Geologist or Soil Scientist for the purpose of characterizing near-surface soils (i.e., less than 20 feet from existing ground surface) and determining the depth to bedrock, where encountered. The locations of the test pits are shown on Figure 3-1. Section 4.2 presents an interpretation of soil thicknesses above bedrock in the Phase II Expansion area based on bedrock depths observed in test pits and soil borings. Bedrock outcrops are present at areas in the northeast and southwest corners of the Phase II Expansion boundaries.

The walls of each test pit were visually examined for signs of fractures and/or fault displacement in the soils and representative soil samples were collected for laboratory testing from the various geologic units encountered during excavation of the test pits. There were no signs of faulting or slip-planes in the till. Moisture content and grain size analyses were performed in the laboratory on selected soil samples from the test pits.

Appendix C includes logs and/or depth of excavation for the test pits shown on Figure 3-1. Laboratory test results are summarized on the respective logs, and details of the laboratory testing are further discussed in Section 3.2.

3.1.2 Borings, Piezometers, and Monitoring Wells

The geology and hydrogeology of the Site, including the Phase II Expansion area, has been evaluated as part of previous drilling programs, as summarized below. The boring information and piezometer and monitoring wells' screen depths are summarized in Table 3-1, and logs are provided in Appendix D.

TABLE 3-1

WELL/PIEZOMETER INSTALLATION DETAILS

Instrument Designation	Installation Date	Screened Geologic Unit	Depth of Boring (ft-bgs)	Ground Elevation (ft-NGVD)	Slotted Screen Interval		
					Depth (ft-bgs)	Elevation (ft-NGVD)	Length (ft)
MW-04-111	12/30/04	Basal Till	15.5	192.1	10.0 - 15.0	182.1 - 177.1	5
MW-05-01	01/03/05	Basal Till	15.5	191.8	10.0 - 15.0	181.8 - 176.8	5
MW-05-02	01/03/05	Basal Till	15.5	191.8	10.0 - 15.0	181.8 - 176.8	5
MW-05-03	01/04/05	Basal Till	15.5	192.2	10.0 - 15.0	182.2 - 177.2	5
MW-05-04	01/05/05	Basal Till	15.5	192.2	10.0 - 15.0	182.2 - 177.2	5
MW-05-05	01/05/05	Basal Till	15.5	191.9	10.0 - 15.0	181.9 - 176.9	5
MW-06-01	03/01/06	Cobble Zone	22.0	163.3	10.0 - 20.0	153.0 - 143.0	10
MW-06-02	04/03/06	Bedrock	41.5	188.8	25.0 - 35.0	163.8 - 153.8	10
MW-08-01[4]	11/17/20	Bedrock	259.7	173.1	117.0 - 127.0	56.1 - 46.1	10
MW09-901	11/09/09	Basal Till	31.0	161.9	15.0 - 20.0	146.9 - 141.9	5
MW11-207R	05/12/11	Bedrock	41.8	212.5	41.8 - 36.8	177.2 - 172.2	5
MW12-303R	09/11/12	Washed Till	41.5	206.1	30.4 - 40.4	175.7 - 165.7	10
MW-204	05/15/90	Basal Till	42.0	158.5	13.8 - 18.8	144.7 - 139.7	5
MW-206	05/10/90	Basal Till	22.0	201.2	15.0 - 20.0	186.2 - 181.2	5
MW-207	05/02/90	Bedrock	31.7	214.7	25.0 - 30.0	189.7 - 184.7	5
MW-212	06/12/90	Basal Till	36.3	217.4	12.0 - 17.0	205.3 - 200.4	5
MW-213	06/15/90	Basal Till	42.0	180.3	14.6 - 19.6	165.7 - 160.7	5
MW-216B	07/2/90	Basal Till	20.4	157.3	14.0 - 19.0	143.3 - 138.3	5
MW-223A	09/10/90	Bedrock	33.0	173.5	28.0 - 33.0	145.5 - 140.5	5
MW-223B	09/11/90	Basal Till	17.6	173.5	12.6 - 17.6	160.9 - 155.9	5
MW-227	09/17/90	Basal Till	22.0	161.0	15.0 - 20.0	146.0 - 141.0	5
MW-301	07/2/96	Bedrock	183.0	163.5	162.7 to 182.7	0.8 - -19.2	20
MW-302	03/10/92	Bedrock	30.4	202.1	19.8 - 29.8	182.3 - 172.3	10
MW-302R	10/01/07	Bedrock	29.9	204.5	19.5 - 29.5	185.0 - 175.0	10
MW-303	07/9/90	Washed Till	46.5	213.0	37.4 - 47.4	175.6 - 165.6	10
MW-304A	07/15/04	Bedrock	40.0	214.7	29.5 - 39.5	185.2 - 175.2	10
MW-401A	07/12/04	Bedrock	109.4	153.8	98.8 - 108.8	55.0 - 45.0	10
MW-401B	07/13/04	Basal Till	20.5	154.6	10.0 - 20.0	144.6 - 134.6	10
MW-402A	06/29/04	Bedrock	106.0	149.5	95.5 - 105.5	54.0 - 44.0	10
MW-402B	06/29/04	Basal Till	22.5	149.8	12.0 - 22.0	137.8 - 127.8	10
MW-501	03/27/18	Bedrock	45.0	163.2	35.0 - 45.0	128.2 - 118.2	10
MW-502	10/25/19	Bedrock	48.0	157.4	38.0 - 43.0	119.4 - 114.4	5
MW-503	12/11/20	Bedrock	72.0	160.7	60.0 - 70.0	100.7 - 90.7	10
MW-504[4]	11/12/20	Bedrock	82.0	172.6	71.5 - 81.5	101.1 - 91.1	10
MW-505	11/19/20	Bedrock	82.5	184.1	72.2 - 82.2	111.9 – 101.9	10
MW-506	12/7/20	Bedrock	62.0	195.8	50.0 - 60.0	145.8 - 135.8	10
MW-507[2]	12/13/17	Bedrock	220.0	174.7	N/A - N/A	N/A - N/A	N/A
MW-508	12/17/20	Bedrock	50.0	189.3	26.0 - 36.0	163.3 - 153.3	10
OW-06-03	03/22/18	Basal Till	23.0	203.0	13.0 - 23.0	190.0 - 180.0	10
OW-06-05	03/27/06	Bedrock	36.8	187.6	26.5 - 36.5	161.1 - 151.1	10
OW-06-06	03/28/06	Bedrock	38.1	187.3	28.0 - 38.0	159.3 - 149.3	10
OW-06-07	03/29/06	Bedrock	38.5	186.6	28.0 - 38.0	158.6 - 148.6	10
OW-06-08	03/30/06	Bedrock	34.0	187.1	24.0 - 34.0	163.1 - 153.1	10
OW-06-09	03/31/06	Bedrock	39.4	187.2	29.0 - 39.0	158.2 - 148.2	10
OW-06-10	04/03/06	Bedrock	43.6	188.4	32.0 - 42.0	156.4 - 146.4	10
OW-601A	03/20/18	Bedrock	76.6	214.9	66.6 - 76.6	148.3 - 138.3	10
OW-601B	04/3/18	Basal Till	56.2	214.5	46.2 - 56.2	168.3 -158.3	10
OW-602A[2]	12/11/17	Bedrock	240.0	211.7	NA	NA	NA
OW-603B	03/21/18	Basal Till	26.2	205.1	16.2 - 26.2	188.9 - 178.9	10
OW-604A	03/27/18	Bedrock	32.5	195.8	22.5 - 32.5	173.3 - 163.3	10
OW-605A[2]	12/12/17	Bedrock	260.0	184.7	NA	NA	NA
OW-606A[2]	12/14/17	Bedrock	240.0	157.0	NA	NA	NA
OW-606B	12/08/20	Basal Till	13.7	162.9	7.0 - 12.7	155.9 - 150.2	5.7
OW-607B[4]	11/16/20	Basal Till	53.0	172.2	41.0 - 51.0	131.2 - 121.2	10
OW-608A[2]	12/15/17	Bedrock	260.0	196.1	N/A - N/A	N/A - N/A	N/A
OW-608B	12/16/20	Basal Till	44.0	198.4	33.5 - 43.5	164.9 - 154.9	10
OW-609B	12/3/20	Basal Till	51.0	209.9	39.0 - 49.0	170.9 - 160.9	10
OW-610A	12/16/20	Basal Till	±38	180.4	26.7 - 36.7	153.7 - 143.7	10
OW-611A[2]	12/13/17	Bedrock	220.0	183.1	NA	NA	NA
P-04-02R	07/09/15	Basal Till	35.0	168.0	30.0 - 35.0	138.0 - 133.0	5
P-04-04	03/03/04	Basal Till	30.0	166.7	25.0 - 30.0	A144.3 - 139.3	5

TABLE 3-1 (cont'd)

WELL/PIEZOMETER INSTALLATION DETAILS

Instrument Designation	Installation Date	Screened Geologic Unit	Depth of Boring (ft-bgs)	Ground Elevation (ft-NGVD)	Slotted Screen Interval		
					Depth (ft-bgs)	Elevation (ft-NGVD)	Length (ft)
P-04-05A	07/20/04	Basal Till	48.5	201.0	47.0 - 48.0	154.0 - 153.0	1
P-04-05B	07/20/04	Basal Till	48.5	201.0	14.0 - 15.0	187.0 - 186.0	1
P-04-06A	07/21/04	Bedrock	44.4	208.3	42.9 - 43.9	165.4 - 164.4	1
P-04-06B	07/21/04	Basal Till	44.4	208.3	9.0 - 10.0	199.3 - 198.3	1
P-04-07A	07/28/04	Bedrock	107.5	174.1	73.0 - 83.0	101.1 - 91.1	10
P-04-07B	07/28/04	Bedrock	107.5	174.1	24.5 - 25.5	149.6 - 148.6	1
P-04-07C	07/28/04	Washed Till	5.5	174.0	4.3 - 5.3	169.7 - 168.7	1
P-04-08A	08/02/04	Basal Till	41.4	188.8	38.5 - 39.5	150.3 - 149.3	1
P-04-08B	08/02/04	Basal Till	41.4	188.8	15.5 - 16.5	173.3 - 172.3	1
P-04-09A	08/05/04	Bedrock	45.0	167.0	38.0 - 39.0	129.0 - 128.0	1
P-04-09B	08/05/04	Basal Till	45.0	167.0	14.0 - 15.0	153.0 - 152.0	1
P-04-10A	08/05/04	Bedrock	35.0	166.0	33.1 - 34.1	132.9 - 131.9	1
P-04-10B	08/05/04	Basal Till	35.0	166.0	8.2 - 9.2	157.8 - 156.8	1
P-04-11A	09/09/04	Basal Till	50.5	184.0	48.5 - 49.5	135.5 - 134.5	1
P-04-11B	09/09/04	Basal Till	50.5	184.0	9.0 - 10.0	175.0 - 174.0	1
P-04-12A	09/21/04	Bedrock	122.0	166.3	59.0 - 64.0	107.3 - 102.3	5
P-04-12B	09/21/04	Bedrock	122.0	166.3	37.0 - 39.0	129.3 - 127.3	2
P-04-12C	09/21/04	Marine Clay	6.0	166.3	4.3 - 5.3	162.0 - 161.0	1
P-04-13A	09/29/04	Bedrock	128.3	144.4	125.5 - 127.5	18.9 - 16.9	2
P-04-13B	09/29/04	Bedrock	128.3	144.4	64.0 - 66.0	80.4 - 78.4	2
P-04-13C	09/29/04	Marine Clay	10.0	144.8	8.0 - 9.0	136.8 - 135.8	1
P-04-14A	10/07/08	Bedrock	103.8	150.2	57.0 - 59.0	93.2 - 91.2	2
P-04-14B	10/07/08	Bedrock	103.8	150.2	14.5 - 16.5	135.7 - 133.7	2
P-04-102	12/29/04	Basal Till	25.0	167.7	10.0 - 15.0	157.7 - 152.7	5
P-04-105	12/21/04	Basal Till	25.0	162.9	14.8 - 19.8	148.1 - 143.1	5
P-06-03	02/28/06	Basal Till	17.0	198.9	10.0 - 15.0	189.0 - 184.0	5
P-06-04A	02/28/06	Basal Till/ Bedrock	30.2	186.2	28.0 - 30.0	158.0 - 156.0	2
P-06-04B	02/28/06	Basal Till	30.2	186.2	10.0 - 15.0	176.0 - 171.0	5
P-08-03A	07/02/08	Basal and Washed Till	18.5	±169	13.5 - 15.5	155.4 - 153.4	2
P-08-03B	07/02/08	Basal Till	16.3	168.9	3.3 - 5.3	165.6 - 163.6	2
P-08-04A	07/03/08	Basal Till	8.0	192.7	5.2 - 7.2	187.5 - 185.5	2
P-08-04B	07/03/08	Basal Till	15.0	193.0	N/A - N/A	N/A - N/A	N/A
P-08-06	07/07/08	Basal Till	14.0	182.2	11.2 - 13.2	171.0 - 169.0	2
P-08-07	07/08/08	Basal Till	15.6	211.7	10.0 - 12.0	201.7 - 199.7	2
P-08-09A	07/09/08	Sandy Zone	42.6	198.2	35.3 - 37.3	162.9 - 160.9	2
P-08-09B	07/09/08	Washed Till	42.6	198.2	15.2 - 20.2	183.0 - 178.0	5
P-08-09C	07/09/08	Basal Till	42.6	198.2	6.8 - 9.8	191.4 - 188.4	3
P-08-10A	07/11/08	Sandy Zone	95.0	202.2	87.0 - 89.0	115.2 - 113.2	2
P-08-10B	07/11/08	Sandy Zone	95.0	202.2	56.0 - 58.0	146.2 - 144.2	2
P-08-10C	07/11/08	Basal Till	95.0	202.2	11.4 - 17.9	190.8 - 184.3	6.5
P-201A	07/11/90	Bedrock	70.1	148.2	67.7 - 69.7	80.5 - 78.5	5
P-201D	07/11/90	Basal Till	70.1	148.2	35.0 - 40.0	113.2 - 108.2	10
P-204A	05/15/90	Basal Till	42.0	158.5	29.0 - 34.0	129.5 - 124.5	5
P-205A	12/7/90	Basal Till	14.0	204.2	27.2 - 32.2	177.0 - 172.0	5
P-205B	12/7/90	Basal Till	14.0	204.7	5.0 - 10.0	199.7 - 194.7	5
P-206A	05/8/90	Bedrock	90.5	201.5	85.5 - 90.5	116.0 - 111.0	5
P-206B	05/8/90	Washed Till	90.5	201.5	49.7 - 54.7	151.8 - 146.8	5
P-206C	05/10/90	Basal Till	22.0	201.2	6.0 - 11.0	195.2 - 190.2	5
P-209A	06/06/90	Bedrock	53.6	175.4	37.5 - 52.5	137.9 - 122.9	15
P-209B	06/06/90	Bedrock	53.6	175.4	22.8 - 27.8	152.6 - 147.6	5
P-209C	06/06/90	Bedrock	53.6	175.4	5.0 - 10.0	170.4 - 165.4	5
P-211A	06/7/90	Bedrock	22.6	180.6	5.0 - 10.0	175.6 - 170.6	5
P-211B	06/7/90	Basal Till	22.6	180.6	16.6 - 21.6	164.0 - 159.0	5
P-212	01/12/90	Bedrock	36.3	217.4	31.3 - 36.3	186.1 - 181.1	5
P-213	06/15/90	Boulder Zone	42.0	180.3	33.3 - 38.3	197.0 - 142.0	5
P-214A	06/21/90	Bedrock	62.2	189.2	57.2 - 62.2	132.0 - 127.0	5
P-214B	06/21/90	Basal Till	62.2	189.2	38.1 - 43.1	151.1 - 146.1	5
P-214C	06/21/90	Basal Till	62.2	189.2	11.0 - 16.0	178.2 - 173.2	5
P-215A	06/25/90	Bedrock	33.0	211.7	28.0 - 33.0	183.7 - 178.7	5

TABLE 3-1 (cont'd)

WELL/PIEZOMETER INSTALLATION DETAILS

Instrument Designation	Installation Date	Screened Geologic Unit	Depth of Boring (ft-bgs)	Ground Elevation (ft-NGVD)	Slotted Screen Interval		
					Depth (ft-bgs)	Elevation (ft-NGVD)	Length (ft)
P-215B	06/25/90	Basal Till	33.0	211.7	7.0 - 12.0	204.7 - 199.7	5
P-216B	07/2/90	Basal Till	20.4	157.3	5.0 - 10.0	152.3 - 147.3	5
P-220A	09/12/90	Basal Till	38.5	144.9	32.9 - 37.9	112.0 - 107.0	5
P-220B	09/12/90	Basal Till	38.5	144.9	15.0 - 20.0	129.9 - 124.9	5
P-222A	09/06/90	Bedrock	30.4	212.4	23.7 - 28.7	188.7 - 183.7	5
P-222B	09/06/90	Basal Till	30.4	212.4	5.2 - 10.2	207.2 - 202.2	5
P-225	09/17/90	Basal Till	15.1	212.8	7.7 - 12.7	205.1 - 200.1	5
P-226A	09/13/90	Basal Till	25.3	215.0	20.3 - 25.3	194.7 - 189.7	5
P-226B	12/07/90	Basal Till	12.0	215.5	5.0 - 10.0	210.5 - 205.5	5
P-228	12/7/90	Basal Till	12.0	215.0	5.0 - 10.0	210.0 - 205.0	5
P-230	12/7/90	Basal Till	12.0	214.7	5.0 - 10.0	209.7 - 204.7	5
P-502A	02/27/92	Washed Till	50.8	208.4	38.0 - 43.0	170.4 - 165.4	5
P-502B	02/27/92	Basal Till	50.8	208.4	6.3 - 11.3	202.1 - 197.1	5
P-504A	03/06/92	Washed Till	54.2	212.0	43.0 - 48.0	169.0 - 164.0	5
P-504B	03/06/92	Basal Till	54.2	212.0	23.3 - 25.3	188.7 - 186.7	2
P-504C	03/06/92	Basal Till	54.2	212.0	7.0 - 10.0	205.0 - 202.0	3
PW-ADC	3/8/2024	Bedrock	425	182.5	65.0 to 425.0	117.5 - 242.5	360
PW-08-01[2]	12/30/08	Bedrock	260.0	173.1	64.0 - 260.0	109.1 - -86.9	196
PW-08-03[2]	01/06/09	Bedrock	235.0	169.4	38.0 - 235.0	131.4 - -65.6	197
PW-08-04[2]	01/09/09	Bedrock	215.0	172.5	18.0 - 215.0	134.5 - -42.5	197
PW-08-02[2]	01/05/09	Bedrock	235.0	204.0	38.0 - 235.0	166.0 - -31.0	197

Notes:

[1] Logs not available for the following wells: MW-04-109R and DP-4.

[2] Indicates well is an open borehole and a screen has not been installed.

[3] Instrumentation not installed in borings: B08-01, B08-1A, B08-02, B08-3A, B08-04, B08-05B, B08-06, and B08-08. Logs provided for reference.

[4] Elevations shown for monitoring wells MW-08-01, MW-504, and OW-607B are based on conditions at time of well installations. The area surrounding these wells was raised during the development of the Phase I Expansion and the well casings were extended accordingly. Current grades at these locations are 180.2 ft-NGVD at MW-08-01 and MW-504 and 180.3 ft-NGVD at OW-607B.

Abbreviations

bgs - below ground surface existing at time of boring.
Ft – feet
N/A – Not Available
NGVD – National Geodetic Vertical Datum

Thirty-four groundwater wells and piezometers were installed within the Phase II Expansion area for lithologic and hydrogeologic characterizations and/or groundwater quality monitoring. Additionally, there is one non-potable bedrock water supply well located within the Phase II Expansion area. These wells are described below:

- **Shallow Till Wells**: Six borings in the southwest portion of the Phase II Expansion were drilled with well screens installed in the shallow till, and designated MW-04-111 and MW-05-01 through MW-05-05. Starting in February 2005, a natural-gradient tracer test in till was conducted utilizing this group of wells to measure the groundwater velocity in the till. Further information on the tracer testing is discussed in Section 3.1.6.
- **Shallow Bedrock Wells**: Seven borings were drilled, and seven monitoring/observation wells were installed in the southwest portion of the Phase II Expansion in the shallow bedrock, designated MW-06-02 and OW-06-05 through OW-06-10. The bedrock encountered in MW-06-02 was logged using a suite of common downhole geophysical tests. This group of wells was utilized for a groundwater pumping test in July 2006 and a natural-gradient bedrock groundwater tracer test

conducted in June 2008. These tests were used to examine bedrock fracture interconnectivity and estimate the groundwater velocity in the bedrock, which is discussed in Section 3.1.9.

- **Till Sample Borings**: Borings were drilled at three locations (B-08-01 through B-08-03) from the west to the east in the center of the Phase II Expansion during June and July 2008 to collect undisturbed samples of the till. Samples of till were collected with three-inch-diameter thin-walled tubes following American Society for Testing and Materials (ASTM) Method D1587. The tubes were sealed with wax shortly after the samples were collected to maintain their natural moisture content. Two nested piezometers were installed in B-08-03 (P-08-03A and P-08-03B). Undisturbed thin-walled tube samples of till were collected from these boreholes to measure their vertical hydraulic conductivity, as discussed in Section 3.3.3.
- **Deep Bedrock Wells**: In December 2008 and January 2009, bedrock boreholes PW-08-01 and PW-08-03 were drilled in the northeast corner and southwest corner, respectively. The locations of these boreholes, as well as bedrock boreholes PW-08-02 (northeast portion of permitted landfill) and PW-08-04 (northwest of Phase II Expansion), which are located outside of the Phase II Expansion footprint, were chosen based on supplemental resistivity and VLF-EM geophysical surveys completed between November 2008 and January 2009. Downhole geophysical logging was completed within each borehole. These borings extended to a depth of at least 200 feet into bedrock to examine the deeper bedrock structure, consistency, and hydraulic characteristics. The PW-series bedrock boreholes were used for hydrogeologic testing of the Site, which is discussed in Sections 3.1.5, 3.1.13, and 3.2. PW-08-01 was converted from a bedrock borehole well to instrumented groundwater quality monitoring well MW-08-01 in 2020.
- **Non-potable Water Supply Well:** Well PW-ADC is a non-potable bedrock water supply well that was drilled within the Phase II Expansion area in 2024 to provide water for preparation of a foam solution used as alternative daily cover for the JRL when temperatures are above freezing.
- **Additional Wells and Piezometers**: Monitoring wells, observation wells, and piezometers MW-504, MW-506, MW-507, OW-607B, OW-608A, OW-608B, OW-609B, P-04-08A, P-04-08B, P-04-09A, P-04-09B, P-04-10A, P-04-10B, P-04-11A, P-04-11B, P-08-04, and P-08-04B are located within the footprint of the Phase II Expansion. These wells and piezometers were either: (1) installed during the subsurface explorations completed for the 2006 PIR (SME, 2006), some of which were incorporated into groundwater monitoring locations for the Phase I Expansion (i.e., Cells 11 through 17); or (2) later installed as groundwater monitoring locations during the development of the Phase I Expansion.

Collectively, these drilling programs provided data to supplement the geologic information from the test pitting and allowed for the collection of soil and bedrock samples for laboratory analysis and visual examination.

Drilling was generally performed by New England Boring Contractors (NEBC), formerly Maine Test Borings, Inc., of Hermon, Maine, with the exception of the deep bedrock drilling program, which was completed

by Goodwin Well & Water, Inc. (Goodwin) of Turner, Maine, and of the water supply well, PW-ADC, which was drilled by Carmel Well Drilling of Carmel, Maine (Carmel Drilling). Each boring and piezometer installation was monitored and logged under the direction of an SME Maine-Licensed Geologist. Interpretive boring logs prepared by SME, NEBC, Goodwin, and Carmel Drilling are included in Appendix D.

Many additional groundwater monitoring/observation wells at the Site are part of the Phase II Expansion investigations, most of which are currently used for environmental monitoring surrounding the permitted landfill. Table 3-1 presents a summary of the monitoring well and piezometers installed around the Site outside of the Phase II Expansion boundaries.

NEBC borings in soils were drilled using the drive-and-wash-rotary technique in an HW-cased borehole. Split-spoon samples were collected in accordance with ASTM D1586 and Chapter 405.5.B. (MEDEP, 2015b) at up to five-foot sampling intervals for logging the soils and determining lithologic unit thicknesses. Representative soil samples were selected for laboratory testing, including water content, grain size analyses, and specific gravity. The split-spoon blow counts allowed interpretation of the relative density and consistency of the encountered soils. Most NEBC borings were advanced to split-spoon or casing refusal, which was typically confirmed by drilling with a roller cone or through rock coring. Bedrock cores were obtained from some NEBC borings using an N-size (two-inch nominal inside diameter) or H-size (2.5-inch nominal inside diameter) core barrel in general accordance with ASTM D2113 and Chapter 405.5.B (MEDEP, 2015b). The cores were logged for fracture spacing, lithology, core recovery, and Rock Quality Designation (RQD). Detailed core lithologic logs were prepared by a geologist from Northeast Geophysical Services (NGS) of Bangor, Maine. Bedrock core logs prepared with the assistance of NGS are contained in Appendix E.

Four six-inch-diameter deep bedrock borings were drilled by Goodwin using the air-rotary technique. These borings were used for hydrogeologic testing of bedrock groundwater on a sitewide scale. No split-spoon soil samples or bedrock cores were collected from these borings. Drill cuttings ejected from the borehole during the drilling process were periodically collected for visual examination and logging by an SME Maine-Licensed Geologist. A six-inch-diameter black iron pipe isolation casing was set into the top of bedrock to stabilize the soil portion of the borehole before drilling of the underlying bedrock occurred. The air-rotary holes were drilled to investigate the deeper portions of the bedrock and, therefore, as a rule, were drilled to penetrate at least 200 feet of the bedrock. The boreholes were logged by NGS using downhole geophysical instruments, as discussed in Section 3.1.5. This logging, in addition to the driller's boring logs, allowed for identification of fractures and fracture zones within the bedrock.

The air-rotary borings were drilled after careful review of the results of the earth resistivity geophysical profiling, which are discussed in Section 3.1.12. The electrical resistivity survey identified lower resistivity areas within the bedrock, which are often suggestive of bedrock fracture zones or denser fracture networks. The air-rotary boreholes were drilled at three selected low-resistance bedrock areas (PW-08-01, PW-04-02, and PW-08-04), and one-high resistance area (PW-08-03). Low-resistivity zones

were selected to provide adequate coverage to evaluate groundwater transport. The area of higher resistivity was selected to develop confidence that the surface resistivity geophysical method could identify bedrock zones with limited or less dense fracturing at this Site. The presence of fractures intersecting the air-rotary boreholes, and their relative density was confirmed by downhole geophysical logging, which also corroborated the lower fracture density at PW-08-03. The existence of lower resistivity or denser fracturing did not necessarily demonstrate that the fractures were hydraulically interconnected. Bedrock fractures can be dead-ended or have limited areal extent and not be hydraulically connected into other fractures. Therefore, pump testing was conducted in the four air-rotary boreholes to evaluate the hydraulic continuity and interconnectivity between fractures.

Monitoring well and piezometer installations in borings followed ASTM D5092 guidelines and Chapter 405.5.A (MEDEP, 2015b). The installations consisted of 3/4-inch or one-inch-diameter piezometers and two-inch-diameter monitoring or observation wells constructed of Schedule 40 PVC pipe with 0.01-inch slotted-screen sections. The annular space surrounding the slotted screens was backfilled with clean, uniformly-graded filter sand. A bentonite seal (pellets or grout) was used to isolate the slotted screen from the overlying and underlying (if applicable) annular space in the borehole, and to prevent surface water from hydraulically short-circuiting the screen. The slotted screen and sand pack lengths varied depending on the borehole's specific geologic condition, as summarized in Table 3-1. At some locations, multiple-level wells or piezometers were installed in either the same or multiple boreholes, depending on accessibility of the borehole annulus for sealing with bentonite. Instruments were protected with a steel casing consisting of a four-inch-diameter steel pipe with a locking top to prevent unauthorized access. Each well or piezometer was developed by purging with water and pumping subsequent to installation. At locations where more than one piezometer was installed in a borehole, or two monitoring wells were located adjacent to one another, a letter suffix was added to the well or piezometer identification to indicate the relative depth of its screened interval, with "A" indicating the deepest screened interval, "B" indicating a screened interval less deep than "A," and so on.

The ground surface elevation at each boring was surveyed to the nearest 0.1 foot relative to the NGVD. Piezometer and well casing top elevations were measured to the nearest 0.01 foot. Horizontal locations for wells and borings were surveyed to an accuracy of approximately one foot. The coordinate and elevation surveys were performed by SME with GPS instrumentation.

3.1.3 Groundwater Level Measurements

Periodic groundwater level measurements have been obtained throughout the development history of this Site using the numerous wells and piezometers. Water levels have been measured in the Phase II Expansion area since approximately 2004.

During 2007, monthly water levels were measured to characterize groundwater level variation throughout an entire annual cycle (SME, 2015). The 2007 data was used to develop wet- and dry-season groundwater maps to evaluate possible changes in hydraulic gradients and groundwater flow directions. In 2014, water

level measurements were made, confirming that the annual cycle measured monthly in 2007 was still consistent.

As anticipated, the expansion of Cells 11 through 16 has resulted in a cut-off in recharge from precipitation, which has lowered the groundwater elevations beneath the existing JRL cells. The lowering of groundwater elevations at the JRL are assessed in the annual water quality reports, most recently for the 2024 monitoring year (SME, 2025).

The wet- and dry-season groundwater elevations in the till soils and bedrock were assessed based on monthly groundwater level measurements in the area of the Phase II Expansion from March through October of 2024 to evaluate the groundwater flow conditions across the Site.

Water levels were measured from the top of the PVC risers, converted to an elevation based on the surveyed top of risers, and reported to the nearest 0.01 foot. The water level readings were collected using electronic water level meters. The water level measurements were used to determine the depth to the groundwater table and calculate horizontal and vertical groundwater seepage gradients. The seepage gradients, along with the hydraulic conductivity results (described in section 3.1.4), were used to estimate the directions and rates of groundwater flow. A summary of historical water level measurements through 2024 is tabulated in Appendix F. The 2024 water level measurements are discussed in Section 5.1.

3.1.4 In-Situ Hydraulic Conductivity Testing

Slug tests were performed in the monitoring wells and piezometers to estimate the in-situ hydraulic conductivity of the till and the bedrock beneath the Phase II Expansion. A slug of water was either removed from (rising-head test) or added to (falling-head test) the instrument and the level of the groundwater was recorded at periodic intervals to determine the rate of recovery to its static condition. Automated measurements of water level displacement were obtained with an electronic pressure transducer and the information was stored on electronic data recorders. Slug test data were evaluated with the AQTESOLV® for Windows®, Version 3.5 computer program (Duffield, 2003). Hydraulic conductivities were calculated from the slug test data using the method of Bouwer and Rice (Bouwer and Rice, 1976). Results of the in-situ slug testing are summarized in Table 3-2 and on the respective boring logs in Appendix D. Plots of the slug test results are presented in Appendix G.

TABLE 3-2

IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS

Instrument Designation	Screened Geologic Unit	Sand Pack Interval (ft-bgs)	Slug Tests Hydraulic Conductivity (cm/sec)	In or Out of Phase II Expansion Footprint
MW-04-111	Basal Till	10 - 15	7.9E-05	In
MW-05-01	Basal Till	10 - 15	8.9E-05	In
MW-05-02	Basal Till	10 - 15	1.9E-05	In
MW-05-03	Basal Till	10 - 15	4.2E-05	In
MW-05-04	Basal Till	10 - 15	1.5E-04	In
MW-05-05	Basal Till	10 - 15	1.7E-05	In
MW-06-01	Cobble Zone	10 - 20	3.1E-03	Out
MW-06-02	Bedrock	25 - 35	4.3E-05	In
MW-204	Basal Till	13.8 - 18.8	1.0E-05	Out
MW-206A	Basal Till	15 - 20	3.4E-07	Out
MW-207	Bedrock	25 - 30	1.7E-05	Out
MW-213	Basal Till	14.6 - 19.6	2.4E-05	Out
MW-216B	Basal Till	14 - 19	4.9E-05	Out
MW-223A	Bedrock	28 - 33	2.7E-04	Out
MW-223B	Basal Till	12.6 - 17.6	4.2E-05	Out
MW-227	Basal Till	15 - 20	1.6E-07	Out
MW-301[1]	Bedrock	146.9 - 182.7	7.0E-07	Out
MW-301[1]	Bedrock	146.9 - 182.7	6.8E-07	Out
MW-301[1]	Bedrock	151.7 - 182.7	6.0E-07	Out
MW-301[1]	Bedrock	161.5 - 182.7	1.2E-06	Out
MW-304A	Bedrock	29.5 - 39.5	4.8E-03	Out
OW-06-05	Bedrock	26.5 - 36.5	2.6E-06	In
OW-06-06	Bedrock	28 - 38	8.4E-07	In
OW-06-07	Bedrock	28 - 38	1.5E-06	In
OW-06-08	Bedrock	24 - 34	3.3E-05	In
OW-06-09	Bedrock	29 - 39	1.6E-05	In
OW-06-10	Bedrock	32 - 42	6.7E-06	In
P-04-05A	Basal Till	47 - 48	7.2E-06	Out
P-04-05B	Basal Till	14 - 15	6.8E-07	Out
P-04-06A	Bedrock	42.9 - 43.9	4.9E-05	Out
P-04-06B	Basal Till	9 - 10	1.9E-06	Out
P-04-07A	Bedrock	73 - 83	8.5E-06	Out
P-04-07B	Bedrock	24.5 - 25.5	3.2E-03	Out
P-04-07C	Basal Till/Bedrock	4.3 - 5.3	2.0E-05	Out
P-04-08A	Basal Till	38.5 - 39.5	3.2E-07	In
P-04-08B	Basal Till	15.5 - 16.5	1.9E-06	In
P-04-09A	Bedrock	38 - 39	9.7E-07	In
P-04-09B	Basal Till	14 - 15	3.5E-05	In
P-04-10A	Bedrock	33.1 - 34.1	1.4E-03	In
P-04-10B	Basal Till	8.2 - 9.2	5.1E-05	In
P-04-11A	Basal Till	48.5 - 49.5	3.2E-05	In
P-04-11B	Basal Till	9 - 10	1.9E-05	In
P-04-12A	Bedrock	59 - 64	4.1E-05	Out
P-04-12B	Bedrock	37 - 39	2.7E-04	Out
P-04-12C	Marine Clay	4.3 - 5.3	7.7E-06	Out

TABLE 3-2 (cont'd)

IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS

Instrument Designation	Screened Geologic Unit	Sand Pack Interval (ft-bgs)	Slug Tests Hydraulic Conductivity (cm/sec)	In or Out of Phase II Expansion Footprint
P-04-13A	Bedrock	125.5 - 127.5	1.3E-07	Out
P-04-13B	Bedrock	64 - 66	1.3E-06	Out
P-04-13C	Marine Clay	8 - 9	1.6E-07	Out
P-04-14A	Bedrock	57 - 59	6.6E-03	Out
P-04-14B	Bedrock	14.5 - 16.5	1.3E-03	Out
P-08-03B	Basal Till	3.3 - 5.3	1.1E-06	In
P-08-04A	Basal Till	5.2 - 7.2	5.4E-06	In
P-08-06	Basal Till	11.2 - 13.2	1.6E-06	Out
P-08-07	Basal Till	10 - 12	1.4E-06	Out
P-201A	Bedrock	67.7 - 69.7	4.6E-04	Out
P-201D	Basal Till	35 - 40	1.1E-05	Out
P-202A	Bedrock	27.9 - 37.9	5.3E-04	Out
P-204A	Basal Till	29 - 34	8.8E-06	Out
P-206A	Bedrock	85.5 - 90.5	9.5E-06	Out
P-206B	Washed Till	49.7 - 54.7	2.5E-03	Out
P-206C	Basal Till	6 - 11	1.1E-05	Out
P-210	Bedrock	20 - 25	2.3E-04	Out
P-211A	Bedrock	5 - 10	4.2E-04	Out
P-211B	Basal Till	16.6 - 21.6	3.5E-05	Out
P-212	Bedrock	31.3 - 36.3	7.8E-06	Out
P-213	Boulder Zone	33.3 - 38.3	9.5E-03	Out
P-214A	Bedrock	57.2 - 62.2	1.5E-04	Out
P-214B	Basal Till	38.1 - 43.1	1.7E-05	Out
P-214C	Basal Till	11 - 16	1.9E-06	Out
P-215A	Bedrock	28 - 33	3.2E-03	Out
P-215B	Basal Till	7 - 12	4.6E-06	Out
P-216B	Basal Till	5 - 10	3.4E-04	Out
P-220B	Basal Till	15 - 20	2.3E-05	Out
P-222A	Bedrock	23.7 - 28.7	3.2E-04	Out
P-222B	Basal Till	5.2 - 10.2	1.2E-06	Out
P-225	Basal Till	7.7 - 12.7	2.6E-05	Out
P-226A	Basal Till	20.3 - 25.3	7.8E-06	Out
P-502A	Washed Till	38 - 43	4.6E-03	Out
P-502B	Basal Till	6.3 - 11.3	3.5E-05	Out
P-504A	Washed Till	43 - 48	7.4E-03	Out
Geometric Mean Horizontal Hydraulic Conductivity	Basal Till		9.4E-06	
	Washed Till		4.4E-03	
	Bedrock		3.5E-05	

Note:
MW-301 tests were done using a packer system in an open borehole at the depths indicated.

Site-wide in-situ hydraulic conductivity test results indicate geometric mean horizontal hydraulic conductivity values of $9.4x10^{-6}$ centimeters per second (cm/sec) for basal till soils, $4.4x10^{-3}$ cm/sec for washed till soils, and $3.5x10^{-5}$ cm/sec for bedrock. Based on comments from MEDEP on the PIR for the

current Phase II Expansion (MEDEP, 2023; SME, 2023), SME provided an alternative assessment of average in-situ hydraulic conductivity using investigation data from fourteen groundwater monitoring locations within the Phase II Expansion boundary, which resulted in an estimated geometric mean hydraulic conductivity of $8.5x10^{-6}$ cm/sec. This alternative assessment of average in-situ hydraulic conductivity results within the Phase II Expansion boundary is included in Appendix H. The assessment calculated the geometric mean of in-situ hydraulic conductivity values at P-04-08A, P-04-08B, P-04-09A, P-04-09B, P-04-10A, P-04-10B, P-04-11A, P-04-11B, P-08-03A, P-04-08B, and the median value of slug test hydraulic conductivities from MW-04-111, MW-05-01, MW-05-02, MW-05-03, MW-05-04, and MW-05-05 (due to the proximity of these wells to one another). This assessment was provided to demonstrate that the soils within the Phase II Expansion meet the landfill siting criteria. MEDEP reviewed the assessment and provided a memorandum agreeing that SME has adequately demonstrated, for the purposes of the proposed landfill expansion preliminary investigation, that soils within the landfill expansion footprint meet the restrictive siting criterion that the in-situ soils must have an undisturbed hydraulic conductivity of less than or equal to $1x10^{-5}$ cm/sec (MEDEP, 2024). This MEDEP memorandum is included in Appendix H.

3.1.5 Borehole Geophysical Logging Survey

Borehole geophysical data were collected by NGS of Bangor, Maine from the PW-08-series bedrock borings to help identify hydraulically conductive fracture zones to a depth of 200 feet that might provide a pathway for groundwater flow. Borehole geophysical data was also collected from MW-06-02 to a depth of approximately 41 feet into the bedrock. The suite of probes utilized for logging measured fluid temperature, fluid conductivity (resistivity), single-point resistance, spontaneous potential, caliper, and vertical water flow within the borehole annulus. Additionally, optical televiewer images were collected from the PW-08-series and acoustic televiewer images were collected from MW-06-02. Collectively, these geophysical logging probes yielded information about borehole fluid characteristics, bedrock lithologic characteristics, borehole diameter, geometric orientation, and distribution of bedrock fractures, which fractures contributed to groundwater movement from or into the borehole, and the distribution of vertical flow in the borehole. Composite geophysical logs were prepared that show a vertical depth profile of the recorded data collected in each logged borehole. The results were reviewed, and the information used to identify potential hydraulically conductive zones in the boreholes for planning the operational procedures and specifications for pumping tests. NGS summary reports containing a description of methods, instrumentation, and borehole geophysical logs are in Appendix I.

The downhole geophysical logging televiewer images revealed two approximately orthogonal predominant bedrock fracture sets: one striking northeast/southwest and one striking northwest/ southeast. This uniform finding is consistent with the outcrop fracture mapping and the observed regional photolineament pattern (see Sections 3.1.10 and 3.1.11). There are also fractures that strike at various other directions. Many of the observed fractures dip steeply.

The single-point resistance, flowmeter, and driller's logs were used to identify potential water-bearing fractures and zones of high groundwater transmissivity within the rock. Single-point resistance logging measures the electrical resistance from individual points across the depth of the borehole to an electrical ground at the surface. In open bedrock boreholes, single-point resistance measurements generally decrease with increasing borehole diameter (i.e., at fractures) and/or fracture density. The single-point resistance measurements from the Site investigation typically decreased near the groundwater contributing fracture zones identified by other methods. The downhole flowmeter demonstrated where groundwater entered or exited a fracture and produced a profile of vertical flow rates within the borehole.

Five fairly regularly-spaced hydraulically transmissive bedrock fracture zones were identified by NGS across the vertical profile of PW-08-01. These fracture zones account for essentially all of the hydraulic transmissivity of the borehole. Measurements made under ambient (non-pumping) conditions indicate that water flows into the borehole from a transmissive zone at a depth of approximately 193 feet-below ground surface (bgs). Most of the flow is upward and gradually decreases as the water leaves the borehole through other fractures. There is also some downward flow originating from this point that appears to be increasing with depth. At PW-08-03, four fairly regularly spaced hydraulically transmissive zones were identified. At PW-08-04, seven fairly regularly spaced hydraulically transmissive zones were identified. It is important to note that observed vertical movement of water through these deep bedrock boreholes can be exaggerated because the borehole acts as a non-natural conduit between the hydraulically transmissive zones.

3.1.6 Groundwater Tracer Test in Glacial Till

A groundwater tracer test was initiated during February 2005 in an area within the Phase II Expansion boundaries where the till was characterized as sandy silt having a fines content of approximately 53 percent based on grain size analysis testing. The purpose of this test was to estimate the rate of horizontal groundwater movement through the glacial till. The test also provided data on the horizontal spreading (i.e., lateral dispersion) of the tracer. An area was selected at the lower Site elevations within the Phase II Expansion, where groundwater flow in the till was judged to be primarily horizontal based on mapping of the interpreted vertical equipotential lines determined from groundwater level monitoring. A sodium bromide tracer was injected in well MW-04-111, which traveled under natural gradient conditions towards an array of observation wells (MW-05-01 through MW-05-05) screened in the till. Periodic sampling of groundwater in the downgradient observation wells was performed throughout the test. Results of the test indicated a horizontal groundwater velocity of approximately 11 feet per year (ft/yr) in the till. When corrected for the overall Site gradients, the value becomes approximately 10 to 24 ft/yr. This test was performed in the near-surface weathered till and, therefore, may reflect the effect of weathering in the upper till. The tracer test results are documented and discussed in more detail in Appendix J.

3.1.7 Groundwater Tracer Test in Bedrock

A field-scale evaluation of the groundwater velocity in the fractured bedrock within the Phase II Expansion boundaries was conducted in June 2008. The bedrock underlying the tracer test site consists of metamorphosed siltstone containing steeply-dipping joints and fractures. Downhole geophysical logging of MW-06-02 revealed a principal fracture set striking to the northeast/southwest. A secondary fracture set with fewer fractures had an average strike in the northwest/southeast direction. Similar to the till tracer test, a sodium bromide solution was injected as a slug into well MW-06-02, and a natural gradient tracer test performed. Samples of groundwater were periodically collected from the injection well and six observation wells (OW-06-05 through OW-06-10) screened in bedrock. Although complicated by natural downward groundwater movement, the average groundwater velocity was approximated at 5 ft/day, which translates to local velocities within the bedrock potentially as high as tens of feet per day. There appeared to be preferential flow controlled by the predominant northeast/southwest striking fracture set. The tracer plume spread horizontally over an angle of at least 100 degrees as it traveled approximately 50 feet away from the injection well. This spreading confirmed the interconnection of various fracture sets in the bedrock. The bedrock tracer summary report is included in Appendix K.

3.1.8 Groundwater Age Dating

The age of groundwater beneath the Site was measured at two locations using the helium/tritium groundwater age-dating methodology. A location was selected at a higher Site elevation where groundwater gradients were estimated to be nearly vertical. By calculating the groundwater age at the base of the glacial till, an estimate of the transport time to the bedrock could be made. The age of the groundwater at the base of the glacial till in P-04-06A was calculated to be 14 years, which is greater than the required minimum travel time of six years to a sensitive receptor at a location where the groundwater gradients through the glacial till are nearly vertical.

A second groundwater age was calculated at P-04-07B, which is located in the bedrock near the groundwater discharge zone west and downgradient of the Phase II Expansion. This groundwater age provides a conservative estimate of the groundwater transport time from the landfill to the groundwater discharge zone (i.e., surface water). The groundwater age calculated at this well was 21 years, indicating that the transport time from the Phase II Expansion to the surface water exceeds six years.

The results of the helium/tritium testing are provided in Appendix L.

3.1.9 Bedrock Pumping Test at MW-06-02

A groundwater pumping test was conducted within the Phase II Expansion boundaries at monitoring well MW-06-02, the site of the bedrock tracer test to examine bedrock fracture interconnection and corroborate the slug test hydraulic conductivities. The test was conducted on July 10, 2006, by SME, and utilized MW-06-02 as the pumping well and OW-06-05 through OW-06-10 as the observation wells. The observation wells are approximately 50 feet from MW-06-02. Observation well OW-06-10 is oriented

approximately along the principal fracture set from the pumping well, while wells OW-06-06 and OW-06-07 are approximately along the secondary fracture set strike. The fracture strike orientations were known based on the downhole geophysical logging of MW-06-02. Documentation and a complete description of the pumping test are included in Appendix M.

Because the well screen only partially penetrated into the bedrock, groundwater leakage from till into the bedrock occurred during the test, and groundwater flow to the pumping well was likely not uniformly radial, the calculated aquifer parameters are only approximate. The test likely overestimated the bedrock transmissivity, hydraulic conductivity, and the storage coefficient. Barker and Black, 1983, note that transmissivity values are always overestimated when applying standard type-curves to fractured bedrock. When treated individually, the estimated hydraulic conductivities for the observation wells ranged from $3x10^{-4}$ to $2x10^{-3}$ cm/sec, with storage coefficients ranging from 0.0001 to 0.0008. The hydraulic conductivities from slug tests on the observation wells were lower than the values calculated from the transmissivities. This may be associated with the transmissivity value being over-estimated, as stated previously, or a difference between a point-specific hydraulic conductivity (i.e., slug test value) and an average bulk value (calculated transmissivity) over the approximately 50-foot separation distance between the pumping well and observation wells.

The wells along the principal fracture set appeared to respond more rapidly to pumping than those wells oriented approximately perpendicular to the principal fracture set. This is consistent with an interpretation that the principal fracture set's average hydraulic conductivity is greater than that of the secondary fracture set. Utilizing the method of Papadopoulos (Papadopoulos, 1965), the two principal transmissivities were calculated for various three-well groupings of the observation wells. The orientation of the principal transmissivities could also be estimated from this method. This analysis resulted in average principal transmissivities of 0.70 and 0.04 cm^2/sec. The azimuth of the maximum transmissivity was N61°E, while that of the minimum was perpendicular to this heading. The orientation of the maximum value nearly corresponded with the orientation of the strike of the principal fracture set based on the downhole geophysical logging, which ranges between approximately N25°E and N70°E. This result suggests the bedrock is anisotropic relative to hydraulic conductivity, with the greater hydraulic conductivity being to the northeast/southwest.

3.1.10 Photolineament Survey

Photolineaments represent predominant linear or curvilinear tonal, topographic, seepage, vegetative, and/or drainage patterns visually observed on aerial photographs that may represent bedrock geologic structures such as formation contacts or fracture zones. High-altitude aerial photos for the Site were reviewed by the MGS (Caswell, Eichler, and Hill, 1986). Low-altitude, black and white aerial photographs were examined by SME in 1991. One northwest/southeast oriented photolineament identified by SME in 1991 was found to enter the area of the Phase II Expansion. No topographic expressions of this photolineament could be visually observed during SME's Site reconnaissance, but it aligns with the northwest/southeast fracture set observed in bedrock outcrops.

Photolineament mapping was updated previously by SME in 2008 (SME, 2015). The updated photolineament mapping is shown on Figure 3-2. SME assessed May 21, 2024 aerial photographs obtained from Aerial Survey & Photo, Inc. of Norridgewock, Maine and found the photolineaments to be consistent with the 2008 updates. Better quality stereo pairs indicate several additional photolineament features within and near the BGS property compared to SME's 1991 assessment.

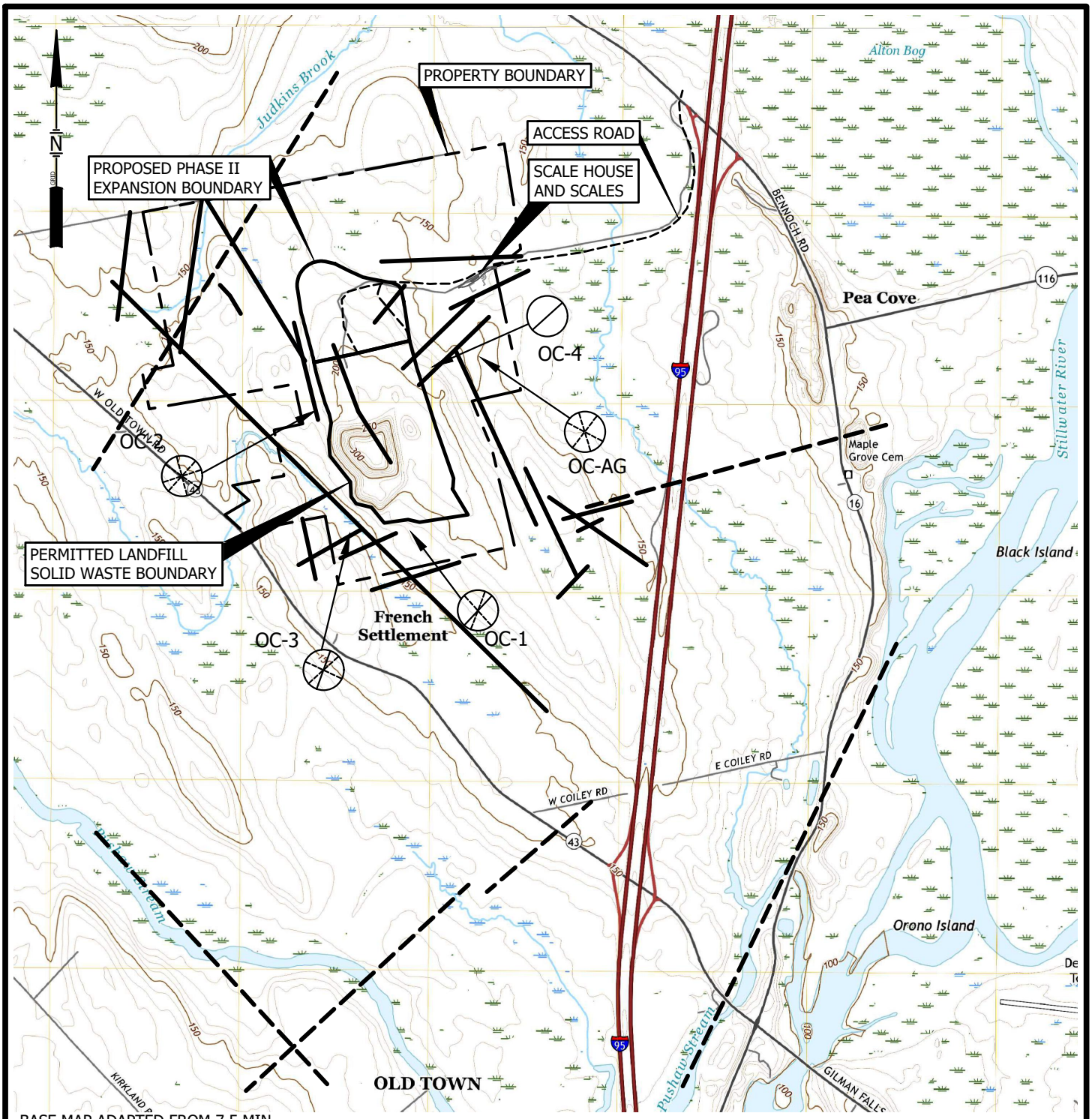
Two photolineaments were identified by SME within the Phase II Expansion and several other photolineaments are proximate to the Phase II Expansion boundary, as shown in Figure 3-2. These two photolineaments appear to coincide or nearly coincide with low resistivity zones in the bedrock based on the earth resistivity geophysical survey described in Section 3.1.12. The intersection of the two photolineaments just outside the western edge of the Phase II Expansion footprint also appears to correspond to a low resistivity zone in the bedrock.

The photolineament mapping visually demonstrates the interconnectivity of the large-scale bedrock fractures. As discussed below in Section 3.1.11, smaller-scale bedrock fracture interconnectivity is also demonstrated through outcrop mapping. The bedrock fracture interconnectivity indicates that groundwater likely flows in predictable patterns through the subsurface at the Site.

3.1.11 Bedrock Outcrop Survey

A vertically oriented outcrop of bedrock was selected for detailed fracture mapping in 2009. The purpose of the mapping was to record fracture and joint strikes and dips, describe fracture lengths, record fracture intersections, and determine average fracture spacing (Barton and Hsieh, 1989). The outcrop selected is located approximately 1,250 feet southeast of the Phase II Expansion (as shown on Figure 3-2) and was designated OC-AG. The outcrop is aligned approximately parallel to the northeast/southwest fracture set of this Site. Therefore, there is a slight negative bias in recording northeast/southwest fractures resulting in a fracture rose diagram (see Figure 3-3) that may suggest a greater relative number of northwest/ southeast fractures and other orientations than northeast/southwest fractures.

Figure 3-3 shows an approximately four-foot-high by six-foot-wide area of the outcrop where every fracture greater than one foot in length was recorded. Individual fracture strike and dip information as well as the number of fracture intersections are presented in Appendix N. A more northerly portion of the same outcrop, not shown on Figure 3-3, was mapped for fracture and joint orientation and inspected for fracture lengths. The northern section was not mapped in the detail shown in Figure 3-3. Fracture numbers for the northern portion of the outcrop are amended in Appendix N with an "A" suffix. There were several horizontally oriented fractures in the overall outcrop that had lengths greater than 20 feet and many vertically-oriented fractures with lengths greater than the exposed height of the outcrop of at least five feet. Fracture spacing was analyzed by transecting the outcrop shown in Figure 3-3 with three straight vertical lines and two straight horizontal lines and then identifying the fractures crossing the lines. The average fracture spacing was then calculated by dividing the line lengths by the number of crossing



BASE MAP ADAPTED FROM 7.5 MIN USGS TOPOGRAPHIC QUADRANGLE OLD TOWN, MAINE-2021

NOTE
LOCATIONS OF OUTCROPS ARE APPROXIMATE.

LEGEND

- HIGH ALTITUDE PHOTOLINEAMENTS (CASWELL, EICHLER & HILL, 1986)
- LOW ALTITUDE PHOTOLINEAMENTS (SEVEE AND MAHER 1991, UPDATED 2008)
- BEDDING (——) AND FRACTURE (-----) ORIENTATIONS MEASURED AT OUTCROPS (LOCATION APPROXIMATE)

1250 0 2500 FEET

FIGURE 3-2
PHOTOLINEAMENTS AND FRACTURE TRACES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: PHOTOLIN CTB: SME-STD REV: 6/2/2025

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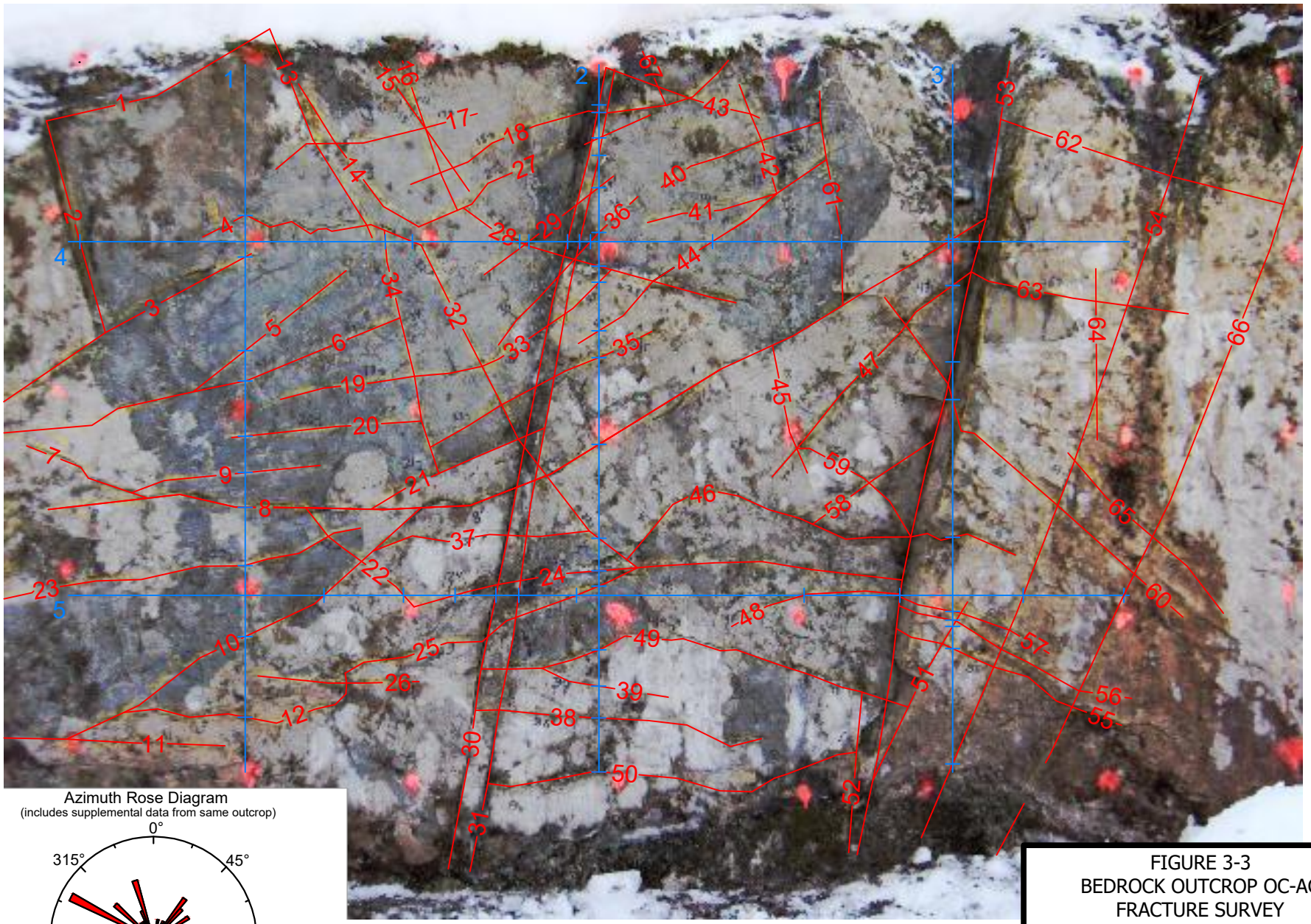
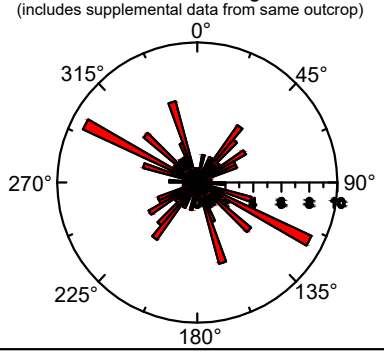


Azimuth Rose Diagram
(includes supplemental data from same outcrop)



Approximate Scale



Line 1: 11 Fractures - Average Spacing 0.36 ft
Line 2: 18 Fractures - Average Spacing 0.22 ft
Line 3: 11 Fractures - Average Spacing 0.36 ft
Line 4: 13 Fractures - Average Spacing 0.46 ft
Line 5: 11 Fractures - Average Spacing 0.55 ft

FIGURE 3-3
BEDROCK OUTCROP OC-AG
FRACTURE SURVEY
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

DWG: BEDROCK-FRACTURES LMN: NONE CTB: SME-STD REV: 6/4/2025

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fractures and joints. The averages ranged from 0.22 to 0.36 feet for vertical spacing and from 0.46 to 0.55 feet for horizontal spacing. The fracture and joint intersection density for the outcrop was calculated at 5.7 intersections per square foot.

The outcrop visually demonstrated the interconnectivity of the bedrock fractures. The outcrop mapping on Figure 3-3 further demonstrates interconnectivity between all fractures in the outcrop. The interconnectivity indicates that groundwater likely flows in predictable patterns through the subsurface at the Site.

3.1.12 Surficial Geophysical Survey

Two electrical earth resistivity and VLF-EM geophysical surveys were performed at the Site in November 2004 and January 2009 and approximately 27,000 lineal feet of transects were profiled within and surrounding the Phase II Expansion boundaries. Both surficial geophysical surveys were conducted by NGS of Bangor, Maine. Transect line locations are shown on Figure 3-1. The information collected from these geophysical surveys was utilized as an aid in identifying low-resistivity zones in the bedrock and as a gauge of approximate surficial soil thickness. Zones of lower resistivity in the bedrock may indicate fracture zones or denser fracture networks. When a VLF-EM anomaly and low resistivity zone were observed in the same area, the corroborating results provided evidence of a possible bedrock fracture zone. The resistivity and VLF-EM profiles were used to select deep bedrock borehole locations where subsequent pumping tests were conducted to examine fracture interconnectivity. Higher resistivity zones in the soil were useful in approximately delineating a cobble zone and sandy till zone outside the southeast side of the existing landfill. The interpreted resistivity data are presented as vertical profiles in two summary reports in Appendix O (NGS, 2004 and 2009). The methodology and instruments used are also described in Appendix O.

3.1.13 Fracture Interconnectivity Pumping Test in Deep Bedrock Wells

Between January 29 and April 19, 2009, SME conducted five groundwater pumping tests of the four deep bedrock boreholes within or adjacent to the Phase II Expansion area. Four deep bedrock boreholes, pump wells PW-08-01, PW-08-02, PW-08-03, and PW-08-04, were installed between December 29, 2008, and January 9, 2009, by Goodwin Well & Water, Inc. of North Turner, Maine using air rotary methodology, and are shown on Figure 3-1. The purpose of installing the deep bedrock wells and conducting groundwater pump tests at each borehole was to enhance the understanding of groundwater flow properties in the bedrock, particularly pertaining to the interconnectedness of the bedrock fractures through which the groundwater flows (Gernand and Heidtman, 2005).

The locations of the four deep bedrock boreholes were selected based on approximately 27,000 lineal feet of electrical resistivity geophysical survey data supplemented by VLF-EM survey data, as described in Section 3.1.12. Boreholes PW-08-01, PW-08-02, and PW-08-04 were selected at locations where deeper bedrock had relatively low electrical resistivity. Borehole PW-08-03 was selected at a location with relatively high electrical resistivity. Thus, measurements observed in three of these boreholes are biased

toward the more permeable bedrock, which is not representative of the sitewide average bedrock conditions where groundwater is transmitted through sparser, less transmissive fractures.

Short-term pumping tests of 24 to 50 hours were conducted at PW-08-01, PW-08-02, PW-08-03, and PW-08-04 by dewatering bedrock fractures as much as possible in a short amount of time using relatively high pumping rates. The extent of groundwater drawdown in the deep boreholes and in a network of monitoring wells and piezometers surrounding the pumped boreholes was measured and analyzed so that a better understanding of the orientation and degree of interconnectedness of bedrock fractures could be quantified and the groundwater flow behavior in the bedrock could be evaluated and quantified. The extent of fracture interconnectivity is directly related to the presence of drawdown during a pumping test, as well as the distance and direction from the pumping wells where drawdown is observed.

A long-term, combined pumping test of PW-08-01 and PW-08-02 was conducted in March and April 2009, wherein PW-08-01 and PW-08-02 were pumped simultaneously for approximately 14 days. The pumping rate at PW-08-01 ranged from approximately 200 gallons per minute (gpm) at the start of the test to approximately 150.6 gpm due to the increased static and friction head that had to be overcome as the groundwater level in the well dropped. The pumping rate at PW-08-02 ranged from approximately 96.5 gpm at the start of the test to approximately 77.8 gpm due to increased head as the groundwater level in the well dropped.

A summary description of each pumping test, drawdown graphs, pumping test data results, and a discussion of bedrock fracture interconnectivity are provided in Appendices P and Q for each of the five pumping tests described above. The borehole logs of the pumping wells are included in Appendix D. The deep bedrock well pumping test results are summarized below in Section 3.2.

3.2 Deep Bedrock Wells Pumping Tests Summary

Results of the pumping tests of the bedrock demonstrate the interconnectedness of the bedrock fractures over sitewide distances, which is consistent with data collected at bedrock outcrops and cores. The measured fracture spacing is typically a few feet or less and fracture lengths of over 20 feet have been observed in outcrops. The fracture mapping at OC-AG showed a dense network of fractures that were all interconnected with one another. During four of the five bedrock pumping tests (excluding the pumping test at PW-08-03, which was pumped at only a few gallons per minute), groundwater drawdowns during pumping extended greater than 2,000 feet from the pumping wells. For example, after pumping PW-08-01 for seven days, a drawdown of approximately 1.8 feet at PW-08-04 was observed 2,280 feet away from the pumping well and a drawdown of approximately 2.9 feet at MW-223A was observed 2,173 feet away from the pumping well.

These findings suggest that the site's (or the area of the Phase II Expansion) bedrock groundwater can be readily extracted, and groundwater flow directions controlled, using pumping wells. Based on the

available test results, bedrock groundwater pumping can be conducted in a manner to control the local direction of flow as needed. Figure 3-4 illustrates the groundwater drawdowns based on the groundwater elevations measured in wells at the end of the long-term simultaneous pumping test of PW-08-01 and PW-08-02.

The results show a widespread zone of groundwater drawdown (i.e., groundwater capture) that encompasses the majority of the Phase II Expansion area. The success of locating and drilling into more permeable zones in the bedrock by means of geophysical investigation (i.e., electrical resistivity and VLF-EM) demonstrates that such a method could be used to position bedrock extraction wells to control groundwater migration pathways away from the Phase II Expansion.

3.3 Laboratory Testing

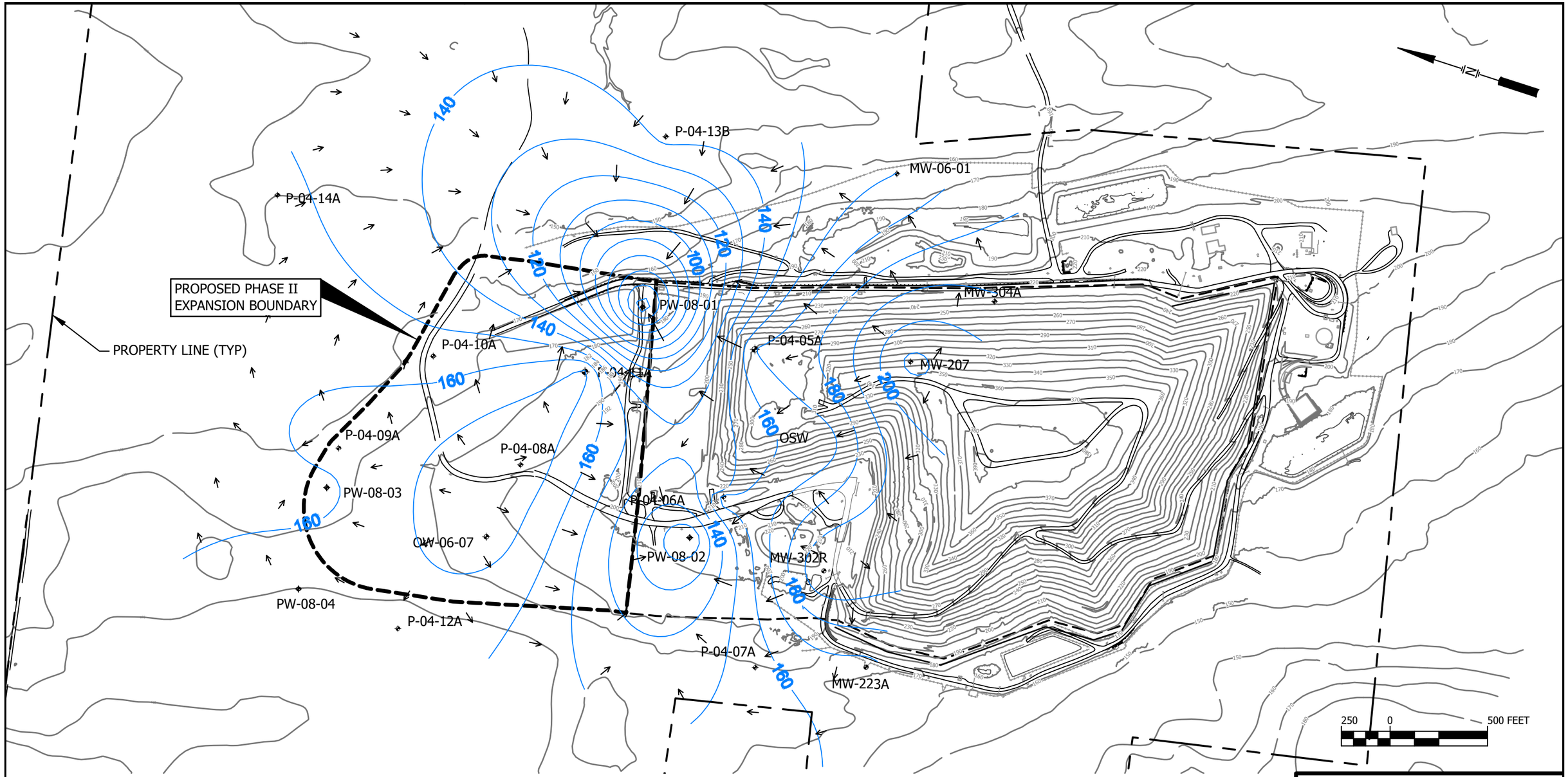
Soil samples collected from previous investigations, including within the Phase II Expansion, have been tested for the following characteristics: grain size distribution, water content, porosity, density, specific gravity, Atterberg Limits, and hydraulic conductivity. The physical property testing is described in this section.

The materials that will be discussed in the following sections are categorized in various surficial geologic units found during drilling and testing programs. A general description of the surficial geologic units identified at the Site during these investigations is provided below:

- Basal till – A glacially deposited, dense, sandy silt with frequent cobbles and boulders that overlies the bedrock surface.
- Washed till – Glacial till that has been reworked by glacial meltwater and is typically stratified into layers that vary in grain-size and hydraulic conductivity.
- Marine clay – Coastal submarine clay that was deposited during submergence of the continent due to the weight of glacial ice.

3.3.1 Soil Grain Size Analysis

At least sixty soil samples obtained from test pits and borings sitewide were submitted for grain size analysis performed in accordance with ASTM Method D422 (ASTM, 2002). The average percent passing the U.S. No. 200 sieve (i.e., fines content) from this testing for the basal till was approximately 55 percent for the twelve soil samples collected within the footprint of the Phase II Expansion. The fines content range for eleven of the twelve soil samples was from 42 to 62 percent with a standard deviation of 6.9 percent. One of the soil samples had a somewhat higher fines content of 84 percent. The fines content of basal till comprises the matrix of the soil, which surrounds larger aggregates within the soil (e.g., sand, gravel, cobbles, and boulders). Thus, the range of the fines content in the basal till is generally controlled by the amount and/or volume of the larger aggregates in respective samples.



NOTES

1. GROUNDWATER POTENTIOMETRIC SURFACE SHOWN INTERPRETED BY WATER LEVEL ELEVATIONS MEASURED IN WELLS INCLUDED IN THIS FIGURE AT THE END OF THE LONG-TERM SIMULTANEOUS PUMP TEST OF PW-08-01 AND PW-08-02. THE HYDRAULIC GRADIENTS SHOWN IN THE VICINITY OF THE PUMP WELLS ARE POTENTIALLY EXAGGERATED SINCE MONITORING WELLS WERE NOT AVAILABLE IMMEDIATELY ADJACENT TO THE PUMP WELLS.

2. PW-08-01 PUMPED AT AVERAGE 149 gpm FOR 337 HOURS AND PW-08-02 PUMPED AT AVERAGE 81 gpm FOR 167 HOURS.

3. IGNORES BEDROCK ANISOTROPY AND TREATS BEDROCK AS A CONTINUUM.

4. REPRESENTS ONE OF MANY POSSIBLE WELL CONFIGURATIONS.

LEGEND

200 — POTENTIOMETRIC GROUNDWATER ELEVATION CONTOURS IN FEET (NGVD)

ESTIMATED GROUNDWATER FLOW DIRECTIONS SIZED BY RELATIVE GROUNDWATER GRADIENT

DWG: PUMP-TEST LMN: EQUIPOTENTIAL CTB: SME-STD-HALF REV: 6/2/2025

FIGURE 3-4
INTERPRETED POTENTIAL GROUNDWATER CAPTURE ZONES IN BEDROCK UNDER PUMPING CONDITIONS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Server\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\PUMP-TESTS.dwg, B_FIG 3-4, 6/2/2025 10:44:46 AM, bwb

The fines content of the basal till, along with Atterberg limits for the basal till from the 1991 Site investigations (SME, 1991), indicate it to be a low-plasticity silt or clay according to the Unified Soil Classification System.

The grain size samples for the discontinuous washed till lenses had fines contents of 30 and 45 percent, while a sandy zone within the till had 22 percent fines content. Grain size analysis results for soil samples are compiled in Appendix Q and demonstrate the presence of well graded tills at the Site. Test pit and boring logs from locations where samples were tested have been annotated with the soil fraction passing the U.S. No. 200 sieve in Appendices C and D, respectively.

3.3.2 Soil Water Content, Specific Gravity, and Total Porosity

Natural water contents were determined in the laboratory for the till samples from 16 test pits and ten borings from previous Site investigations in accordance with ASTM Method D2216 (ASTM, 1998). The water contents in these samples, which were collected within or adjacent to the Phase II Expansion footprint, are presented in the respective logs in Appendices C and D. Basal till water contents from materials both above and below the water table within or adjacent to the Phase II Expansion footprint ranged from 10 to 23 percent with an average of approximately 13 percent in the test pit and boring soil samples. The tills beneath the existing landfill had water contents that ranged from 6 to 16 percent, with an average of around 11 percent (SME, 1991).

Natural water contents were also measured in the thin-walled tube samples of basal till at levels ranging from 4 to 14 percent. The 4 percent value was from a gravelly till and, as a result, may not be representative of saturated conditions. The till porosity frequency distribution was not log-normal like that of the bedrock fracture porosity. However, there is a near-normal distribution with an average porosity value of 0.25. Two tubes contained washed till with water contents of 8 and 10 percent. Washed tills tested in 1991 for the existing JRL had water contents that ranged from 8 to 22 percent (SME, 1991).

Specific gravity of the basal till was measured in accordance with ASTM D854; a value of 2.77 was obtained. The specific gravity of the basal till was used along with the saturated water contents to calculate the till's total porosity (Lambe and Whitman, 1969). The total porosity of the basal till within or adjacent to the Phase II Expansion footprint was calculated to range between 0.21 and 0.39. The mean total porosity for the glacial till is 0.26 based on these water contents. The basal tills beneath the existing permitted facility had calculated total porosities of 0.19 to 0.27 (SME, 1991), which compares favorably with the Phase II Expansion results.

Water contents and specific gravity results are documented in Appendix S.

3.3.3 Laboratory Soil Hydraulic Conductivity Testing

Hydraulic conductivity tests were performed on three undisturbed thin-walled tube samples of basal till from borings B-08-01, B-08-02, and B-08-03, which are located within the Phase II Expansion area (see

Figure 3-1). The tubes were oriented vertically, and the samples were then tested for hydraulic conductivity by the method described in ASTM D5084. Undisturbed till samples were placed intact into a flexible membrane permeameter and then saturated by back-pressuring with de-aired water. Hydraulic conductivity results were corrected to 10 degrees Centigrade (°C), to approximate the average in-situ groundwater temperature. Since the tubes were oriented vertically when the samples were collected, the hydraulic conductivity test results represent the vertical hydraulic conductivity of the tills. The laboratory hydraulic conductivity results are summarized in Table 3-3, and on the respective soil boring logs in Appendix D. Laboratory worksheets for the hydraulic conductivity testing are contained in Appendix T. One sample of the washed till was tested while the remaining tests represented the basal till. Soil from the intact till investigation tube samples was submitted to the SME soils laboratory for grain size analysis testing. The fines content averaged approximately 57 percent for the tube samples of basal till which compares favorably with the 56 percent average fines content for the basal till from the split-spoon samples.

Table 3-3 also includes the in-situ field hydraulic conductivity results from slug testing of piezometers installed in the borings where the thin-walled tube samples were collected. The slug test results provide an estimate of the horizontal hydraulic conductivity of the tills at the tube sample position.

Site-wide laboratory vertical hydraulic conductivity test results indicate geometric mean horizontal hydraulic conductivity values of 1.5×10^{-7} cm/sec for basal till soils and 1.1×10^{-5} cm/sec for one analyzed washed till soil sample. The laboratory vertical hydraulic conductivity results from the five groundwater monitoring locations within the Phase II Expansion boundary results in an estimated geometric mean hydraulic conductivity of 3.2×10^{-7} cm/sec. The assessment calculated the geometric mean of laboratory hydraulic conductivity values from samples B-08-02, B-08-03, B-08-04, and the median value of hydraulic conductivities from two samples collected from B-08-01 (due to the proximity of these samples from one another). This assessment was provided to demonstrate that the soils within the Phase II Expansion meet the landfill siting criteria.

TABLE 3-3

TILL HYDRAULIC PROPERTIES

Geologic Unit	Location	Soil Sample No.	Sample or Test Depth (ft)			Hydraulic Conductivity (cm/sec)		K_H/K_V Ratio	Passing U.S. No. 200 Sieve Size (%)	Dry Density (pcf)	Total Porosity (from dry density)	Water Content (%)	Total Porosity (from water content)[4]
						Field [(1)]	Lab [(2)]						
Brown Basal Till	B-08-02	1S	11	-	12.4	-	7.0×10^{-8}	-	84	125.3	0.28	3.6[5]	0.09
	B-08-03	-	3.3	-	5.3	1.1×10^{-6}	-	-	-	-	-	-	-
		2S[3]	14.8	-	15.5	-	6.2×10^{-7}	-	45	131.3	0.24	9.8	0.21
	B-08-04	1S	7	-	7.8	5.4×10^{-6}	1.8×10^{-6}	3	54	116.5	0.33	14.2	0.28
	B-08-05	1S	7.5	-	9	-	5.2×10^{-7}	-	59	127.3	0.26	12.4	0.26
	B-08-06	1S	13	-	14	1.6×10^{-6}	6.6×10^{-8}	24	42	127.5	0.26	11	0.23
	B-08-07	1S	10	-	11.3	1.4×10^{-6}	2.9×10^{-8}	48	55	128.9	0.25	11	0.23
	B-08-09	1S	10.8	-	11.3	-	3.0×10^{-7}	-	45	125.7	0.27	12.8	0.26
	B-08-10	1S	11	-	12.5	-	2.4×10^{-8}	-	62	123.4	0.29	13.7	0.28
	B-04-05	1R	34.6	-	35.8	-	5.5×10^{-7}	-	45	122.8	0.29	9.6	0.21
	B-207	4D	6.5	-	7	-	1.2×10^{-7}	-	-	125	0.28	-	-
Gray Basal Till	B-08-01	1S	16.6	-	17.8	-	1.6×10^{-7}	-	52	114.7	0.34	11.9	0.25
		2S	18.3	-	19.3	-	1.1×10^{-7}	-	57	123.5	0.29	11.9	0.25
	B-08-10	3S	15.5	-	17	-	4.1×10^{-8}	-	59	119.7	0.31	12.9	0.26
Basal Till: Geometric Mean Vertical Hydraulic Conductivity							1.5×10^{-7}	63[6]	-	-	-	-	-
Washed Till Zone	B-08-03	2S[3]	15.5	-	16.3	8.3×10^{-4}	1.1×10^{-5}	75	30	-	-	7.9[5]	0.18

Notes:

1 Field hydraulic conductivity is interpreted to be representative of local horizontal hydraulic conductivity of till derived from in situ slug test.

2 Lab hydraulic conductivity is interpreted to be representative of local vertical hydraulic conductivity of till as derived from vertically-oriented, undisturbed samples collected according to ASTM D5084.

3 Upper portion of tube contained basal till; lower portion contained a washed sandy till zone.

4 Using measured specific gravity of 2.77.

5 Unsaturated water content.

6 K_H/K_V ratio uses geometric mean values for Basal Till.

- Not Measured

3.3.4 Soil Density

Undisturbed densities of the basal till were measured from thin-walled tube samples used for hydraulic conductivity testing. For each test, the volume of the specimen was determined by measuring its dimension to the nearest thousandth of an inch with calipers. The density results are shown in Appendix T on the same forms reporting the hydraulic conductivities. The total wet density was determined by weighing the sample and dividing its total weight by the calculated volume from the sample dimensions. A moisture content test by ASTM D2216-98 was performed on the test specimen and used to calculate the dry density. The dry density of the till ranged from approximately 115 to 131 pounds per cubic foot (pcf), while the wet density ranged from approximately 128 to 143 pcf.

For each tube sample of basal till, the total porosity of the specimen was calculated from its dry density using the measured specific gravity of 2.77. The calculated total porosities ranged from 0.24 to 0.34 and agree favorably with total porosities calculated from saturated water contents of the tube samples, which ranged from 0.21 to 0.39. The porosity values calculated from soil density data averaged slightly greater than the porosity values from the water content data. This may be due to some disturbance to the density during tube sampling of the dense glacial till. These ranges and their averages are similar to and consistent with the values discussed above in Section 3.3.2, based on water contents of split-spoon samples. The mean porosity for the thin-walled tube water content results was 0.25, which agrees favorably with the 0.26 calculated from the mean till water content discussed in Section 3.3.2.

3.3.5 Effective Porosity

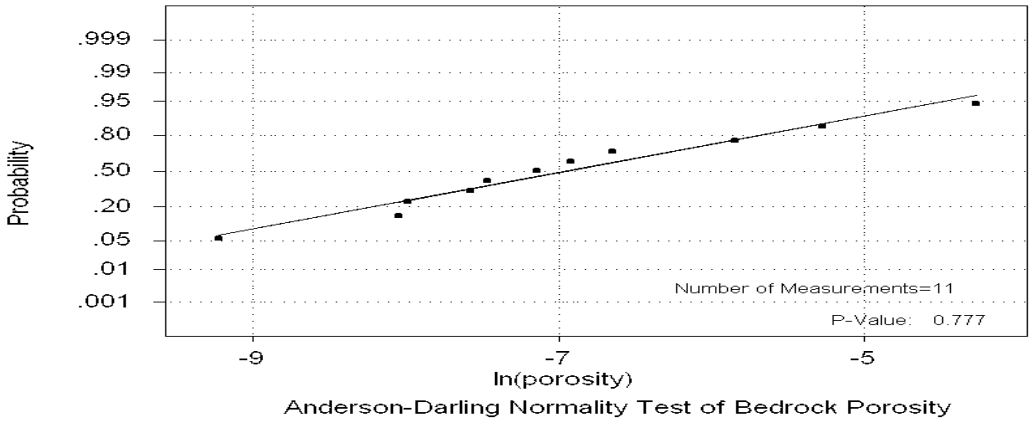
Transport time and groundwater velocity through soil is a function of the soil's effective porosity, as further discussed in Section 5.0. Some references (e.g., deMarsily, 1986) suggest an effective porosity can be less than the total soil porosity for certain clayey soils. Effective porosity of the basal till was measured using a laboratory tracer test, as described in Appendix U. This test showed the total and effective porosities to be the same for the basal till. Thus, a mean effective porosity for the basal till of 0.25 was utilized for the groundwater velocity calculations.

Bedrock cores were used to estimate the effective porosity of the bedrock relative to groundwater movement. In those areas where hydraulic conductivities were measured in-situ through a well or piezometer screen where a bedrock core with definable fractures was obtained, the method of Snow, 1968, was employed to calculate total porosities. This method assumes that all observed fractures contribute equally to water flow. Bedrock porosities of 0.000099 to 0.014 were calculated and are reported on the bedrock core logs in Appendix E. The porosity results were log-normally distributed (based on the Anderson-Darling, 1952, normality test), which is shown in Figure 3-5. The geometric mean of the effective bedrock porosity was 0.001. Bedrock porosities calculated for the existing JRL ranged from 0.00048 to 0.0044 with a mean value of at least 0.0017 (SME, 1991). Collectively the bedrock porosity

data suggests an average effective porosity of 0.001 is reasonable for this formation since the Snow methodology uses the hydraulically connected portion of the bedrock's total porosity.

FIGURE 3-5

ANDERSON-DARLING NORMALITY TEST OF BEDROCK POROSITY



3.3.6 Tabular Summary of Laboratory Soils Testing

Table 3-4 summarizes the sitewide physical property testing results for the soils and bedrock at the Site.

TABLE 3-4

SUMMARY OF LABORATORY TEST RESULTS

Geologic Unit	Fines Content (%)	In-Situ Water Content (%)	Specific Gravity	Dry Density (pcf)	Total Porosity	Average Effective Porosity
Basal Till	42 to 95 (56)	10 to 23 (13)	2.77	115 to 131(124)	0.21 to 0.39 (0.27)	0.25
Washed Till	30 to 45	8 to 10	2.77[2]	-	0.25[1]	0.25
Boulder Zone	<6	-	2.65[1]	-	0.4[1]	0.4[1]
Sandy Zone	22	-	2.65[1]	110[1]	0.25[1]	0.25[1]
Bedrock	-	-	-	-	0.000099 to 0.014	0.001

Notes:
[1] Assumed value.
[2] Estimate from basal till.

- Not Measured.

4.0 SITE SOILS AND GEOLOGIC CHARACTERISTICS

The geology of the area beneath and around the permitted landfill and the Phase II Expansion has been extensively investigated and is described in the following sections. The investigations demonstrate that the native soils of the region reflect their glacial origin, while the topography closely resembles the shape of the underlying bedrock surface, which has been altered by erosion processes associated with past glacial advances and retreats.

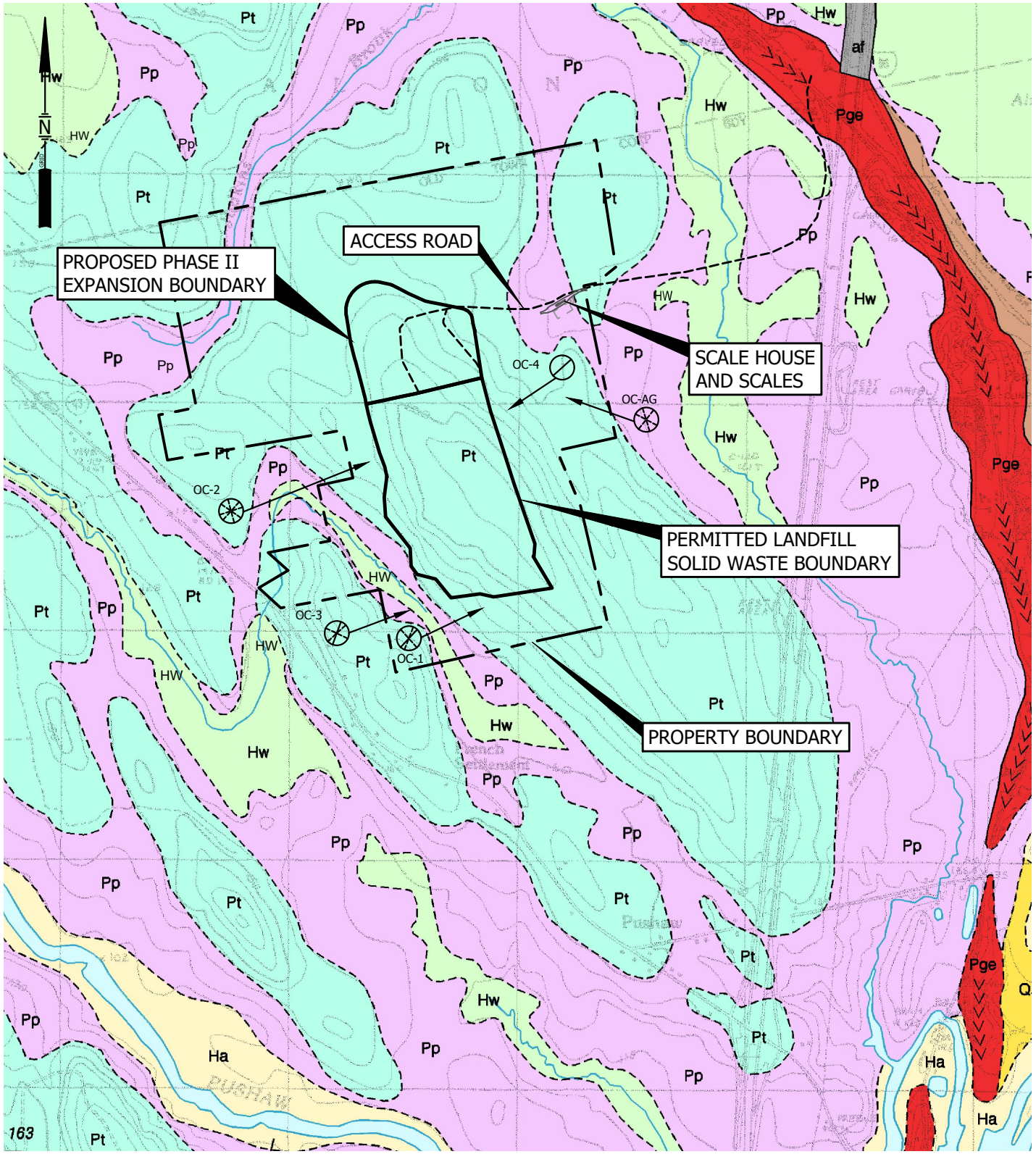
4.1 Surficial Soils

The surficial soils mapping published by the MGS indicates glacial till deposits predominate in the higher topographic elevations of the Site (Borns and Thompson, 1981). Marine silt and clay deposits are often found in the stream valleys and lowlands of the lower topographic elevations.

The marine soils were deposited atop the glacial till formation, after retreat of the glacial ice. The approximate distribution of these soil types is shown on the surficial geology map in Figure 4-1. The MGS surficial geologic map also suggests that some of the elongated hills, such as the one on which the JRL Facility is positioned, were formed as glacial drumlins, with their long axes oriented in a northwest-southeast direction (Borns and Thompson, 1981).

Figure 4-2 presents a medium intensity soils map based on the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey of Penobscot County (NRCS, 2022). Plaisted and Howland soils are the predominant NRCS soil types mapped within the Phase II Expansion. These two surficial soil profiles are derived from glacial till. The NRCS mapping for the Phase II Expansion is in general agreement with the MGS mapping.

Numerous drilled soil borings indicate a dense basal till beneath the Phase II Expansion (SME, 1991). The glacial till beneath the Site provides an effective setting for the landfill due to its dense, fine-grained nature. At a few locations outside of the permitted landfill boundary, bedrock outcrops are exposed at the ground surface. There are several isolated zones of washed till or sandy lenses in the till around the Site. These discontinuous washed or sandy lenses are often found within finer grained glacial tills and are common to drumlins in Maine, particularly on their lee (down-ice) sides (Flint, 1957). Previous borings also indicated marine silt or clay deposits in the stream valley west of the Site.



MAPPING SOURCE
MAINE GEOLOGICAL SURVEY
OPEN FILE NO. 12-15 BY
KELLEY AND KELLEY, 2012.

LEGEND

Pt	TILL
Pp	PRESUMPSCOT FORMATION
HW	WETLAND DEPOSITS

BEDDING (——) AND FRACTURE (-----) ORIENTATIONS MEASURED AT OUTCROPS (LOCATION APPROXIMATE)

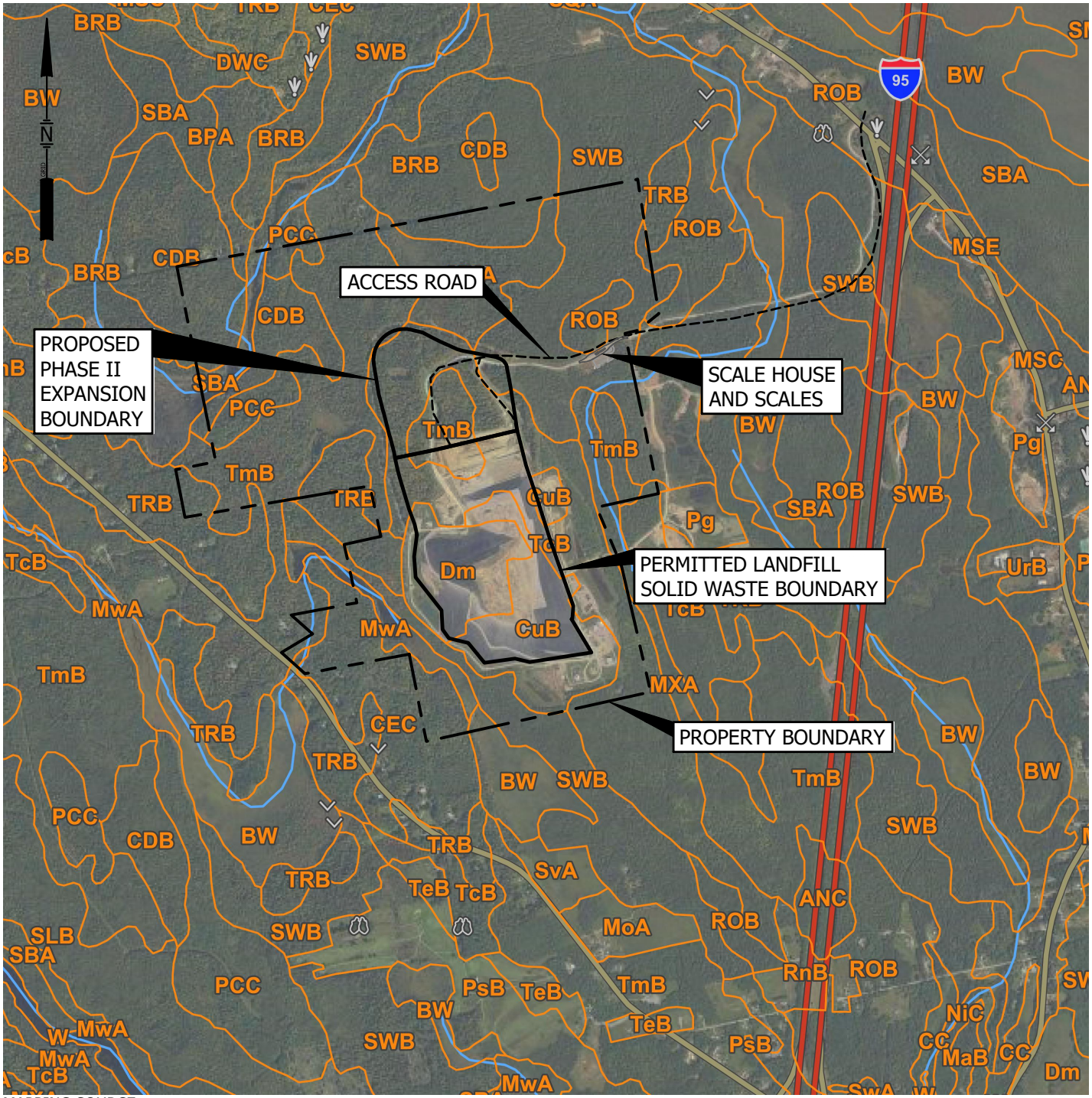
1000 0 2000 FEET

DWG: SITELOC LMN: SURFICIAL GEOLOGY CTB: SME-STD REV: 6/2/2025

FIGURE 4-1
SURFICIAL GEOLOGY
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 4-1, 6/3/2025 3:51:31 PM, bwb



MAPPING SOURCE

NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY OF PENOBSCOT COUNTY, MAINE, AUG 30, 2022. AERIAL IMAGES WERE PHOTOGRAPHED JULY 11, 2011 TO OCT 29, 2021

SOIL LEGEND

BPA	Brayton-Peacham complex
BRB	Brayton-Colonel complex
BW	Bucksport and Wonsqueak mucks
CDB	Colonel-Peru-Brayton complex
CEC	Chesuncook-Elliottsville-Telos association
CuB	Chesuncook-Telos-Urban land association
DM	Dumps
MwA	Medomak-WonsqueakSwanville complex
MXA	Monarda-Burnham complex
PCC	Peru-Colonel-Tunbridge association
ROB	Roundabout-Nicholville association
SBA	Scantic-Biddeford complex
SWB	Pushaw-Swanville complex
TcB	Telos-Chesuncook complex
TmB	Monarda-Telos complex
TRB	Telos-Chesuncook-Ragmuff association

1000 0 2000 FEET

DWG: SITELOC LMN: SOILS CTB: SME-STD REV: 6/2/2025

FIGURE 4-2
MEDIUM INTENSITY SOIL TYPES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfillExpansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 4-2, 6/2/2025 9:59:25 AM, bwb

4.2 Surficial Geology

The surficial geology of the Phase II Expansion reflects the depositional environment associated with the advance and retreat of the Laurentide Ice Sheet during the Wisconsin glaciations (Kelley and Kelley, 2008). Numerous field investigations indicate that the predominant surficial soil directly beneath the Phase II Expansion consists of a dense, silt-clay glacial till. Thin, isolated lenses of washed till were also observed, typically just above the bedrock. Some marine clay was encountered atop the till beyond the Phase II Expansion boundary. Interpretive geologic profiles prepared from test pit and soil boring logs are illustrated in Figure 4-3. The profiles are oriented as shown in Figure 3-1.

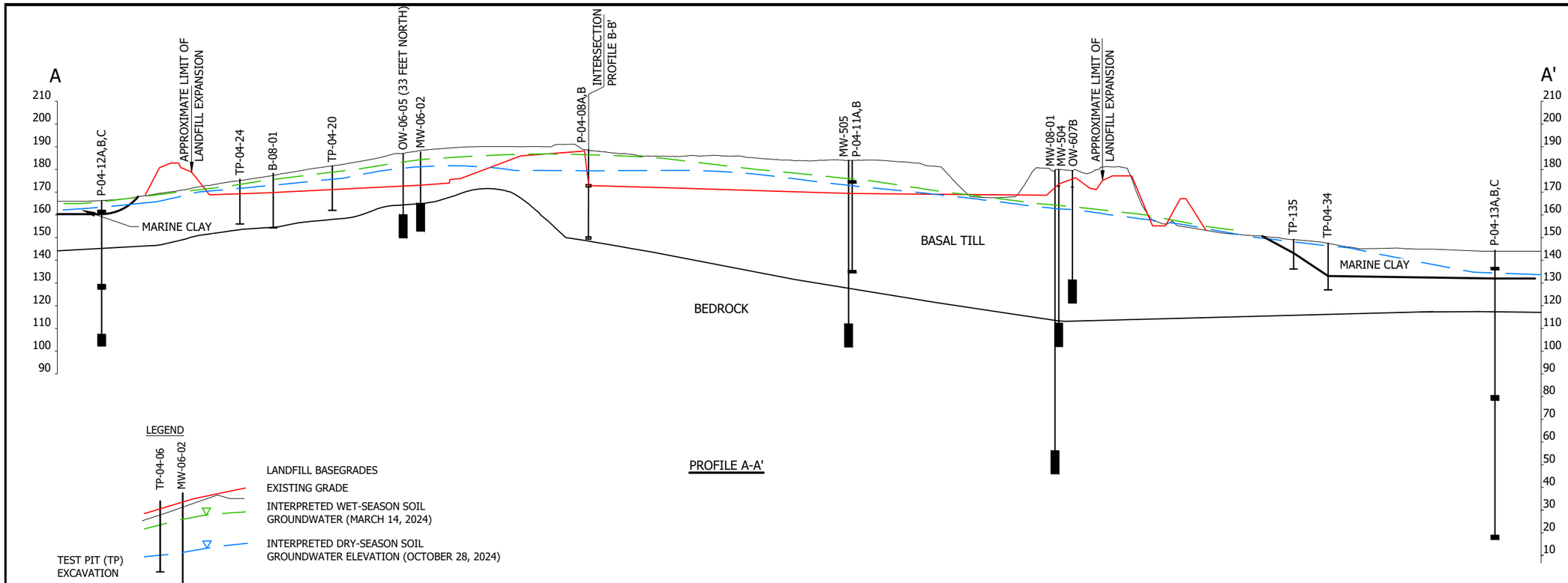
Information gathered from soil and bedrock borings was used to prepare the interpreted native soil thickness isopach map. As shown on Figure 4-4 soil thicknesses range from approximately 0.5 feet to 50 feet across the Phase II Expansion area. The existing soils located within the Phase II Expansion Area are thinnest in the northeast corner and southwest corner, at or near bedrock surface exposures.

The average till thickness between the landfill base grades and bedrock surface will be approximately 22 feet. Approximately 1 percent (i.e., 0.5 acres) of the Phase II Expansion footprint has an existing soil thickness of less than five feet between landfill base grades and the interpreted bedrock surface.

The soil thickness isopach map of Figure 4-4 was compared to the vertical electrical resistivity profiles shown in Appendix O. The lowest resistivity values of 50 to 800 ohm-meters are interpreted to indicate a surficial soil layer, with clayey soils having readings of less than 200 ohm-meters (blue shading in profiles). Higher resistivity values of greater than 2,000 ohm-meters are generally indicative of massive bedrock (red to brown shading). Intermediate resistivity values are interpreted to reflect coarser-grained soil, dry soil, or fractured bedrock. The soil depth interpreted from the vertical electrical resistivity profiles are similar to the soil thicknesses interpreted on the isopach map. Each of the encountered geologic soil types is discussed below.

4.2.1 Basal Till

The glacial till beneath the Phase II Expansion consists primarily of lodgment or basal till, which typically forms a continuous layer over the bedrock surface and overlies occasional lenses of washed till. Composed of sandy silt with occasional boulders and frequent cobbles, the basal till varies in color from brown to gray. The brown till is found near the ground surface and typically grades into brownish gray to gray till with depth. Weathering and frost action has fractured the near-surface till above the frost/desiccation zone. Previous site investigations suggested that the basal till represented the same geologic deposition regardless of its color (SME, 1991). The basal till is dense and exhibited Standard Penetration Test (SPT) N-values usually in excess of 50 blow counts per foot. SPT sampling through the till was impeded when boulders and cobbles were present resulting in minimal split-spoon penetration.



PROFILE A-A'

LEGEND

TP-04-06
MW-06-02

LANDFILL BASEGRADES

EXISTING GRADE

INTERPRETED WET-SEASON SOIL GROUNDWATER (MARCH 14, 2024)

INTERPRETED DRY-SEASON SOIL GROUNDWATER ELEVATION (OCTOBER 28, 2024)

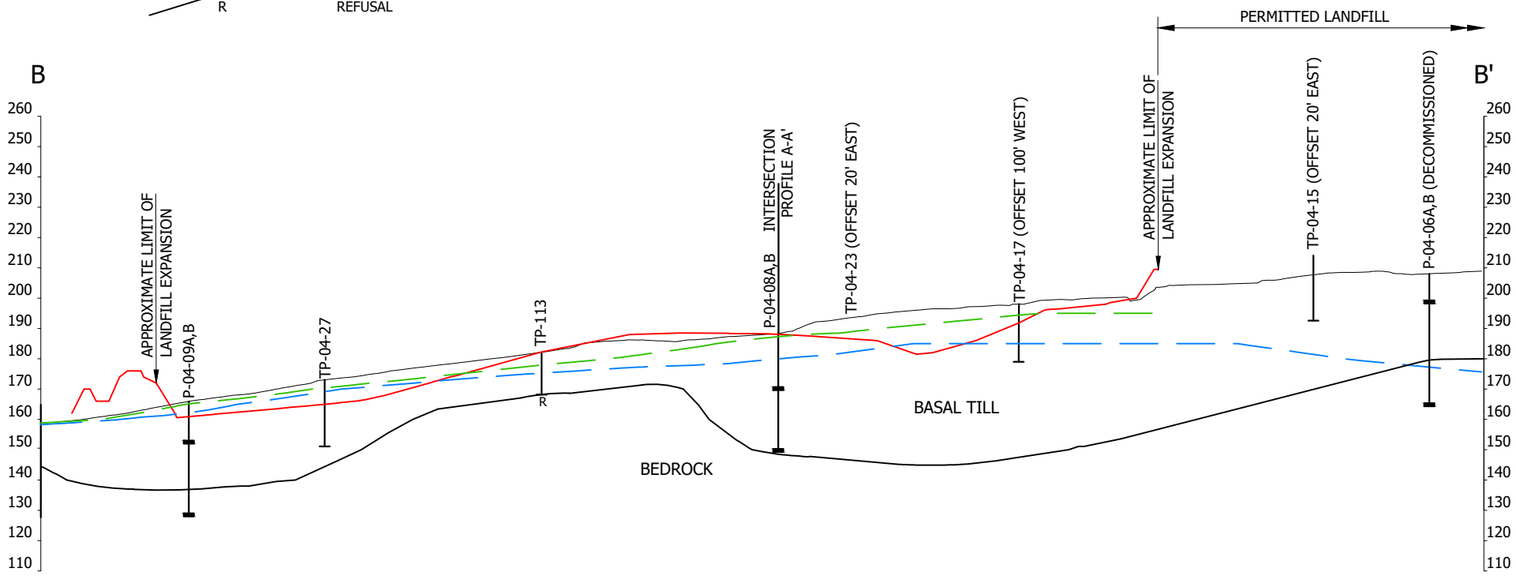
TEST PIT (TP) EXCAVATION

PIEZOMETER (P)/MONITORING WELL (MW) SCREEN INTERVAL

INTERPRETED BEDROCK SURFACE

R

REFUSAL



PROFILE B-B'

GEOLOGIC LEGEND

MARINE CLAY - SOFT TO STIFF - GRAY TO BROWNISH GRAY SILTY CLAY WITH OCCASIONAL DISCONTINUOUS FINE SAND LENSES

BASAL TILL - VERY DENSE - COBBLY GRAVELLY SANDY SILTY-CLAY TO VERY SILTY SAND WITH FEW BOULDERS. RARE DISCONTINUOUS AND THIN (I.E.LESS THAN FEW INCHES THICK) SAND LENSES. RANDOMLY FISSILE THROUGHOUT. UPPER FEW FEET WEATHERED AND FRACTURED DUE TO FROST ACTION. TYPICALLY BROWNISH IN COLOR NEAR GROUND SURFACE AND JUST ABOVE BEDROCK. OCCASIONALLY GRAY IN DEEPER SOIL AREAS. BECOMING INTERBEDDED WITH SAND LENSES NEAR BEDROCK SURFACE IN SOME PLACES.

BEDROCK - INTERBEDDED METASILTSTONE, METAGRAYWACKE AND PHYLLITE. OCCASIONAL FRACTURES, TYPICALLY UNWEATHERED, BUT OCCASIONAL WEATHERED ZONES.

NOTES

1. GEOLOGIC UNITS ARE SHOWN SCHEMATICALLY. FIGURE SHOULD NOT BE USED FOR ENGINEERING DESIGN,QUANTITY TAKE-OFFS, GRADES, ETC.

2. THE GEOLOGIC UNITS REPRESENT AN INTERPRETATION OF THE TEST PIT AND BORING RESULTS. CONDITIONS MAY VARY FROM THAT SHOWN BETWEEN THE EXPLORATIONS. BOUNDARIES BETWEEN VARIOUS GEOLOGIC UNITS MAY VARY FROM THAT SHOWN AND MAY BE GRADATIONAL.

3. GROUND SURFACE TOPOGRAPHY FROM TOPOGRAPHIC MAP CREATED FROM MAY 21, 2024 AERIAL SURVEY.

4. VERTICAL EXAGGERATION OF PROFILES IS 10 TO 1.

5. SEE FIGURE 3-1 FOR PROFILE LOCATIONS.

125 0 250 500 FEET (HORZ)

25 0 50 100 VEET (VERT)

FIGURE 4-3
INTERPRETED GEOLOGIC PROFILES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: P-SECTION-HYDROGEO LMN: GEO-PROF-2025 CTB: SME-STD REV: 6/12/2025

\\Server\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\P-SECTION-HYDROGEO.dwg, B_FIG 4-3, 6/12/2025 1:19:20 PM, bwb

PROPERTY BOUNDARY (TYP)

PROPOSED PHASE II
EXPANSION BOUNDARY

PERMITTED LANDFILL BOUNDARY

OC-AG
OC-1
OC-2
OC-3
OC-4

250 0 500 FEET

NOTES

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024. CONTROL POINTS BASED ON SURVEY BY PLIGSA & DAY LAND SURVEYORS OF BANGOR, MAINE, ON APRIL 24, 2025. VERTICAL DATUM: ASSUMED. SUBTRACT 0.34 FEET FROM ELEVATIONS LISTED TO CONVERT ELEVATIONS TO NAVD88. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83.
2. PROPERTY LINE LOCATIONS ARE A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALSBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION-DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988.
3. LOCATIONS OF EXPLORATIONS ARE APPROXIMATE.
4. INTERPRETATION OF SOIL ISOPACH CONTOURS BASED ON BORINGS, TEST PITS, SURFACE RESISTIVITY SURVEY AND OUTCROP OBSERVATIONS. ACTUAL CONFIGURATION SOIL THICKNESS MAY VARY FROM THAT SHOWN.
5. DRAWING SHOULD NOT BE USED FOR DESIGN, QUANTITY TAKE-OFFS, GRADES, SURVEY ETC.

LEGEND

TP-303 7	TEST PIT LOCATION WITH SOIL THICKNESS IN FEET
MW-207 21.5	BORING LOCATION WITH SOIL THICKNESS IN FEET
	BEDROCK OUTCROP (OUTCROPS WITH FRACTURE MEASUREMENTS ARE DESIGNATED OC-1 THRU OC-4 AND OC-AG)
10	INTERPRETED SOIL THICKNESS ISOPACH CONTOURS IN FEET

DWG: FIGURES LMN: OVERBURDEN CTB: SME-STD-HALF REV: 6/12/2025

FIGURE 4-4
INTERPRETED SOIL THICKNESS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Serverfcds\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\FIGURES.dwg, B_FIG 4-4, 6/12/2025 12:05:53 PM, bwb

Examination of test pit walls and Site reconnaissance has shown no evidence of Holocene faulting at the Site.

The range of fines content and grain size curve shapes suggest a till with varying textures and hydraulic conductivities. These varying textures appear to be random but have some layered structure. This structure is likely the result of the sub-glacial deposition environment (Legget, 1976). The observed fissility is suggestive of a layering (SME, 1991). The basal till contains occasional, isolated sandy lenses, which have been observed in other Maine tills. The sandy lenses are typically only several feet thick or less.

A boulder zone and stratified sand zone were encountered outside the eastern side of the permitted landfill boundary at monitoring wells MW-213 and MW-06-01. Both the boulder zone and stratified sand zone are overlain by basal till. The sandy and boulder zones are therefore interpreted as a portion of the drumlin and not part of a post-glacial outwash deposit such as the ones along the Stillwater River east of the JRL. These sandy outwash deposits along the river were laid down after deposition of the basal till, once the glacial ice had retreated further north (Borns and Thompson, 1981). Sandy and boulder zones within basal till have been described elsewhere (Flint, 1957). Based on the geology, it is unlikely that there would be a direct hydraulic connection between the sandy and boulder zones in the till and the sand and gravel outwash deposits approximately a mile east of the JRL along the Stillwater River. The surficial resistivity survey was useful in further delineating the location of the sandy and boulder zones. The resistivity suggested these deposits are of limited lateral extent. The sandy and boulder zones are over 100 feet from the footprint of the Phase II Expansion and existing JRL. The subsurface investigations in 1991 showed groundwater moving toward the existing landfill from the south through the sandy zone.

4.2.2 Washed Till

Similar to the geologic setting of the existing landfill, isolated, discontinuous lenses of washed till, typical of till terrains and drumlins, were found along the top of bedrock in a few areas beneath some parts of the drumlin. These localized lenses are typically less than 10 feet thick and are of limited horizontal extent. The washed till has fewer fines and, therefore, is more permeable than the basal till. The localized, discontinuous nature of the washed till prevents it from being important to the overall Site hydrogeology.

4.3 Bedrock Geology

Bedrock geologic maps prepared by the MGS were reviewed for mapped bedrock type(s) and bedrock fault location(s) in the vicinity of the Phase II Expansion. Similar to the permitted landfill, the bedrock beneath the Phase II Expansion is mapped as interbedded metamorphosed quartzite, siltstone, graywacke, and phyllite of the Vassalboro Formation according to the latest MGS mapping (Griffin, 1976a; Osberg, et al., 1985). No bedrock faults have been mapped within the Site. The nearest mapped bedrock fault is located approximately six miles southeast of the Site, striking northeast-southwest (Griffin, 1976b).

Four bedrock outcrops consisting of interbedded metaquartzite, metagraywacke and/or phyllite have been observed by SME around the perimeter of the permitted landfill (SME, 1991) as shown on Figure 3-2. Although fractures were visible on OC-4, they were not accessible for measurement. Three of the four outcrops (OC-1, OC-2, and OC-3) exhibited visible fractures where a Brunton compass could be used to measure fracture plane orientations.

The fracture mapping of these four outcrops indicated one set or grouping of fractures was striking northwest/southeast (N14°W to N74°W) relative to True North, and another set was oriented in a northeast/southwest (N25°E to N67°E) direction. The fractures of both sets are typically steeply dipping at greater than 60° below horizontal. The fracture lengths in some cases extended greater than twenty feet. The approximate fracture spacing observed in both sets of fractures was on the order of inches to a few feet apart. No evidence of bedrock faulting was observed in any of the outcrops. Some mineral foliation was observed in the phyllite. Where present, the foliation planes were generally striking northeast/southwest. Fracture and bedding data from the 1990 to 1991 Site investigations are summarized in Table 4-1.

Bedrock had measurable nearly vertical relic bedding oriented with a strike of N32°E to N39°E. Where observed, relic bedding is generally steep at the Site, usually dipping 70° to 90° from horizontal and striking northeast/southwest. Some small-scale folding was noted.

TABLE 4-1

BEDROCK OUTCROP MAPPING SUMMARY

Location	Feature	Approximate Average Strike (Degrees relative to True North)	Approximate Average Dip (Degrees)
OC-1	Fracture	N51W	Near-Vertical
OC-1	Relic Bedding	N43E	85NW
OC-1	Fracture	N23W	70SW
OC-1	Fracture	N23W	70SW
OC-1	Fracture	N32E	60NW
OC-1	Fracture	N32E	65NW
OC-1	Fracture	N35E	Near-Vertical
OC-1	Fracture	N39E	Near-Vertical
OC-1	Fracture	N60E	Near-Vertical
OC-1	Fracture	N27E	Near-Vertical
OC-2	Fracture	N58W	Near-Vertical
OC-2	Fracture	N52W	Near-Vertical
OC-2	Relic Bedding	N39E	Near-Vertical
OC-2	Relic Bedding	N32E	Near-Vertical
OC-2	Fracture	N75E	60NW
OC-2	Fracture	N75E	Near-Vertical
OC-2	Fracture	N67E	76NW
OC-2	Fracture	N67E	72NW
OC-3	Fracture	N65W	80SW
OC-3	Fracture	N60W	85SW
OC-3	Fracture	N64W	80NE
OC-3	Fracture	N55E	80SE
OC-3	Fracture	N74W	80NE
OC-3	Fracture	Due North	80W
OC-3	Fracture	N25E	60NW
OC-3	Fracture	N67E	72SE
OC-3	Relic Bedding	N20E	80NW
OC-4	Relic Bedding	N48E	82NW

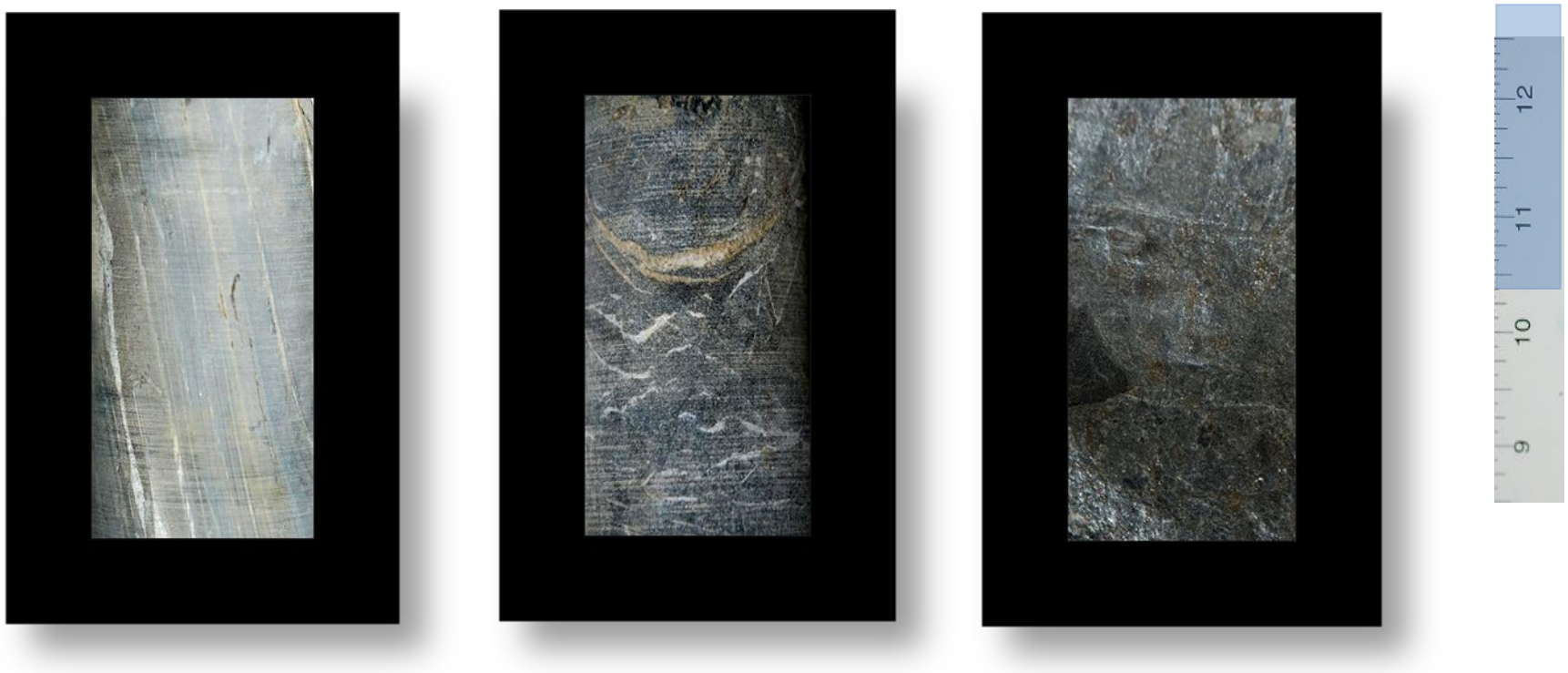
Note:
[1] From the 1990-1991 Site Investigations.

Bedrock cores were obtained from fifteen boring locations, including MW-302R, MW-304A, OW-06-05 through OW-06-10, P-04-06, P-04-07, P-04-09, P-04-10, P-04-12, P-04-13, and P-04-14. The main rock types observed in the core samples are metagraywacke and phyllite, with lesser amounts of metasiltstone or fine-grained metasandstone. Figure 4-5 shows photographs of cores of the three prominent rock types. White veins of quartz plus calcite are common throughout the rock and are abundant in some places. The condition of the rock is generally hard, unweathered, and competent. As is usually the case, the rock is somewhat more broken, weathered, and stained within the upper several feet, but this quickly disappears with depth.

FIGURE 4-5

PHOTOGRAPHS OF CORE ROCK TYPES

METASILTSTONE **METAGRAYWACKE** **PHYLLITE**

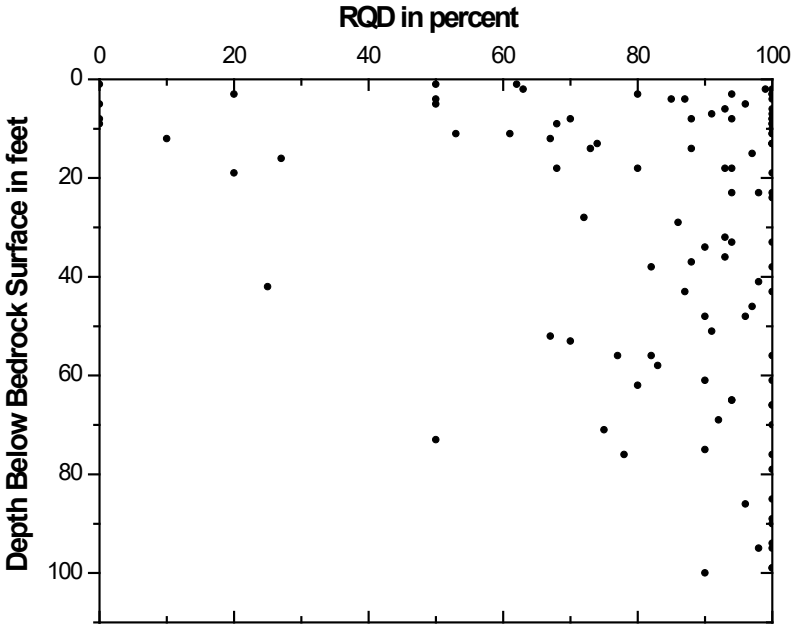


Scale in Inches

The mean Rock Quality Designation (RQD) in the upper 20 feet to 30 feet of bedrock averaged over 70 percent across all the cores. In four borings that penetrated approximately 100 feet into bedrock, the RQD of the rock deeper than 20 feet averaged approximately 85 percent. A diagram of the RQD versus depth is shown in Figure 4-6. The RQDs for the previous site investigations averaged 70 percent (SME, 1991).

FIGURE 4-6

RQD VERSUS DEPTH BELOW BEDROCK SURFACE



As discussed in Section 3.1.5, two primary fracture sets or groups were commonly observed in the bedrock outcrops and downhole geophysical logs. A northeast/southwest striking fracture set has varying dips but typically the dips are steep rather than flat and are generally parallel with the observed mineral foliation strike in the phyllite. Additionally, a set of northwest/southeast striking fractures was observed. These two primary fracture sets are approximately perpendicular to one another, consistent with regional tectonism (Bradley, 1983; Osberg, 1978). The dips of the second fracture set vary but are also often steep rather than flat. Other random fractures, striking and dipping at angles that vary from those of the two observed fracture sets, are also present but at a lesser frequency. Thus, the downhole geophysical fracture information is consistent with that observed in the bedrock outcrops.

Figure 4-7 presents the interpreted bedrock surface topography using data collected from outcrops, test pits, and borings. Bedrock outcrops were found southeast and southwest of the Phase II Expansion footprint as shown on Figure 3-2. Bedrock elevations within the Phase II Expansion boundary vary from a high of approximately 180 feet NGVD in the southwest corner to a low of approximately 120 feet NGVD in the north and northeast. The bedrock elevation contours in Figure 4-7 are for illustrative purposes and localized variations from the interpretations may exist.

PROPERTY LINE (TYP)

PROPOSED PHASE II EXPANSION BOUNDARY

LINE 2 · LINE 3 · LINE 4 · LINE 5 · LINE 6 · LINE 7 · LINE 8 · LINE 9 · LINE 10 · LINE 11 · LINE 1

OC-1 · OC-2 · OC-3 · OC-4 · OC-AG

N

250 0 500 FEET

NOTES

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024. CONTROL POINTS BASED ON SURVEY BY PLIGSA & DAY LAND SURVEYORS OF BANGOR, MAINE, ON APRIL 24, 2025. VERTICAL DATUM: ASSUMED. SUBTRACT 0.34 FEET FROM ELEVATIONS LISTED TO CONVERT ELEVATIONS TO NAVD88. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83.
2. PROPERTY LINE LOCATIONS ARE A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALSBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION-DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988.
3. LOCATIONS OF EXPLORATIONS ARE APPROXIMATE.
4. INTERPRETATION OF BEDROCK ELEVATION CONTOURS BASED ON BORINGS, TEST PITS, SURFACE RESISTIVITY SURVEY AND OUTCROP OBSERVATIONS. ACTUAL CONFIGURATION OF BEDROCK SURFACE MAY VARY FROM THAT SHOWN.
5. DRAWING SHOULD NOT BE USED FOR DESIGN, QUANTITY TAKE-OFFS, GRADES, SURVEY ETC.

DWG: FIGURES LMN: BEDROCK CTB: SME-STD-HALF REV: 6/12/2025

LEGEND

80 — INTERPRETED BEDROCK SURFACE CONTOUR ELEVATION IN FEET-NGVD

LINE 2 — EARTH RESISTIVITY AND VLF-EM SURVEY LINE

LOW-ALTITUDE PHOTO LINEAMENTS (SEVEE & MAHER 1991, UPDATED 2008)

BEDDING (——) AND FRACTURE (– –) ORIENTATIONS MEASURED AT OUTCROPS; (LOCATION APPROXIMATE)

BEDROCK OUTCROPS (OUTCROPS WITH FRACTURE MEASUREMENTS ARE DESIGNATED OC-1 THRU OC-4 AND OC-AG)

TP-303 198 — TEST PIT LOCATION WITH ELEVATION OF BEDROCK SURFACE IN FEET-NGVD ("R" SUFFIX INDICATES BACKHOE REFUSAL)

MW-204 81.2 — BORING LOCATION WITH ELEVATION OF BEDROCK SURFACE IN FEET-NGVD ("R" SUFFIX INDICATES DRILLER REFUSAL)

FRACTURE STRIKE ROSE DIAGRAM FROM DOWNHOLE GEOPHYSICAL LOGGING. (NEG, 2009a)

FIGURE 4-7
INTERPRETED BEDROCK SURFACE
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Serverxfs\Caselle\OldTownLandfillExpansion\Phase II Expansion\Acad\Figures\FIGURES.dwg, B_FIG 4-7, 6/12/2025 11:21:58 AM, bwb

5.0 SITE HYDROGEOLOGIC CHARACTERISTICS

This section of the report describes the hydrogeologic setting of the Phase II Expansion. Hydrogeologic testing has been conducted, including:

- Pumping tests in bedrock wells;
- In-situ slug testing in till and bedrock wells and piezometers;
- Laboratory determinations of hydraulic conductivity of undisturbed tube samples of till;
- Four (4) field measurement of groundwater velocities in the till and bedrock determined from natural gradient groundwater tracer tests;
- Groundwater level monitoring; and
- Age-dating of groundwater.

This information has been evaluated to describe the hydrogeologic conditions that exist at the Site and allows for design of a groundwater monitoring system that will be protective of the environment. The data shows that the Phase II Expansion footprint is sited in accordance with MEDEP criteria.

5.1 Groundwater Elevations and Flow Directions

Behavior of groundwater movement beneath and surrounding the Site is a function of geology, topography, and climate, each of which has a role in shaping the groundwater's phreatic surface and potentiometric elevations with depth. As described in Sections 3.0 and 4.0, the Site is situated on a drumlin, which is an oval-shaped hill composed of glacial till soils overlying bedrock. Post-glacial marine clay has been deposited over the bedrock and/or glacial till soils in some of the areas of lower topography. The groundwater flow directions in the Site soils are controlled primarily by topography. Groundwater movement through the bedrock is through fracture and joint openings within the bedrock. The matrix minerals of the bedrock that underlie the Phase II Expansion are relatively impervious. Thus, the occurrence and orientation of fractures and joints in the bedrock is fundamental to understanding the movement of groundwater within the bedrock. Shapiro et al. (Shapiro et al., 1999) suggests that because of the complexities of groundwater movement within the bedrock, multi-disciplinary investigations should be used when examining groundwater behavior in bedrock. The techniques suggested by Shapiro et al. include fracture mapping at bedrock exposures, surface geophysical techniques such as earth resistivity, borehole geophysical logging, tracer testing, and hydraulic testing, as well as chemical analysis of the groundwater. All of these methods have been utilized for the Phase II Expansion. Bedrock investigations must also include consideration of the scale of interest. Jointly, these techniques provided data to characterize the fracture network and allow confidence in the prediction of groundwater flow direction and rates within the bedrock.

Previous evaluations of the Site's groundwater elevations included an assessment of the wet- and dry-seasons that occurred between 2007 and 2008 (SME, 2015). This evaluation was completed prior to MEDEP approval for the expansion of Cells 11 through 17 at the JRL. The development of Cells 1 through 10 of the landfill had a somewhat limited influence on the Site's groundwater elevations due to its positioning along the side of the glacial till drumlin, which allowed for continued recharge along each side of the crestline of the drumlin. Water level measurements in the Site's wells and piezometers during this time indicated that the water table was generally in the basal till within ten feet of the ground surface year-round. Due to seasonal variations in precipitation and evapotranspiration, the groundwater table fluctuated between approximately 5 and 10 feet, with the greater variation occurring in areas closer to the crest of the drumlin, and smaller variations in wells and piezometers located closer to the groundwater discharge zones in wetlands and streams.

The design of Cells 11 through 17 straddled the crestline of the drumlin and, as anticipated (SME, 2015), the phreatic surface elevations beneath and surrounding the area of the permitted landfill have lowered due to the cut-off of recharge from precipitation in the area of Cells 11 through 15 as of the end of 2024. Cells 11 through 15 were constructed between 2018 and 2023 and Cell 16 was completed in 2024. Cell 17 is scheduled for construction in 2026. The lowering of groundwater elevations at the JRL are assessed in the annual water quality reports, most recently for 2024 (SME, 2025). The rate of groundwater level lowering is generally greatest adjacent to and occurs soon after the construction of each cell. Groundwater depths are further discussed in Section 5.2.

The wet- and dry-season groundwater elevations in the till soils and bedrock were assessed based on monthly groundwater level measurements in the area of the Phase II Expansion from March through October of 2024 to aid the design of the Phase II Expansion. March 2024 groundwater elevations are representative of the wet-season and October 2024 groundwater levels are representative of the dry-season. In addition to groundwater level measurements in the area of the Phase II Expansion, groundwater levels were measured Site-wide in October 2024 to evaluate the groundwater flow conditions across the Site and to support time of travel calculations from the Phase II Expansion to sensitive receptors (see Section 6.0). Figure 5-1 illustrates the interpreted wet- and dry-season groundwater elevation contours in monitoring wells and piezometers screened in soil (e.g., glacial till soil). Figure 5-2 illustrates the interpreted wet- and dry-season groundwater contours in monitoring wells and piezometers screened in the upper bedrock. The historical groundwater level data for the JRL are summarized in Appendix F.

WELL IDENTIFICATION	GROUNDWATER LEVEL ELEVATION (FEET - NAVD88)	
	3/14/2024	10/28/2024
MW-04-105	-	156.86
MW-04-111	-	184.76
MW-05-01	191.02	-
MW-05-03	-	184.62
MW-06-01	-	163.82
MW-204	-	152.98
MW-206	-	193.87
MW-223B	-	166.77
MW-227	-	158.55
MW-401B	-	149.55
MW-402B	-	148.48
OW-06-03	-	180.53
OW-601B	-	176.25
OW-606B	-	161.78
OW-607B	162.72	160.77
OW-608B	194.55	189.97
OW-609B	197.09	184.14
OW-610A	174.51	169.84
P-04-02R	-	157.31
P-04-04	-	158.20
P-04-07C	172.91	171.41
P-04-08B	187.29	178.20
P-04-09B	165.45	162.21
P-04-10B	-	161.19
P-04-11B	175.01	<174.33
P-04-12C	165.64	163.29
P-04-13C	-	<142.78
P-04-14B	-	146.73
P-08-03B	-	<163.82
P-201D	-	144.20
P-202B	-	146.70
P-209B	-	155.81
P-211B	-	172.76

NOTES:

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024.
2. WATER LEVEL ELEVATIONS AND INTERPRETED CONTOURS REPRESENT CONDITIONS RECORDED USING MANUAL WATER LEVEL MEASUREMENTS ON THE RESPECTIVE DATES SHOWN.
3. PIEZOMETERS P-209C, P-04-11B, P-04-13C, AND P-08-03B WERE DRY ON OCTOBER 28, 2024. PIEZOMETERS P-209B AND P-04-14B ARENEAR SURFACE BEDROCK WELLS.

LEGEND

- LANDFILL BOUNDARY (APPROXIMATE)
- 150 INTERPRETED DRY-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- 150 INTERPRETED WET-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- MW-401B EXISTING GROUNDWATER MONITORING WELLS AND PIEZOMETERS USED FOR INTERPRETATION

300 0 600 FEET

FIGURE 5-1
INTERPRETED SOIL GROUNDWATER ELEVATION MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME SEVEE & MAHER ENGINEERS

DWG: GW LMN: GW-OB CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 8/6/2025

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WELL IDENTIFICATION	GROUNDWATER LEVEL ELEVATION (FEET - NAVD88)	
	3/14/2024	10/28/2024
MW-223A	-	169.80
MW-401A	-	149.61
MW-402A	-	152.20
MW-501	-	167.77
MW-502	-	159.75
MW-504	156.76	155.96
MW-505	172.70	166.21
MW-506	194.88	164.98
MW-507	-	167.20
OW-06-05	-	175.95
OW-06-06	182.5	-
OW-601A	-	176.54
OW-602A	-	173.70
OW-604A	-	172.98
OW-605A	-	164.54
OW-606A	>159.62	159.14
OW-608A	161.91	160.64
OW-611A	-	171.28
P-04-07B	174.6	169.62
P-04-09A	-	162.22
P-04-10A	-	161.26
P-04-12B	165.69	163.67
P-04-13B	-	137.75
P-04-14B	-	146.73
P-201A	-	146.97
P-202A	-	147.28
P-206A	-	177.97
P-211A	-	172.67
PW-08-03	163.87	158.63
PW-08-04	168.0	162.60

NOTES:

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024.
2. WATER LEVEL ELEVATIONS AND INTERPRETED CONTOURS REPRESENT CONDITIONS RECORDED USING MANUAL WATER LEVEL MEASUREMENTS ON THE RESPECTIVE DATES SHOWN.

300 0 600 FEET

LEGEND

- LANDFILL BOUNDARY (APPROXIMATE)
- 150 INTERPRETED DRY-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- 150 INTERPRETED WET-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- MW-401A EXISTING GROUNDWATER MONITORING WELLS AND PIEZOMETERS USED FOR INTERPRETATION

FIGURE 5-2
INTERPRETED UPPER BEDROCK GROUNDWATER ELEVATION MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: GW LMN: GW-BR CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 8/6/2025

\\Server\ds\Casella\OldTown\Landfill\Expansion\Phase II Expansion\Acad\Figures\GW.dwg, B_FIG 5-2 SAR, 8/6/2025 7:50:49 AM, sjm

5.1.1 Horizontal Groundwater Flow Through Soils

The groundwater flow directions in the Site soils are controlled primarily by topography. Schematically, the horizontal component of the groundwater flow is interpreted to be approximately perpendicular to the soil groundwater elevation contour lines shown on Figure 5-1, which mimic the ground surface topography**.** On a Site-wide basis, a groundwater divide is evident along the crestline of the elongated drumlin, which is oriented in the northwest/southeast direction**.** Shallow groundwater is interpreted to flow to the east and northeast on the east side of the groundwater divide**.** West of the groundwater divide, groundwater flows to the southwest, west, and northwest**.** The 2024 wet-season and dry season soil groundwater elevations imply groundwater flow generally to the northeast, west, and northwest within the footprint of the Phase II Expansion**.** As described further in Section 5.4, the local and regional hydrogeologic setting of the Site is protective of existing off-Site groundwater users since water courses that serve as hydrogeologic boundaries exist between those off-Site groundwater users and the existing JRL and Phase II Expansion area. The interpreted soil groundwater elevation contours shown on Figure 5-1 indicate that groundwater that flows away from the Phase II Expansion ultimately discharges to a tributary to Judkins Brook (Class B) to the east and to Judkins Brook (Class B) and a tributary to Pushaw Stream (Class B) to the west.

Comparison of the 2024 wet- and dry-season soil groundwater elevations indicates that the direction of groundwater flow remains relatively constant throughout the year, with no significant seasonal shifts in the general directions or horizontal gradient of groundwater flow. This suggests horizontal groundwater velocities are relatively constant throughout the year. The elevation of the dry-season soil groundwater elevations varied from approximately 2 to 13 feet lower than that of the wet-season; however, the upper range of this seasonal decrease in groundwater are at wells that may be influenced by use of an on-Site non-potable bedrock groundwater supply well (see Section 5.1.2). The range of dry- to wet-season groundwater elevation differences is approximately 2 to 6 feet excluding monitoring wells that are believed to be influenced by the bedrock groundwater supply well, which is consistent with previous observations at the Site (SME, 2015).

As anticipated, the expansion of Cells 11 through 16 has resulted in a cut-off in recharge from precipitation, which has lowered the groundwater elevations beneath the existing JRL cells. Comparison of the 2007/2008 dry-season and 2024 dry-season soil groundwater elevations indicates that the general groundwater flow directions away from the Phase II Expansion are essentially the same despite the lowering of the groundwater elevations in the vicinity of the development of Cells 11 through 16. Similar lowering of soil groundwater elevations is anticipated from the cut-off of recharge from the Phase II Expansion, and similarly, no significant changes to the general groundwater flow directions away from the Phase II Expansion are anticipated.

5.1.2 Horizontal Groundwater Flow Through Bedrock

Extensive bedrock studies at the Site confirm that groundwater moving horizontally away from the landfill area in bedrock primarily follows the documented fractures in bedrock; this is typical of bedrock

groundwater movement throughout Maine. The direction and rate of bedrock groundwater flow is controlled by topography and the density and connectivity of the fractures. Bedrock fracture interconnectivity is primarily the result of: (1) the intersection of two, nearly orthogonal, nearly vertical principal sets of fractures, (2) frequent fracture intersections made possible by the relatively small fracture spacing compared to the much greater fracture lengths, (3) open fractures capable of transmitting water, and (4) the relative density of the fractures present. An analysis and discussion of these attributes of the bedrock fractures and how they explain the interconnectivity of fractures is discussed in detail in Appendix Q. The pumping tests of PW-08-01, PW-08-02, PW-08-03, and PW-08-04 in the bedrock confirm that fractures are interconnected over distances of at least 2,000 feet under the pumping conditions outlined in Section 3.1.13. The integration of the fractures is further demonstrated by the travel rates and spreading of the solute during the bedrock tracer test at MW-06-02, as described in Section 3.1.7. The solute spread over an angle of approximately 100 degrees from the solute injection point after 50 feet of travel. This is conclusive evidence of the integration of the fractures and the interconnectedness of the ordered structural features of the bedrock and the potentiometric gradients.

The groundwater potentiometric surface elevations measured in the monitoring wells and piezometers screened in the upper bedrock have been interpreted for both wet- and dry-season conditions in 2024, as illustrated in Figure 5-2. Similar to the soil groundwater elevations, the wet- and dry-season groundwater elevations in the bedrock (i.e., potentiometric surface) indicate the same general mimicking of Site topography. Groundwater elevations in the bedrock are lower than the soil groundwater elevations in areas of groundwater recharge, which are located in the areas of higher topography, and higher than the soil groundwater elevations in the areas of groundwater discharge, which are located in areas of lower topography. This is discussed further in Section 5.1.3, which describes the vertical movement of groundwater at the Site.

The shape of the dry-season upper bedrock groundwater elevation contours along the south boundary of the Phase II Expansion (i.e., the north boundary of the existing JRL) indicate some variations from the shapes of the wet-season upper bedrock groundwater and wet- and dry-season soil groundwater contours. This difference is attributed to lower groundwater elevations observed at bedrock monitoring well MW-506. Based on discussions with NEWSME, this variation appears to be caused by pumping groundwater from PW-ADC, the non-potable bedrock water supply well located on the northwest side of the JRL access road (see Figure 5-2). The influences on groundwater levels from pumping this well are seasonal and temporary and do not change the ultimate discharge locations of groundwater flowing away from the Phase II Expansion. Well PW-ADC will be abandoned and sealed in accordance with Ch. 405 as the proposed landfill cells are developed.

The dry-season soil groundwater elevations generally varied from 1 to 6 feet lower than that of the wet-season; however, differences up to 30 feet lower were observed at MW-506, which is believed to be influenced by pumping of nearby non-potable bedrock groundwater supply well PW-ADC. These observations are consistent with previous observations at the Site (SME, 2015).

The integration of bedrock fractures makes groundwater flow directions predictable, particularly on a Site-wide scale. The integration of the many fractures allows for the flow of bedrock groundwater in a downgradient direction that generally mimics the Site's topographic surface and the groundwater surface in the till soils. However, the bedrock tracer test at MW-06-02 (see Section 3.1.7) and the pumping tests at MW-06-02 and PW-08-01 through PW-08-04 (see Sections 3.1.9 and 3.1.13) indicate that the bedrock is anisotropic relative to hydraulic conductivity, with the direction of maximum hydraulic conductivity to the northeast/southwest. Groundwater would generally tend to move in a direction slightly skewed from perpendicular to the equipotential surface contour lines illustrated in Figure 5-2 due to the hydraulic conductivity anisotropy, but still in the general direction suggested by the equipotential surface. Hydraulic conductivity appears to be approximately 3 to 18 times greater in the northeast/southwest direction than in a northwest/southeast direction based on pumping test data. Thus, even though the direction of groundwater flow would generally be downslope relative to the equipotential contours of Figure 5-2, there would be some preferred flow along the northeast/southwest direction across the Site. The groundwater would tend to move laterally until it reached nearby streams, where potentiometric conditions could cause it to move upwards toward the ground surface.

With an inferred groundwater flow generally to the northeast, west, and northwest from beneath the Phase II Expansion, based on the interpreted bedrock groundwater elevation contours shown on Figure 5-2, and accounting for the slight skewing of groundwater flow based on observed bedrock hydraulic conductivity anisotropy, groundwater that flows away from the Phase II Expansion is expected to ultimately discharge to an unnamed tributary to Judkins Brook (Class B) to the east and to Judkins Brook (Class B) and an unnamed tributary to Pushaw Stream (Class B) to the west.

Given the interconnection of bedrock fractures observed during the investigations of the Site, the fractured bedrock is shown to behave as a heterogeneous media, much like soil, on a Site-wide scale. This interconnectivity of bedrock fractures is beneficial to the Site for landfill development as it allows for a general predictability of groundwater movement through the bedrock. The extensive interconnection of bedrock fractures that are oriented in a wide array of directions allows groundwater in bedrock to generally flow in topographically downslope directions. The heterogeneity of the fractured bedrock media would be beneficial by allowing for control of groundwater flow directions beneath and adjacent to the Phase II Expansion if groundwater extraction wells were to become necessary. This fracture interconnectivity will allow off-Site bedrock water supply wells to obtain groundwater local to each well, rather than drawing water from further distances through discrete fractures.

5.1.3 Vertical Groundwater Flow Through Soils and Bedrock

Groundwater elevations calculated from water levels measured in October 2024 in paired piezometer and well installations were utilized to evaluate the vertical component of groundwater flow through the soil and bedrock. These vertical gradients are compiled in Table 5-1. The negative gradients in Table 5-1 imply downward groundwater flow; positive values imply upward groundwater flow.

TABLE 5-1

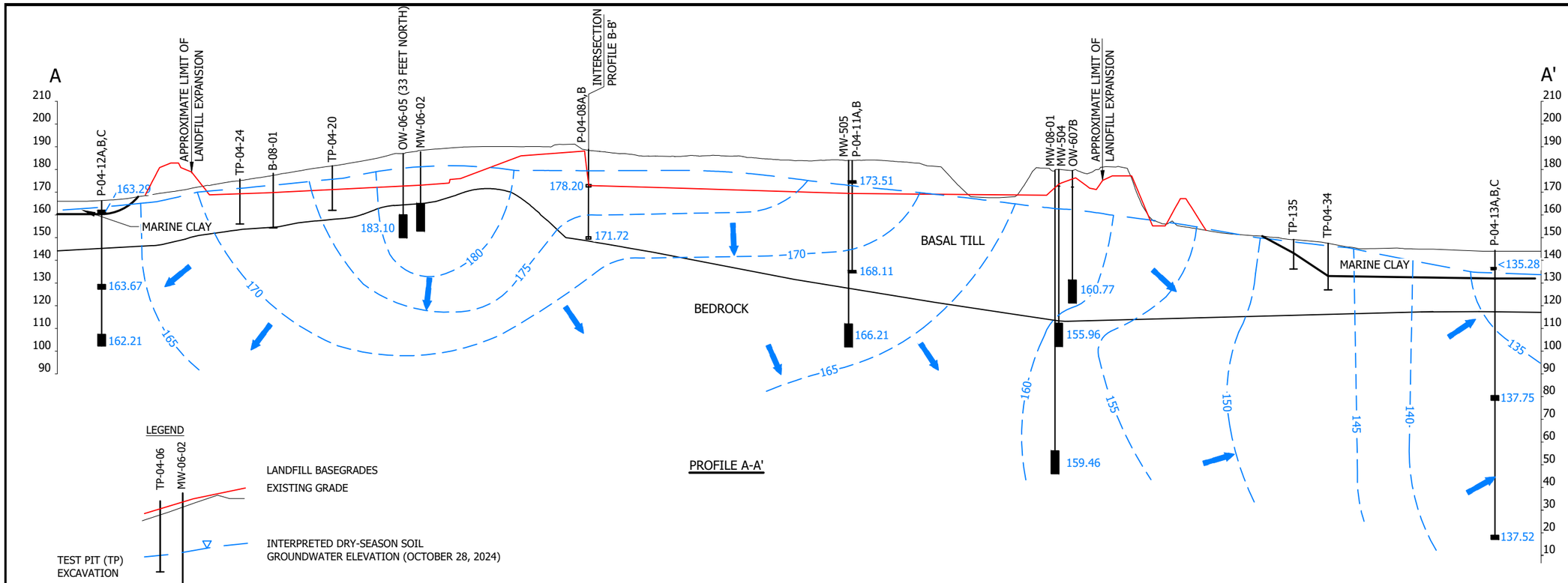
VERTICAL HYDRAULIC GRADIENTS

Location Relative to Phase II Expansion	Instrument Designation	Screened Geologic Unit	Well Pair Comparison	Vertical Separation (feet)	October 2024 Groundwater Elevation (ft-NGVD)	October 2024 Vertical Gradient (ft/ft)	October 2024 Direction of Potential Flow
Inside Phase II Expansion	P-04-08A	Basal Till	P-04-08A/P-04-08B	23.0	171.93	-0.280	Down
	P-04-08B	Basal Till			178.37		
	P-04-09A	Bedrock	P-04-09A/P-04-09B	24.0	162.22	4.2E-4	Up
	P-04-09B	Basal Till			162.21		
	P-04-10A	Bedrock	P-04-10A/P-04-10B	24.9	161.26	0.003	Up
	P-04-10B	Basal Till			161.19		
	MW-505	Bedrock	MW-505/P-04-11A	28.2	166.21	-0.032	Down
	P-04-11A	Basal Till			167.11		
	MW-08-01	Bedrock	MW-08-01/MW-504	45.5	162.89	0.152	Up
	MW-504	Bedrock	MW-504/OW-607B	30.5	155.96	-0.063	Down
	OW-607B	Basal Till	MW-08-01/OW-607B	76.0	160.77	0.028	Up
East of Phase II Expansion	P-04-13A	Bedrock	P-04-13A/P-04-13B	61.5	137.52	-0.004	Down
	P-04-13B	Bedrock	P-04-13B/P-04-13C	56.5	137.75	>0.044	Up
	P-04-13C	Marine Clay	P-04-13A/P-04-13C	118	Dry (<135.28)	>0.019	Up
South of Phase II Expansion (Surrounding the Permitted Landfill)	P-211A	Bedrock	P-211A/P-211B	12.6	172.67	-0.007	Down
	P-211B	Basal Till			172.76		
	P-04-07A	Bedrock	P-04-07A/P-04-07B	53.0	170.78	0.035	Up
	P-04-07B	Bedrock	P-04-07B/P-04-07C	20.2	168.93	-0.034	Down
	P-04-07C	Basal Till	P-04-07A/P-04-07C	73.2	171.41	-0.009	Down
	MW-223A	Bedrock	MW-223A/MW-223B	15.5	169.90	0.073	Up
	MW-223B	Basal Till			168.77		
	P-201A	Bedrock	P-201A/ P-201D	31.2	146.97	0.047	Up
	P-201D	Basal Till			144.20		
	P-202A	Bedrock	P-202A/P-202B	17.2	147.28	0.034	Up
	P-202B	Basal Till			146.70		
	P-206A	Bedrock	P-206A/MW-206	12.2	177.97	-1.303	Down
	MW-206	Basal Till			193.87		
	MW-401A	Bedrock	MW-401A/MW-401B	88.8	149.61	0.001	Up
	MW-401B	Basal Till			149.55		
	MW-402A	Bedrock	MW-402A/MW-402B	83.5	152.20	0.045	Up
	MW-402B	Basal Till			148.48		
	OW-601A	Bedrock	OW-601A/OW-601B	20.4	176.54	0.014	Up
	OW-601B	Basal Till			176.25		
West of Phase II Expansion	P-04-12A	Bedrock	P-04-12A/P-04-12B	23.5	162.21	-0.062	Down
	P-04-12B	Bedrock	P-04-12B/P-04-12C	33.2	163.67	0.007	Up
	P-04-12C	Marine Clay	P-04-12A/P-04-12C	56.7	163.29	-0.019	Down

Downward gradients were observed within the central interior of the Phase II Expansion area at well pair P-04-08A and P-04-08B and well pair MW-505 and P-04-11A, indicating areas of groundwater recharge. Slight upward gradients were observed at lower topographic elevations along the northern perimeter of the Phase II Expansion boundary at well pair P-04-09A and P-04-09B and well pair P-04-10A and P-04-10B, which is an indication that those areas are approaching a groundwater discharge zone.

On a Site-wide basis, the strongest downward vertical hydraulic gradients are generally observed at the highest topographic areas along the ridge of the drumlin and the strongest upward vertical hydraulic gradients are observed proximate to the ground water discharge areas (e.g., the unnamed tributary to Pushaw Stream). These observations are consistent with widely accepted hydrogeologic concepts.

Figure 5-3 illustrates the vertical equipotential conditions in the soils and bedrock during October 2024 along profile Cross Sections A-A' and B-B', which are shown in plan view on Figure 3-1. These figures indicate that the bedrock groundwater migration movement is downward beneath the higher topographic



PROFILE A-A'

LEGEND

TP-04-06 MW-06-02

LANDFILL BASEGRADES

EXISTING GRADE

INTERPRETED DRY-SEASON SOIL GROUNDWATER ELEVATION (OCTOBER 28, 2024)

TEST PIT (TP) EXCAVATION

PIEZOMETER (P)/MONITORING WELL (MW) SCREEN INTERVAL

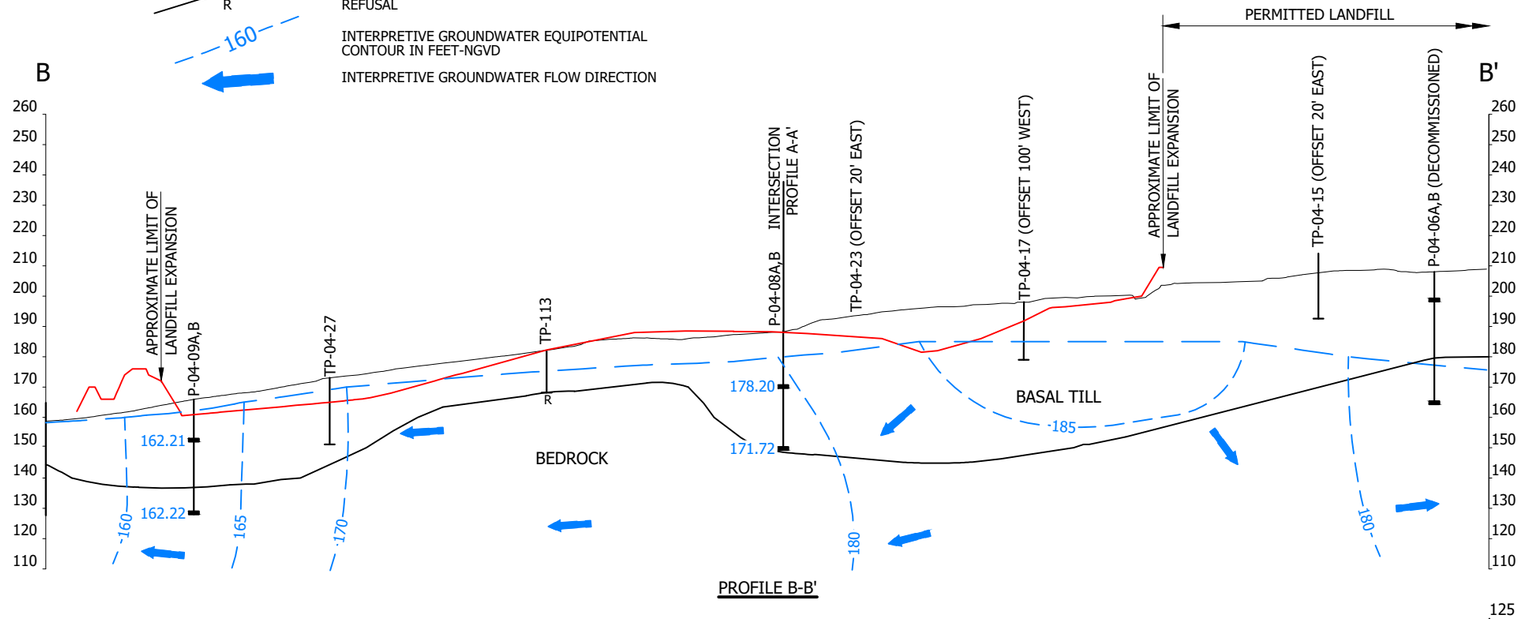
GROUNDWATER ELEVATION IN FEET (NGVD29) 183.10

INTERPRETED BEDROCK SURFACE

R REFUSAL

160 INTERPRETIVE GROUNDWATER EQUIPOTENTIAL CONTOUR IN FEET-NGVD

INTERPRETIVE GROUNDWATER FLOW DIRECTION



PROFILE B-B'

GEOLOGIC LEGEND

MARINE CLAY - SOFT TO STIFF - GRAY TO BROWNISH GRAY SILTY CLAY WITH OCCASIONAL DISCONTINUOUS FINE SAND LENSES

BASAL TILL - VERY DENSE - COBBLY GRAVELLY SANDY SILTY-CLAY TO VERY SILTY SAND WITH FEW BOULDERS. RARE DISCONTINUOUS AND THIN (I.E.LESS THAN FEW INCHES THICK) SAND LENSES. RANDOMLY FISSILE THROUGHOUT. UPPER FEW FEET WEATHERED AND FRACTURED DUE TO FROST ACTION. TYPICALLY BROWNISH IN COLOR NEAR GROUND SURFACE AND JUST ABOVE BEDROCK. OCCASIONALLY GRAY IN DEEPER SOIL AREAS. BECOMING INTERBEDDED WITH SAND LENSES NEAR BEDROCK SURFACE IN SOME PLACES.

BEDROCK - INTERBEDDED METASILTSTONE, METAGRAYWACKE AND PHYLLITE. OCCASIONAL FRACTURES, TYPICALLY UNWEATHERED, BUT OCCASIONAL WEATHERED ZONES.

NOTES

1. GEOLOGIC UNITS ARE SHOWN SCHEMATICALLY. FIGURE SHOULD NOT BE USED FOR ENGINEERING DESIGN,QUANTITY TAKE-OFFS, GRADES, ETC.

2. THE GEOLOGIC UNITS REPRESENT AN INTERPRETATION OF THE TEST PIT AND BORING RESULTS. CONDITIONS MAY VARY FROM THAT SHOWN BETWEEN THE EXPLORATIONS. BOUNDARIES BETWEEN VARIOUS GEOLOGIC UNITS MAY VARY FROM THAT SHOWN AND MAY BE GRADATIONAL.

3. GROUND SURFACE TOPOGRAPHY FROM TOPOGRAPHIC MAP CREATED FROM MAY 21, 2024 AERIAL SURVEY.

4. VERTICAL EXAGGERATION OF PROFILES IS 10 TO 1.

5. SEE FIGURE 3-1 FOR PROFILE LOCATIONS.

125 0 250 500 FEET (HORZ)

25 0 50 100 VEET (VERT)

FIGURE 5-3
INTERPRETED VERTICAL EQUIPOTENTIAL PROFILES - OCTOBER 2024
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME SEVEE & MAHER ENGINEERS

DWG: P-SECTION-HYDROGEO LMN: EQUI-PROF-2024 CTB: SME-STD REV: 6/12/2025

\\Server\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\P-SECTION-HYDROGEO.dwg, B_FIG 5-3, 6/12/2025 1:19:40 PM, bwb

elevations at the top of the drumlin and becomes more lateral on the flanks of the drumlin. Groundwater migration beneath the adjacent stream valleys generally tends to be upward.

5.2 Groundwater Depths in Soils Below Phase II Expansion

During the 2024 wet season (March 2024), groundwater depths were measured in twelve monitoring wells and piezometers screened in the soil within the Phase II Expansion boundary. The groundwater depths varied from approximately 1 to 18 feet beneath the existing ground surface with an average of approximately 5 feet. The groundwater depths were within 10 feet below ground surface in all but one of these monitoring locations (OW-607B).

During the 2024 dry-season (October 2024), groundwater depths were measured in twelve monitoring wells and piezometers screened in the soil within the Phase II Expansion boundary. The groundwater depths below existing ground surface in these monitoring locations varied between approximately 5 and 20 feet below ground surface with an average of approximately 11 feet.

The deepest groundwater depths during both the wet- and dry-seasons are generally near the northern boundary of the existing JRL, where groundwater elevations have decreased as a result of cut-off of recharge from precipitation (SME, 2025).

An underdrain system will be constructed in areas where landfill base grades will be below the water table. During the initial stages of the landfill construction, this will induce groundwater seepage into excavations, which must be controlled to allow for stable soil during construction of the underdrain and adequate compaction of the soil portion of the liner system located above the underdrain system. Seepage into the underdrain will continue beyond the construction timeframe and will diminish as Phase II Expansion covers the entire drumlin. Over time, the water table will begin to flatten as recharge is lost due to the landfill liner. During construction into the water table, it will be important to properly dewater and provide adequate drainage for any groundwater seepage into the excavation.

5.3 Groundwater Seepage Rates

5.3.1 Soil Groundwater Seepage Rates

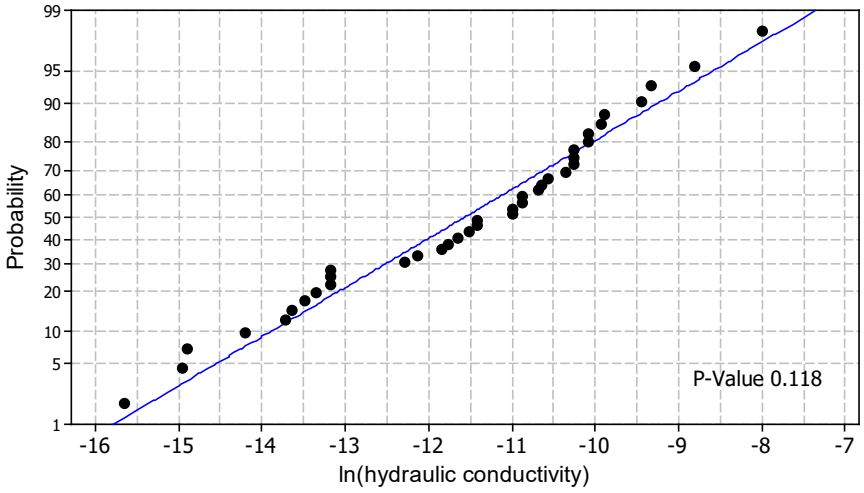
To evaluate groundwater seepage rates through the till soil beneath and beyond the limit of the Phase II Expansion, solute tracer tests, in-situ slug testing, laboratory hydraulic conductivity testing, and groundwater age-dating methodologies were utilized to estimate hydraulic conductivities of soil, as previously discussed in Section 3.0. Collectively, these methods show a range in values that permit evaluation of the variability in the groundwater flow rate. The groundwater seepage rate, or average linear velocity, is a function of the hydraulic conductivity, the effective porosity, and the hydraulic gradient. The nature of the geologic material and its structure affects the parameters that govern

groundwater seepage rates, which in turn impacts groundwater travel times toward sensitive receptors downgradient of the Phase II Expansion.

As previously stated, the surficial soil that underlies the Phase II Expansion area consists primarily of basal till, characterized as a heterogeneous mixture of soil particles ranging in size from silts and clay to cobbles and boulders based on visual examination of samples collected from test pits and soil borings and confirmed by numerous grain size analyses. The fine-graded nature of the till is reflected in the geometric mean in-situ horizontal hydraulic conductivity value of 9.4×10^{-6} cm/sec on a Site-wide basis (see Table 3-2). The Site-wide hydraulic conductivities are log-normally distributed, as shown in Figure 5-4 (Anderson-Darling, 1952). Use of the geometric mean hydraulic conductivity is well founded for hydraulic conductivity fields with a log-normal distribution (Woodbury and Sudicky, 1991). Measured horizontal hydraulic conductivity values for the basal till ranged over three orders of magnitude from 1.6×10^{-7} to 3.4×10^{-4} cm/sec as shown on Table 3-2.

FIGURE 5-4

ANDERSON-DARLING NORMALITY TEST OF SITE-WIDE HORIZONTAL HYDRAULIC CONDUCTIVITY OF GLACIAL TILL



Based on comments from the MEDEP on the PIR for the Phase II Expansion (MEDEP, 2023; SME, 2023), SME also provided an alternative assessment of in-situ hydraulic conductivities for investigation data from fourteen groundwater monitoring locations within the Phase II Expansion boundary (see Appendix H), which resulted in an estimated geometric mean hydraulic conductivity of 8.5×10^{-6} cm/sec (see Section 3.1.4). This assessment was provided to demonstrate, with concurrence from MEDEP (see Appendix H), that the soils within the Phase II Expansion meet the landfill siting criteria.

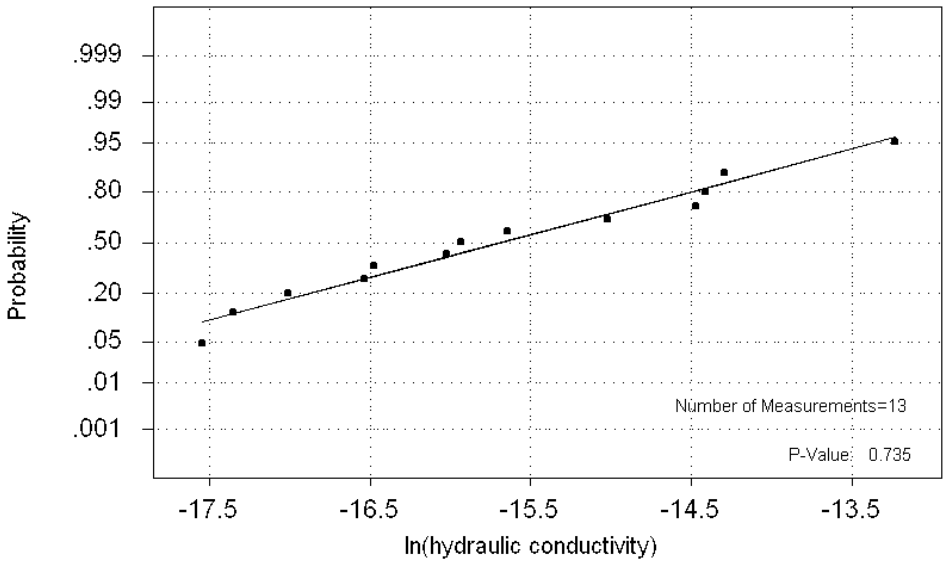
Locally, lenses of washed till had measured horizontal hydraulic conductivity values ranging from 2.5×10^{-3} to 7.4×10^{-3} cm/sec. Outside of the permitted landfill footprint, (1) a localized, non-continuous cobble zone had a measured horizontal hydraulic conductivity of 3.1×10^{-3} cm/sec, (2) a localized, non-continuous

boulder zone had a measured horizontal hydraulic conductivity of $9.5x10^{-3}$ cm/sec, and (3) a marine clay deposit had horizontal hydraulic conductivity measurements ranging from $1.6x10^{-7}$ to $7.7x10^{-6}$ cm/sec.

The geometric mean vertical hydraulic conductivity of the basal till was calculated to be $1.5x10^{-7}$ cm/sec with measured values varying between $2.4x10^{-8}$ and $1.8x10^{-6}$ cm/sec, as shown in Table 3-3. This mean value is lower than the mean Site-wide horizontal hydraulic conductivity for the till of $9.4x10^{-6}$ cm/sec. These hydraulic conductivities are log-normally distributed as depicted in Figure 5-5 (Anderson-Darling, 1952).

FIGURE 5-5

ANDERSON-DARLING NORMALITY TEST OF
VERTICAL HYDRAULIC CONDUCTIVITY OF GLACIAL TILL



The horizontal hydraulic gradient within the till was determined from the March 2024 wet-season and October 2024 dry-season phreatic surface maps as shown in Figure 5-1 and generally varies from approximately 0.02 to 0.05. The geometric mean effective porosity of 0.25 was estimated for the basal till based on total porosity measurements and the groundwater tracer test as discussed in Section 3.1.7. These three hydraulic parameters resulted in calculated horizontal seepage rates within the basal till in the range of approximately 1 to 2 ft/yr. The slightly lower geometric mean of horizontal hydraulic conductivity from in-situ testing within the Phase II Expansion area (i.e., $8.5x10^{-6}$ cm/sec) results in the same approximate horizontal seepage rate range of 1 to 2 ft/yr, which may be representative of a Site-wide, average horizontal groundwater velocity. Given the range of location-specific hydraulic conductivities and variations in porosity and gradients, the local groundwater velocities can be greater or less than this average. The horizontal seepage rate in the upper weathered brown till is likely somewhat higher due to frost action creating some fracturing of the till and likely affects the upper several feet of till. Higher hydraulic conductivities were found in the upper weathered till within the footprint of the

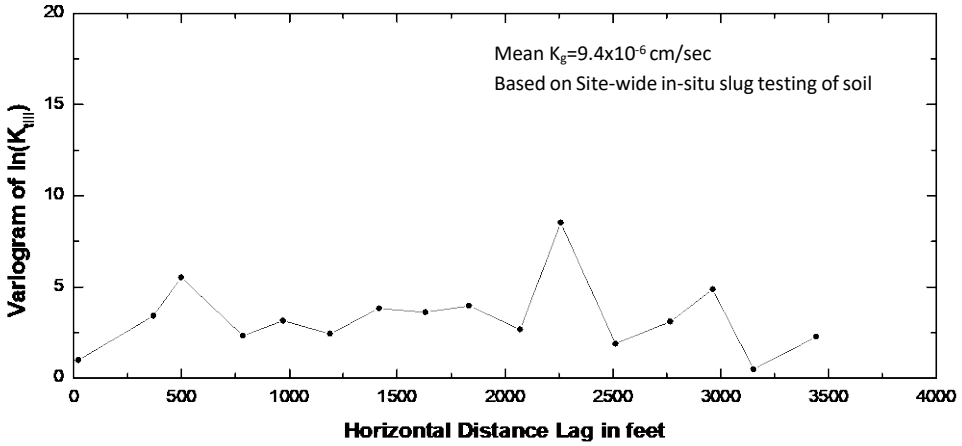
existing landfill (SME, 1991) and the till tracer test that was performed in the upper fifteen feet of till in the southern portion of the Phase II Expansion.

To examine the scale of the applicability of the geometric mean hydraulic conductivity of the calculated average Site-wide seepage velocity, the scale-dependency of the hydraulic conductivity variation was examined geostatistically (Sudicky, 1986; Farrel et al, 1994; Kitanidis, 1993; deMarsily, 1986). Geostatistics can aid in the scale or structural description of these various geologic properties (Kitanidis, 1993; Woodbury and Sudicky, 1991; Sudicky, 1986). Geostatistics also provide qualitative and quantitative estimates of the parameter variability over space or time, justifying certain "lump-parameter" approaches.

A variogram was developed for the Site-wide in-situ hydraulic conductivity measurements at the wells and piezometers (Davis, 1986). The horizontal distances between these measurement points were used to calculate the lag distance between measurement values. The resulting variogram is shown in Figure 5-6, which shows that spatial variability of the hydraulic conductivity measurements is relatively consistent with scale and without any obvious drift. Therefore, over distances greater than a few hundred feet, the geometric mean value (expressed as Mean K_g in Figure 5-6) of 9.4×10^{-6} cm/sec is applicable and the average horizontal groundwater velocity in the deeper, unweathered till is in the range of approximately 1 to 2 ft/yr. At shorter distances, groundwater velocities in the till may be greater or less than this calculated average.

FIGURE 5-6

HORIZONTAL STRUCTURE OF THE GLACIAL TILL HYDRAULIC CONDUCTIVITY



Downward vertical hydraulic gradients were greater in piezometer pairs located closer to the crest of the drumlin in the southern portion of the Phase II Expansion and decreased with distance to the north as shown in Table 5-1. Vertical seepage rates through the basal till in the area of the Phase II Expansion were

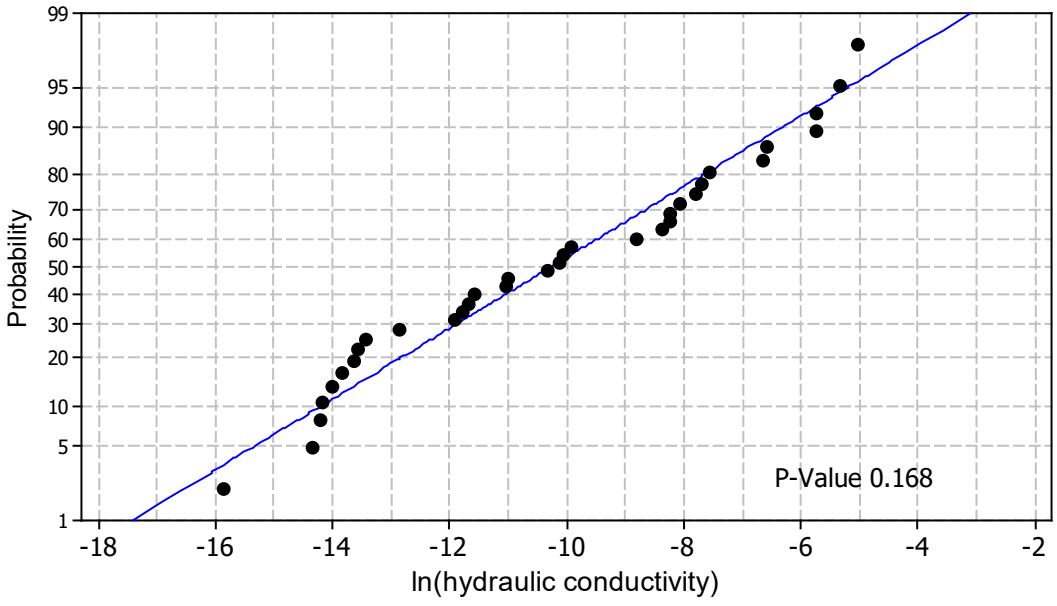
calculated using (1) the geometric mean of the vertical hydraulic conductivity of $3.2x10^{-7}$ cm/sec, determined from the undisturbed tube samples from within the Phase II Expansion boundaries that were tested in the soils laboratory; (2) a range of downward vertical gradients from 0.032 to 0.28 calculated from pairs of wells/piezometers within the area of the Phase II Expansion; and (3) an effective porosity of 0.25. These parameters produced downward vertical seepage velocities ranging from less than 0.04 ft/yr in the vicinity of the MW-505 and P-04-11 well pair to approximately 0.37 ft/yr in the vicinity of the P-04-08 well pair.

5.3.2 Bedrock Groundwater Seepage Rates

Horizontal hydraulic conductivity of the in-situ bedrock was measured using slug testing as well as pumping tests. Slug testing showed the hydraulic conductivity to range from $1.3x10^{-7}$ to $6.6x10^{-3}$ cm/sec, with a geometric mean of $3.5x10^{-5}$ cm/sec. The geometric mean value was utilized since the hydraulic conductivities are log-normally distributed, as shown in Figure 5-7 (Anderson-Darling, 1952). The MW-06-02 pumping test analysis resulted in hydraulic conductivities in the above-mentioned range of values. The range and mean value of bedrock hydraulic conductivity are generally consistent with the investigations conducted for the existing JRL facility.

FIGURE 5-7

ANDERSON-DARLING NORMALITY TEST OF BEDROCK HYDRAULIC CONDUCTIVITY



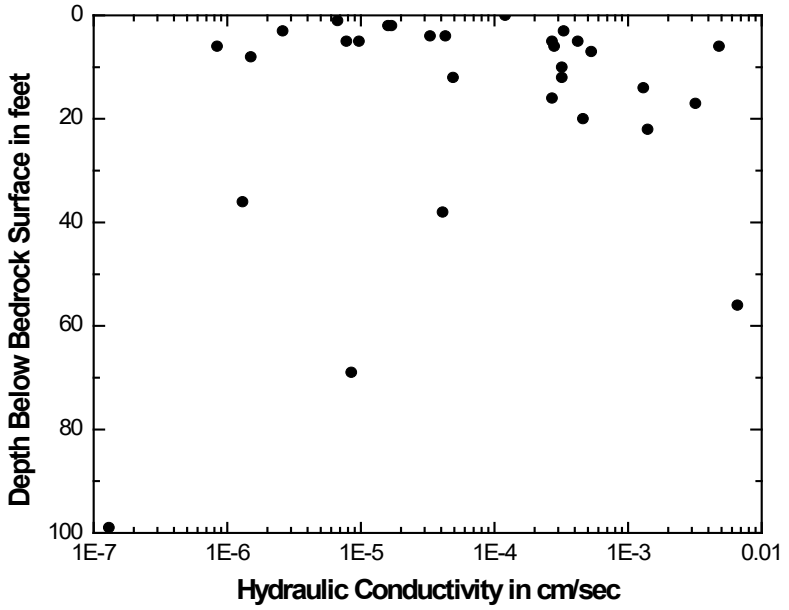
The calculated geometric mean horizontal hydraulic conductivity of the bedrock represents a composite or effective conductivity of the principal horizontal hydraulic conductivities. The effective conductivity can be expressed as the square root of the product of the two principal conductivities in the horizontal plane (Freeze and Cherry, 1979). Since the long-term bedrock pumping test suggests a principal conductivity

ratio of approximately 3.4:1, the geometric mean conductivity can be resolved into the two principal horizontal hydraulic conductivities by this relationship. This yields a maximum conductivity of approximately $7.8x10^{-5}$ cm/sec and a minimum value of approximately $2.3x10^{-5}$ cm/sec. From the bedrock pumping test, the maximum value is oriented approximately N36E relative to True North and the minimum conductivity approximately at a right angle to the maximum's orientation. In the vertical direction, principal hydraulic conductivity will be intermediate between the other two principal values because of the fracture orientations (deMarsily, 1986). Since most of the fractures are nearly vertical, the vertical conductivity will be closer to the $7.8x10^{-5}$ cm/sec value. Thus, $7x10^{-5}$ cm/sec was selected as the vertical hydraulic conductivity of the bedrock.

Figure 5-8 illustrates the measured bedrock hydraulic conductivities at various depths beneath the bedrock surface. The data does not show any trend with depth.

FIGURE 5-8

BEDROCK HYDRAULIC CONDUCTIVITY VERSUS DEPTH INTO BEDROCK

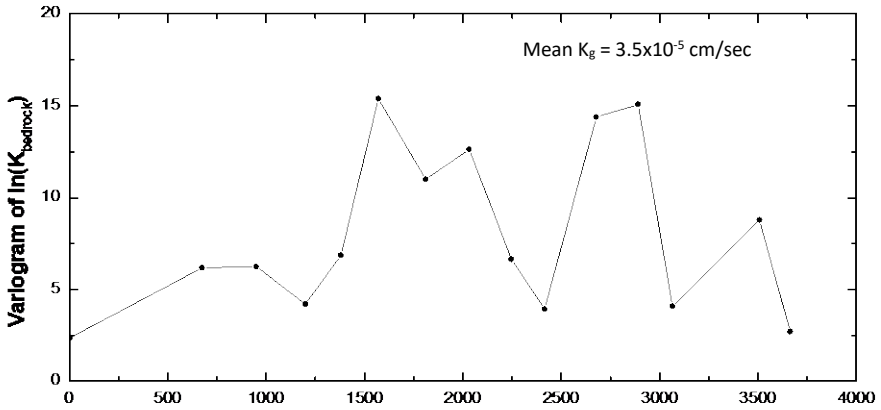


The porosity of the bedrock was calculated from cores and slug tests results. The average effective porosity of 0.001 was selected from these results. Utilizing the typical horizontal hydraulic gradients for the Site of 0.02 to 0.05 with a Site-wide geometric mean hydraulic conductivity and an average effective porosity, a Site-wide average horizontal bedrock groundwater velocity of approximately 2 to 6 ft/day was calculated. However, given the range of hydraulic conductivities, the velocity of individual fractures can vary significantly around this average value. The bedrock tracer tests indicated a local groundwater velocity in the order of 5 ft/day, which is within the general range of calculated average Site-wide groundwater velocities.

Similar to examining the glacial till hydraulic conductivity horizontal variability, a variogram was developed for the bedrock slug test hydraulic conductivities. The horizontal separation distances between the wells and piezometers where slug tests were performed were used to calculate the lag distance between measurement values; screen depths were ignored for this analysis. The resulting variogram is shown in Figure 5-9, which illustrates that variability of the hydraulic conductivity measurements is not constant. Therefore, the horizontal groundwater velocity through the bedrock will vary spatially and the geometric mean value should be used with caution. The local groundwater velocities in individual bedrock fractures may be greater or less than this calculated average.

FIGURE 5-9

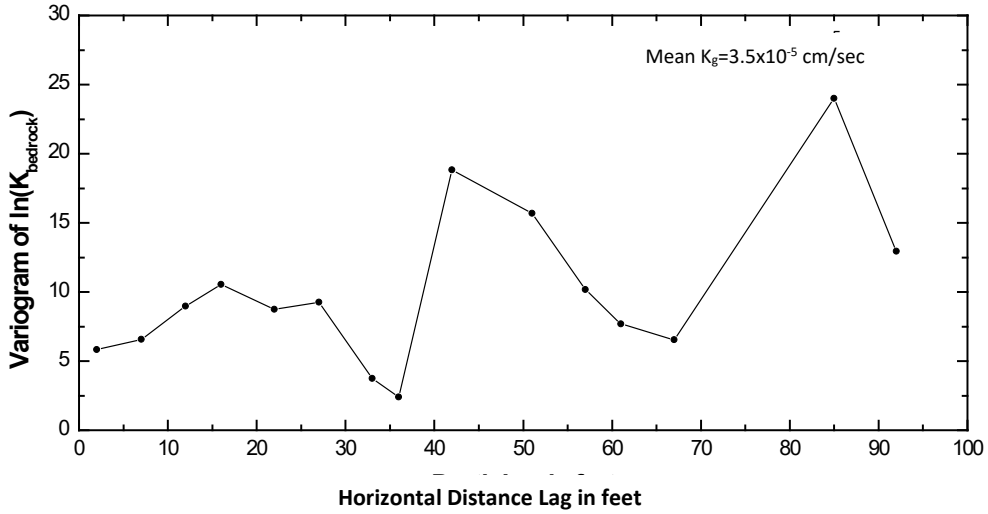
HORIZONTAL STRUCTURE OF
BEDROCK HYDRAULIC CONDUCTIVITY



To examine the vertical depth variability of the bedrock hydraulic conductivities, a variogram was developed using the slug test hydraulic conductivities accounting for the different screen depths below the surface of the bedrock. The vertical depth separation distances between the screens of the wells and piezometers where the slug tests were performed were used to calculate the lag distance between measurement values. The resulting variogram is shown in Figure 5-10, which, similar to the horizontal bedrock hydraulic conductivity structure, illustrates that significant variability exists over the investigated vertical depth at the Site of approximately 100 feet. Thus, a geometric mean hydraulic conductivity should be used with caution when estimating groundwater velocities in the vertical direction even over short distances.

FIGURE 5-10

DEPTH STRUCTURE OF BEDROCK HYDRAULIC CONDUCTIVITY



5.4 Local and Regional Hydrologic Setting

The humid climate in Maine, along with the hydraulic characteristics of the soil and bedrock, cause groundwater to remain relatively close to the ground surface. Given this, the direction of groundwater flow away from the Phase II Expansion footprint will largely be controlled by the regional topography as demonstrated by the Site-specific data. The southern boundary of the Phase II Expansion occupies an elevated area of the topography, with the ground dropping in the east, west, and north directions, consistent with the typical shape of a drumlin. The permitted landfill abuts the Phase II Expansion to the south. Groundwater flow away from the Phase II Expansion is expected to be towards the west and the east. There is a groundwater divide to the north of the Phase II Expansion, so even though the topography drops slightly to the north, groundwater will flow to the east and west rather than directly northward (see Figures 5-1 and 5-2).

The unnamed tributary to Pushaw Stream (Class B) is located approximately 1,580 feet to the southwest of the Phase II Expansion footprint. To the west of this tributary, the ground surface rises to form a ridge to approximately 50 feet above the stream. Because the geology of that ridge and the area along Route 43 is similar to the geology of the Phase II Expansion, groundwater is expected to be close to the ground surface. Therefore, groundwater would generally be directed east from this ridge towards the unnamed tributary of Pushaw Stream (Class B) by the regional topography. Groundwater enters this "valley" setting and flows to the tributary from both sides. The opposing easterly flow prevents groundwater from the Phase II Expansion from moving beyond the tributary, creating a hydraulic buffer protecting groundwater wells along Route 43. This groundwater flow behavior is corroborated by SME's three-dimensional characterization of groundwater flow. As shown in Table 5-1, the vertical hydraulic gradients from well

parings show, as anticipated: (1) a downward component of flow as groundwater flows horizontally west away from the Phase II Expansion at well pair P-04-08A&B; and (2) an upward component of groundwater flow as groundwater approaches the unnamed tributary to Pushaw Stream (Class B) at proximate well pairs MW-401A&B, MW-402A&B, and the P-201 series piezometers, which indicates that the groundwater will discharge to the stream. Thus, there is no direct hydraulic connection between the shallow and deep groundwaters beneath the Phase II Expansion and the water supply wells along Route 43.

Table 5-2 summarizes the hydraulic properties utilized for the encountered soils and bedrock at and around the Site. These values are based on the testing and the above discussions.

TABLE 5-2

SUMMARY OF AVERAGE HYDRAULIC PROPERTIES

Geologic Unit	Average Hydraulic Conductivity (cm/sec)	Average Annual Recharge (in/year)	Average Effective Porosity
Horizontal Basal Till (Site-wide)	9.4×10^{-6} (Geometric Mean)	0.5 to 10	0.25
Horizontal Basal Till (within Expansion Boundaries)	8.5×10^{-6} (Geometric Mean)		
Vertical Basal Till (Site-wide)	1.5×10^{-7} (Geometric Mean)		
Vertical Basal Till (within Expansion Boundaries)	3.2×10^{-7} (Geometric Mean)		
Stratified Sand	4.4×10^{-5}	Not Applicable	0.25
Bedrock	Northeast-Southwest: 7.8×10^{-5} Northwest-Southeast: 2.3×10^{-5} Vertical: 7.0×10^{-5}	Not Applicable	0.001
Sand and Gravel Esker	1.0×10^{-1}	10	0.25

Northwest of the Phase II Expansion, groundwater enters both sides of Judkins Brook. Judkins Brook flows to the northeast in this area and occupies a low area in the local topography. The “valley” setting in this geologic terrain prevents northwesterly moving groundwater from the direction of the Phase II Expansion to migrate beyond the brook to homes along the western end of Old Stagecoach Road. It also causes groundwater moving toward Judkins Brook to discharge into the brook.

On the east side of the Phase II Expansion, the ground elevations drop towards the east. The geology of this easterly area, which is similar to that of the Phase II Expansion Site, results in groundwater moving eastward from the Phase II Expansion toward unnamed tributaries to Pushaw Stream (Class B) and Judkins Brook (Class B). This eastward moving groundwater would be opposed by westward moving groundwater from the topographically higher terrain between the tributary and Route 16. Groundwater flow to the northeast from the Phase II Expansion toward Route 16 is prevented by the “hill and valley” topography. This groundwater flow behavior is corroborated by SME’s three-dimensional characterization of groundwater flow. As shown in Table 5-1, the vertical hydraulic gradients from well parings show, as anticipated: (1) a downward component of flow as groundwater flows horizontally east away from the

Phase II Expansion at well pair MW-505 and P-04-11A; and (2) an upward component of groundwater flow as groundwater approaches the unnamed tributaries to Pushaw Stream (Class B) and Judkins Brook (Class B) at the proximate well P-04-13 well series, which indicates that the groundwater will discharge to the stream. Thus, groundwater supply wells along Route 16, as well as the mapped regional sand and gravel deposit along Route 16, are protected from direct groundwater migration from the Phase II Expansion. This hydraulic isolation from water supply wells along Routes 16 and 43 is one of the reasons this Site was originally selected for landfill development.

Groundwater movement directly to the north from the Phase II Expansion encounters a hill, which limits its ability to migrate regionally northward. Furthermore, the topographic "saddle" created by the hill redirects groundwater moving north from the Phase II Expansion towards the east or west. As explained above, groundwater cannot migrate northward along the groundwater divide (i.e., drumlin axis) and is forced to migrate northeast or northwest.

In summary, the groundwater supply wells along Routes 16 and 43 for the residential, business, and industrial groundwater uses are separated from the Phase II Expansion by surface water bodies and hilly topography. The properties along Old Stagecoach Road that are nearest to the Phase II Expansion are at approximately the same elevation as the northern Phase II Expansion footprint boundary but are hydraulically isolated by the regional topography and the topographic saddle just north of the Phase II Expansion boundary.

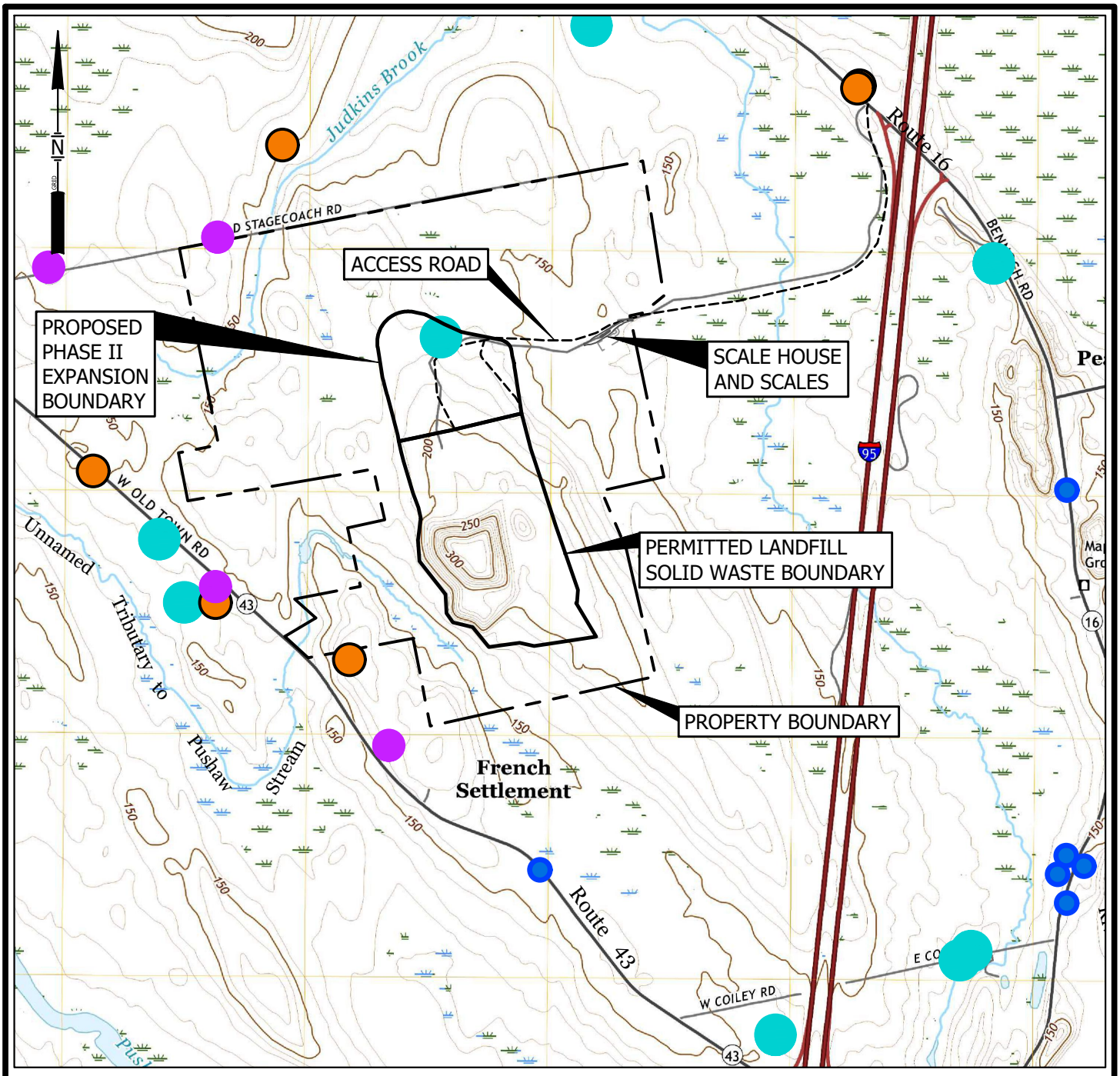
5.5 Groundwater Resources

5.5.1 Private Groundwater Supply Wells

Residences along Maine Route 43, Maine Route 16, and Old Stagecoach Road rely on drilled or dug wells for their water supplies. Residences along these roads are, respectively, approximately 2,700 feet, 5,900 feet, and 1,400 feet or more from the Phase II Expansion. The nearest groundwater supply well identified in the MGS database of wells (Maine Geological Survey, 2024) is approximately 2,500 feet northwest of the Phase II Expansion boundary. The locations of these MGS-catalogued wells relative to the Site are shown in Figure 5-11.

5.5.2 Wellhead Protection Zones

The nearest wellhead protection zone delineated in the Maine Drinking Water Program database is approximately 1.1 miles northeast of the Phase II Expansion on Bennoch Road and is not hydraulically connected to the Expansion Site for the reasons referenced in Section 5.4.



BASE MAP ADAPTED FROM 7.5 MIN USGS TOPOGRAPHIC QUADRANGLE OLD TOWN, MAINE-2021

MAPPING SOURCE

MAINE GEOLOGICAL SURVEY WATER WELL DATABASE, DATED MAY 22, 2023.

LEGEND

- REPORTED WELL YIELD LESS THAN 5 GALLONS PER MINUTE
- REPORTED WELL YIELD BETWEEN 5 AND 10 GALLONS PER MINUTE
- REPORTED WELL YIELD GREATER THAN 10 AND LESS THAN 50 GALLONS PER MINUTE
- NO WELL DATA IN MGS WELL DATABASE

1000 0 2000 FEET

FIGURE 5-11
BEDROCK WELL YIELDS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

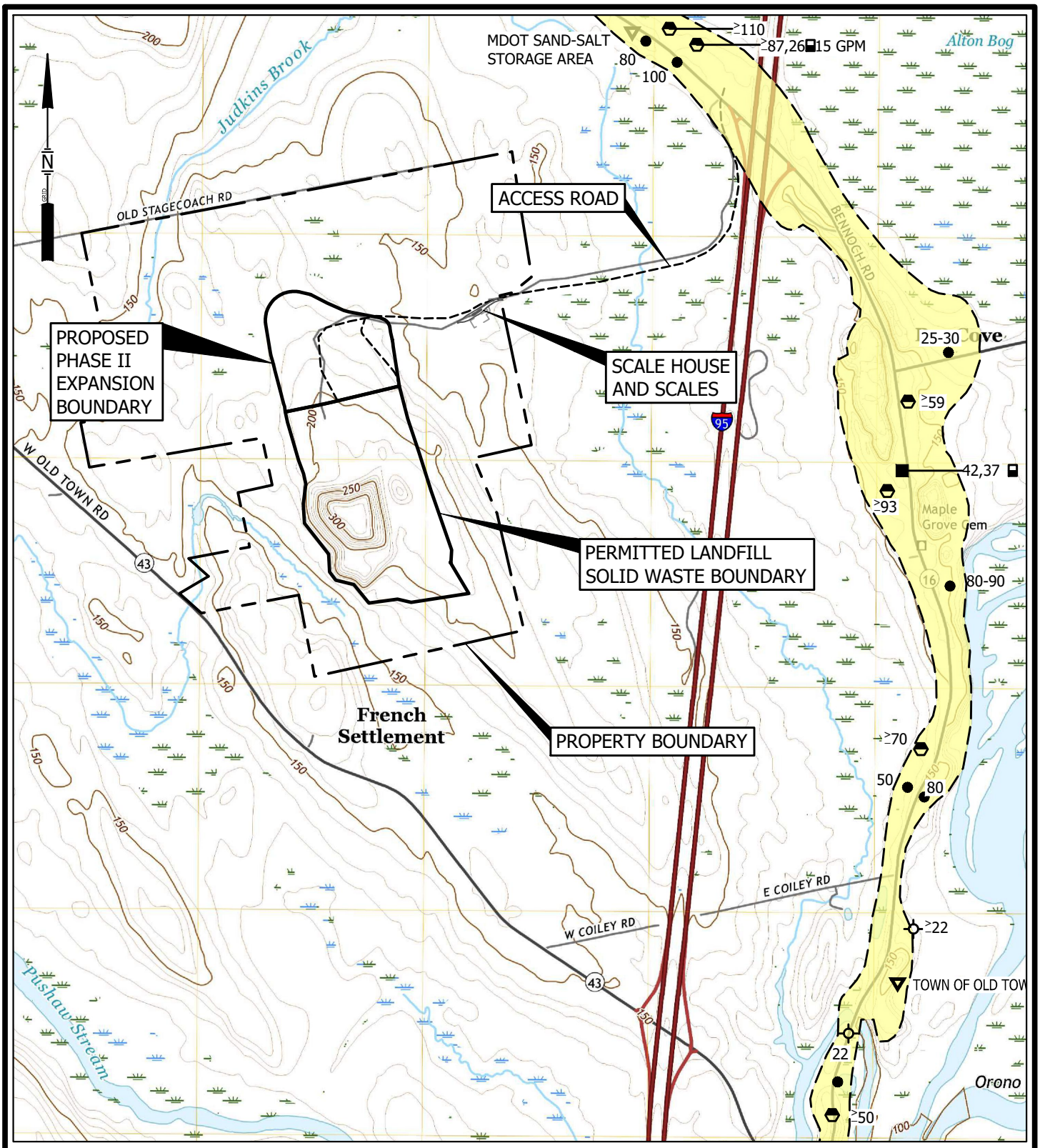
SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: BR-WELL-YIELDS CTB: SME-STD REV: 6/2/2025

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 5-11, 6/2/2025 10:23:26 AM, bwb

5.5.3 Mapped Sand and Gravel Aquifers

The nearest MGS-mapped significant sand and gravel aquifer is approximately 5,300 feet to the northeast of the Phase II Expansion. This significant sand and gravel aquifer runs along the western shore of the Stillwater River, as shown in Figure 5-12 (Tolman and Lanctot, 2008). These mapped sand and gravel features were deposited during glacial retreat after the till was deposited along the bedrock surface (Borns and Thompson, 1981). There are no stratified sand and gravel deposits mapped by MGS within the JRL Site (Borns and Thompson, 1981; Foster and Smith, 2001). Therefore, the Phase II Expansion does not overlie or fall within 300 feet of a significant sand and gravel aquifer.



BASE MAP ADAPTED FROM 7.5 MIN USGS TOPOGRAPHIC QUADRANGLE OLD TOWN, MAINE-2021

LEGEND

MAPPED SIGNIFICANT SAND AND GRAVEL AQUIFER OPEN FILE MAP 08-87

1000 0 2000 FEET

FIGURE 5-12
SIGNIFICANT SAND AND GRAVEL AQUIFERS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: SAND-GRAV CTB: SME-STD REV: 6/2/2025

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\SITELOC.dwg, FIG 5-12, 6/2/2025 10:39:32 AM, bwb

6.0 TIME OF TRAVEL ANALYSIS

To demonstrate conformance with the Rules' performance standards and siting criteria of a six-year groundwater travel time from within the Phase II Expansion solid waste boundary to a potential sensitive receptor and a three-year travel time from leachate storage tank structures and pump stations to potential sensitive receptors (see Section 401.1.C.1.c of the Rules), SME has performed travel time analyses in accordance with Section 401.2.C.2 of the Rules. The Site's potential sensitive receptors were identified using the definition of sensitive receptors in Section 400.1 of the Rules. Each potential sensitive receptor was evaluated for inclusion in the time of travel analysis based on the hydrogeologic setting of the Site (e.g., the direction and rate of groundwater flow from beneath the Phase II Expansion). The selection of the Site's sensitive receptors is described in Section 6.1.

Travel times to applicable sensitive receptors were calculated from nodes within the area of the Phase II Expansion solid waste boundary based on a grid spacing of 65 feet by 65 feet to identify the areas with the fastest travel times. The calculated travel times from the Phase II Expansion solid waste boundary to the identified sensitive receptors incorporate improvement allowance offsets for the Expansion containment system design as allowed by Section 401.2.D.2 of the Rules.

Travel times from pump stations and leachate storage tank structures to applicable sensitive receptors were calculated and do not incorporate improvement allowance offsets.

The method, assumptions, and calculations of time of travel are further described in Section 6.3 and the time of travel calculations are included in Appendix V.

6.1 Selection of Site Sensitive Receptors

MEDEP Ch. 400.1.Aaa. defines a sensitive receptor as: *public and private water supply aquifers and wellhead protection zone; public and private drinking water supplies; significant ground water aquifers and primary sand and gravel recharge areas; sand and gravel deposits; and Class AA, A, and B surface water bodies and great ponds*. Based on Site setting and Site-specific hydrogeologic data, the following features, which lie in the general vicinity of the Phase II Expansion, were identified as potential Site sensitive receptors:

- Off-site groundwater at the Site's property boundary that could be used as a water supply;
- The nearest existing off-site water supply wells;
- The MGS mapped sand and gravel aquifer located east of the Phase II Expansion along Route 16;
- The stratified sandy zone located southeast of the Phase II Expansion and east of the permitted JRL; and
- The closest Maine Classified Waters (i.e., surface waters).

Each of these five potential sensitive receptors are evaluated below. The sensitive receptors selected for the time of travel analyses are shown on Figure 6-1.

6.1.1 Off-site Groundwater in Soils and Bedrock that Could Be Used as a Water Supply

Groundwater at the Site property boundaries is assumed to be a Site sensitive receptor because of the potential for future wells to be located there. Three locations at the property boundaries to the north, east, and west that are closest to the Phase II Expansion, later identified as Points A, C, and D on Table 6-1, respectively, were selected as sensitive receptors for time of travel analyses. The permitted JRL boundary is located to the south of and is hydraulically upgradient from the Phase II Expansion: therefore, the south property boundary was not selected as a sensitive receptor for the time of travel analyses.

6.1.2 Nearest Existing Water Supply Wells

The natural hydrogeologic setting prevents groundwater that originates beneath the Phase II Expansion from migrating to existing water supply wells surrounding the Site because groundwater leaving the Site discharges into adjacent Judkins Brook (Class B) and unnamed tributaries to Pushaw Stream (Class B) and Judkins Brook (Class B), never reaching the aquifer (see Section 5.4).

There are no existing off-site water supply wells or water supply springs located within 1,000 feet of the Phase II Expansion. The closest existing water supply wells are associated with residences located to the north on Old Stagecoach Road. Groundwater users located west of Judkins Brook are hydraulically isolated from the Phase II Expansion by the brook. The one existing residence on Old Stagecoach Road that is located east of Judkins Brook is approximately 1,760 feet north of the Phase II Expansion. While this residence is located within the same watershed as the northwest corner of the Phase II Expansion, groundwater flow from the northwest corner of the Phase II Expansion will discharge to Judkins Brook (Class B) and will not flow toward this residence.

The nearest existing water supply well to the west of the Phase II Expansion is associated with a residence along Route 43 and is approximately 2,700 feet from the Phase II Expansion. Groundwater supply wells located along Route 43 are isolated from the Phase II Expansion boundary by the unnamed tributary to Pushaw Stream (Class B) and Judkins Brook (Class B), as described in Section 5.4. Similarly, the existing water supply wells associated with residences on Route 16, located approximately 5,900 feet or more east of the Phase II Expansion, are protected by the hydrogeologic boundaries associated with the unnamed tributaries to Judkins Brook (Class B) and Pushaw Stream (Class B).

Furthermore, assuming that the existing residential wells surrounding the Phase II Expansion need about 270 gpd for a single family three-bedroom home, based on the Maine Subsurface Wastewater Disposal Rules (Maine Department of Health and Human Services, 2023), the demand for well water can be satisfied by precipitation recharge (e.g., at least 3 inches per year according to Section 2.2) over an approximately 300-foot-diameter area around each well. This analysis indicates that the recharge areas

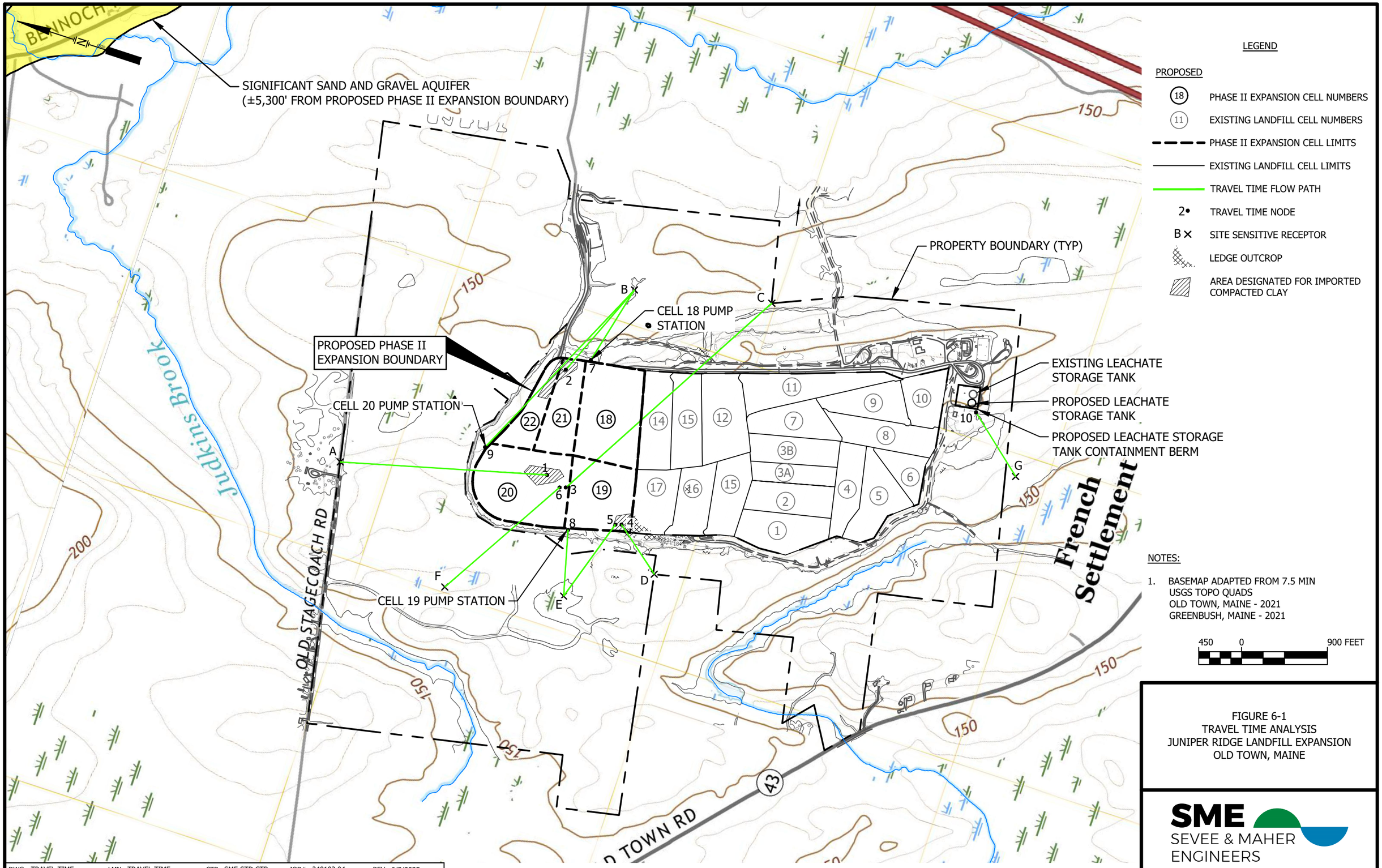


FIGURE 6-1
TRAVEL TIME ANALYSIS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\TRAVEL TIME.dwg, B_FIG6-1 SAR, 6/3/2025 3:49:38 PM, bwb

surrounding the domestic wells are located beyond the hydrogeologic boundaries surrounding the Phase II Expansion and do not need to rely on recharge from the JRL property.

Thus, nearby existing water supply wells do not require time of travel evaluations.

6.1.3 Primary Sand and Gravel Recharge Area

According to Ch. 400.1.F.f, a primary sand and gravel recharge area means *the surface area directly overlying sand and gravel formations that provide direct replenishment of ground water in sand and gravel and fractured bedrock aquifers. The term does not include areas overlying formations that have been identified as unsaturated and are not contiguous with saturated formations*. The MGS has mapped the nearest significant sand and gravel aquifer approximately 5,300 feet east of the Phase II Expansion, as shown on Figure 6-1. The natural hydrogeologic setting and remoteness prevent groundwater that originates beneath the Phase II Expansion from migrating to the significant sand and gravel aquifer because groundwater leaving the Site discharges into adjacent Judkins Brook (Class B) and unnamed tributaries to Pushaw Stream (Class B) and Judkins Brook (Class B), never reaching the aquifer. Neither the existing JRL, nor the Phase II Expansion, overlies the significant sand and gravel aquifer. Therefore, the Phase II Expansion has no effect on the recharge area of that remote deposit. Therefore, MGS mapped significant sand and gravel aquifer is not a sensitive receptor selected for time of travel analysis.

6.1.4 Stratified Sandy Zone in Basal Till

Ch. 401.1.C.3.a.iv requires a minimum 100-foot setback between the solid waste boundary of the Phase II Expansion and stratified sand and gravel deposits that are capable of providing sufficient water for domestic use or are a contaminant migration pathway to a significant groundwater aquifer, a significant sand and gravel aquifer, a fractured bedrock aquifer, or a surface water body. A stratified sand zone within the basal till was identified to the east of Cell 11, which is southeast of the Phase II Expansion at monitoring wells MW-06-01, MW-213, P-08-09, and P-08-10. This stratified sand zone is greater than 100 feet from the proposed solid waste boundary. The sandy zone identified outside of the southeast corner of the JRL lies within the basal till and does not appear to be a regional stratified sand and gravel deposit, based on previous investigations for the existing landfill (SME, 1991; SME, 2015). As described in Section 4.1.1, till layers were observed within the thicker portions of the sandy zone to the east. Furthermore, the sandy zone within the till was deposited during till deposition beneath glacial ice and not contemporaneously with the remote sand and gravel deposit one mile east of the JRL, which was most likely deposited during a period of glacial retreat. This limited zone is not mapped by MGS as a regional stratified sand and gravel deposit. Despite this, this sandy zone was previously identified as a sensitive receptor for time of travel analysis for the expansion of Cells 11 through 17 of the JRL (SME, 2015) since it could be capable of providing sufficient water for domestic use (this is highly unlikely, however, since this location is on State-owned property acquired in 2004 for the JRL). The calculated travel time from Cell 11 to this sandy zone was 10.5 years (without factoring in improvement allowances and imported soil travel time) (SME, 2015). The sandy zone is approximately 2,000 feet southeast of the currently proposed Phase II Expansion (i.e., further from the stratified sandy zone than Cell 11) and is not hydraulically

downgradient from the Phase II Expansion. Therefore, the subject sandy zone is not included as a sensitive receptor for the time of travel analysis for the Phase II Expansion.

6.1.5 Closest Maine Classified Waters (i.e., Surface Waters)

Maine Classified Waters located in the areas surrounding the Phase II Expansion are shown on Figure 6-1, other than groundwater, which was separately addressed. There are no Class AA, A, or B surface waters or great ponds located within 1,000 feet of the Phase II Expansion. The closest Maine Classified Waters are all Class B waters and are described as follows:

- An unnamed tributary to Judkins Brook (Class B) is located approximately 3,050 feet east of the Phase II Expansion. Groundwater flowing from the Phase II Expansion to the east toward this unnamed tributary to Judkins Brook (Class B) discharges first to an unmapped and unnamed drainage feature. The emergence of this unmapped and unnamed drainage feature, which is located approximately 817 feet from the east boundary of the Phase II Expansion, is selected as a sensitive receptor for travel time analysis since it is a conduit to a Class B water. This drainage feature is identified as Point B (see Figure 6-1);
- An unnamed tributary to Pushaw Stream (Class B) is located approximately 1,580 feet southwest of the Phase II Expansion and approximately 812 feet west of the leachate storage tanks containment area. Groundwater flowing west from the Phase II Expansion toward this unnamed tributary to Pushaw Stream (Class B) discharges first to an unmapped and unnamed drainage feature, which is located approximately 712 feet from the western boundary of the Phase II Expansion. The emergence of this unmapped and unnamed drainage feature is selected as a sensitive receptor for travel time analysis since it is a conduit to a Class B water. This drainage feature is identified as Point E (see Figure 6-1). Groundwater flowing west from the leachate storage tanks containment area discharges directly the Class B unnamed tributary to Pushaw Stream at the location identified as Point G (see Figure 6-1); and
- Judkins Brook (Class B) is located approximately 1,670 feet northwest of the Phase II Expansion. Groundwater flowing northwest from the Phase II Expansion toward Judkins Brook (Class B) discharges first to an unmapped and unnamed drainage feature. The emergence of this unmapped and unnamed drainage feature, which is located approximately 907 feet from the northwest boundary of the Phase II Expansion, is selected as a sensitive receptor for travel time analysis since it is a conduit to a Class B water. This drainage feature is identified as Point F.

In total, there are seven sensitive receptors that have been identified for time of travel analyses. These include the three property line locations to the north, east, and west of the Phase II Expansion, the two unmapped and unnamed drainage features that drain to Class B Judkins Brook, the mapped Class B tributary to Pushaw Stream, and the unmapped and unnamed drainage feature that drains to the mapped Class B tributary to Pushaw Stream. These locations are summarized in Table 6-1 and shown on Figure 6-1.

TABLE 6-1

IDENTIFIED SITE SENSITIVE RECEPTORS

Location Identification	Site Sensitive Receptors
Point A	Closest Northern Property Boundary
Point B	Unmapped and Unnamed Drainage to Class B Judkins Brook to the East
Point C	Closest Eastern Property Boundary
Point D	Closest Western Property Boundary
Point E	Unmapped and Unnamed Drainage to Class B Pushaw Stream to the West (from landfill)
Point F	Unmapped and Unnamed Drainage to Class B Judkins Brook to the Northwest
Point G	Mapped Class B Unnamed Tributary to Pushaw Stream to the West (from leachate storage tanks)

6.2 Improvement Allowances

The Phase II Expansion liner system includes several features for which Table 1 in Ch. 401.2.D.2 allows a travel time credit, referred to as improvement allowance offsets, which can be used in the time of travel analyses from areas within the Phase II Expansion solid waste boundary to the potential sensitive receptors. The number of offsets allowed by the Rules varies depending on the actual design, monitoring, or contingency planning improvements. The improvements that will be incorporated in the Phase II liner design include the addition of a secondary composite liner below the primary liner and the addition of a leak detection system for a combined three-year offset to be included in the time of travel calculations. The Phase II Expansion liner system will be constructed with a primary composite liner, consisting of an 80-mil HDPE geomembrane, a geosynthetic clay liner (GCL), and one foot of compacted clay. This primary liner will be underlain by a leak detection system and a secondary liner that will be comprised of a 60-mil HDPE geomembrane over compacted barrier soil with a hydraulic conductivity of $1x10^{-6}$ cm/sec, as described in the Alternative Liner Analysis in Volume III of this Application.

As described in Volume III of the Application, a one-foot-thick imported soil layer with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec will be placed in locations with exposed bedrock or that are anticipated to be grubbed to within 5 feet of bedrock. Areas where this imported soil layer will be placed is shown on Figure 6-1. With a hydraulic conductivity of $1x10^{-7}$ cm/sec, an effective porosity of 0.39 based on marine clay soil (see Section 3.3.6), and a unit gradient of one through the additional one-foot thickness of the imported soil layer, the calculated travel time is increased by 3.8 years. An additional travel time of 3.8 years has been included in the travel time analysis in areas of the Phase II Expansion where the imported soil layer is proposed to be placed.

6.3 Calculated Travel Time to Site Identified Sensitive Receptors

Travel times have been calculated from the Phase II Expansion area to the sensitive receptors identified in Table 6-1. Travel time offsets incorporated into the Expansion design are later discussed in Section 6.3.3). Groundwater flow is controlled by the hydraulic conductivity and effective porosity of the material through which the groundwater is moving and by the hydraulic gradient in the direction of groundwater

flow (Freeze and Cherry, 1979). The groundwater travel times through the soils and bedrock to the identified Site sensitive receptors have been calculated using the following relationships:

- Travel Time (time) = Distance (length) ÷ Groundwater Velocity (length/time); and
- Groundwater Velocity (length/time) = [Hydraulic Conductivity (length/time) * Hydraulic Gradient (dimensionless)] ÷ Effective Porosity (dimensionless)

The latter relationship is known as the average linear velocity, or seepage velocity, of groundwater (Fetter, 1994).

6.3.1 Hydrogeologic Parameters

The hydraulic conductivities and effective porosities used for the time of travel analyses are summarized in Table 6-2.

TABLE 6-2

SUMMARY OF HYDRAULIC PROPERTIES APPLIED IN TRAVEL TIME ANALYSIS

Unit	Hydraulic Conductivity (cm/sec)	Effective Porosity
EXISTING SOILS		
Till (Horizontal)	9.4×10^{-6}	0.25
Till (Vertical)	3.2×10^{-7}	
BEDROCK	3.5×10^{-5}	0.001

An estimated horizontal hydraulic conductivity of 9.4×10^{-6} cm/sec has previously been reported as a geometric mean for the Site-wide till soils based on previous hydrogeologic investigations (see Table 3-2); this value was used for the time of travel analyses for the JRL expansion of Cells 11 through 17.

The laboratory vertical hydraulic conductivity results from the five groundwater monitoring locations within the Phase II Expansion boundary resulted in an estimated geometric mean hydraulic conductivity of 3.2×10^{-7} cm/sec. The assessment calculated the geometric mean of laboratory hydraulic conductivity values from samples B-08-02, B-08-03, B-08-04, and the median value of hydraulic conductivities from two samples collected from B-08-01 (due to the proximity of these samples from one another).

The hydraulic conductivity for the bedrock is estimated to be 3.5×10^{-5} cm/sec based on the geometric mean of estimate values from Site-wide in-situ hydraulic conductivity tests (see Section 5.3.2).

The estimated effective porosity values are based on Site-specific hydrogeologic investigation data. The effective porosity value of 0.25 for the till soils is based on a mean total porosity for thin-walled tube water content results and evaluation of laboratory tracer tests that demonstrated that the total and effective porosities are the same for the till soils (see Section, 3.3.4, Section 3.3.5, and Appendix U). The

porosity of the bedrock was calculated from bedrock cores and slug tests results. The average effective porosity of 0.001 was calculated from these results (see Section 5.2.4).

6.3.2 Time of Travel Approach

The time of travel analyses were assessed for two potential flow paths from the Phase II Expansion and associated features (i.e., leachate pump stations and leachate storage structures) to the seven identified sensitive receptors:

- Flow Path 1 – Assumed lateral flow through the saturated till soil directly to each sensitive receptor; and
- Flow Path 2 – Assumed vertical flow through the saturated till soil to the bedrock surface and then lateral flow through the bedrock directly to each sensitive receptor.

As shown in Table 6-2, the horizontal hydraulic conductivity of the till soils is approximately an order of magnitude lower than that of the bedrock, the vertical hydraulic conductivity of the till soils is approximately two orders of magnitude lower than the bedrock, and the effective porosity of the bedrock is approximately two orders of magnitude lower than that of the till soils. Given the above-described relationship of hydraulic conductivity and effective porosity with respect to the average velocity of groundwater, this generally results in time of travel results more than two orders of magnitude greater for lateral flow through the till soils (Flow Path 1, described above) than for vertical flow through the till soils followed by lateral flow through the bedrock (Flow Path 2, described above).

The time of travel evaluation accounts for determining the fastest route from the Phase II Expansion to each sensitive receptor rather than simply evaluating the shortest route (i.e., from the nearest boundary of the Phase II Expansion to a sensitive receptor). Given the variability of soil thickness above the interpreted bedrock surface elevations (see Section 4.3), the shortest time of travel for vertical flow though the till soil beneath the Phase II Expansion followed by lateral flow through bedrock (i.e., Flow Path 2, described above) is a function of both distance to the sensitive receptor and the thickness of the till soil. SME evaluated travel times from the Phase II Expansion by considering over 600 nodes on a 65-foot-by-65-foot grid within the Phase II Expansion boundary to identify the fastest route from the Phase II Expansion to each identified sensitive receptor. The locations of the nodes that represent the locations within the Phase II Expansion boundary with the fastest routes to each of the analyzed sensitive receptors identified for the time of travel analyses are shown on Figure 6-1.

The time of travel evaluation from the Phase II Expansion leachate pump stations and leachate storage structures are based on fixed locations and are evaluated accordingly.

Hydraulic gradients were calculated using October 2024 groundwater levels in the areas of the Phase II Expansion and the identified sensitive receptors. Calculations made using the October 2024 pre-development groundwater levels are assumed to provide more conservative estimates than post-

development hydrogeologic conditions since the proposed cut-off of precipitation will result in a lowering of the groundwater table in the source area and decreasing the hydraulic gradient. Based on the relationships discussed above in this section, lowering the hydraulic gradient results in a lower groundwater velocity and longer groundwater travel times.

The October 2024 hydraulic gradient for lateral flow through till soil is based on the potentiometric surface(s) interpreted for groundwater levels observed in monitoring wells and piezometers screened in the soil (see Figure 5-1). The hydraulic gradient for lateral flow through bedrock is based on the potentiometric surface(s) interpreted for groundwater levels observed in monitoring wells and piezometers screened in the bedrock (see Figure 5-2).

The following assumptions and techniques were used for the time of travel calculations:

- All lateral flow is assumed to be in a direct line from the Phase II Expansion and associated features to the respective sensitive receptors, resulting in a conservative distance of travel as well as a conservatively high hydraulic gradient and conservatively high average linear velocity of groundwater;
- Vertical travel time in the till is based on travel time starting at the proposed Phase II Expansion base grade and ending at the bedrock surface; and
- The water levels used to calculate the hydraulic gradient from the Phase II Expansion to property boundaries (i.e., hypothetical groundwater supplies) locations were selected based on the lower of the interpreted groundwater levels in the soil and the bedrock (see Figure 5-1 and Figure 5-2), which results in a higher hydraulic gradient and lower time of travel. The water levels used to calculate the hydraulic gradient from the Phase II Expansion to surface water locations (i.e., the groundwater discharge locations) were selected based on topography at those locations.

6.3.3 Time of Travel Results

The results of the calculated travel times from within the Phase II Expansion solid waste boundary to the sensitive receptors selected for the analyses are summarized in Table 6-3. The calculations for the travel times summarized in Table 6-3 are included in Appendix V.

TABLE 6-3

SUMMARY OF CALCULATED TRAVEL TIMES TO SITE SENSITIVE RECEPTORS FROM AREA WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY

Location of Node within Proposed Landfill Cell	Site Sensitive Receptor	Flow Path 1 Calculated Lateral Travel Time In Till Soil (Yrs)	Flow Path 2 Calculated Vertical Travel Time in Till Soil + Lateral Travel Time in Bedrock (Yrs)	Offset Credits (Yrs) [1]	Imported Soil Layer (Yrs) [2]	Fastest Total Travel Time with Offset Credits and Travel Time through Imported Soils (Yrs)
Cell 20	Point A	6,099	12.5	3	3.8	19.3 [2]
Cell 21	Point B	2,289	4.5	3	3.8	11.3 [2]
Cell 20	Point C	9,171	17.4	3	NA	20.4
Cell 19	Point D	872	10.5	3	3.8	17.3 [2]
Cell 19	Point E	1,313	8.2	3	3.8	15.0 [2]
Cell 20	Point F	3,665	10.0	3	NA	13.0

Notes:
[1] Offset credits for secondary composite liner and leak detection system (see Section 6.2).
[2] Imported soil layer provides an additional 3.8 years of travel time (see Section 6.2).

Based on the assumptions and evaluations described above in this section, the summary provided in Table 6-3 demonstrates that the fastest potential travel times from within the Phase II Expansion solid waste boundary to the identified sensitive receptors exceed the required six-year travel time at the sensitive receptors at Point A (closest northern property boundary), Point C (closest eastern property boundary), Point D (closest western property boundary), Point E (unmapped and unnamed drainage to Class B Pushaw Stream), and Point F (unmapped and unnamed drainage to Class B Judkins Brook). With the addition of the three-year offset credit for incorporating a secondary composite liner and leak detection system, Point B (unmapped and unnamed drainage to Class B Judkins Brook to the east) also meets the required six-year travel time from the Phase II Expansion to those respective locations.

For the locations originating within an area of an imported one-foot-thick soil layer, described in Section 6.2, the imported soil layer provides an additional 3.8 years of travel time. The imported soil layer will be placed wherever there is currently exposed bedrock or in areas that are anticipated to be grubbed to within 5 feet of bedrock. The six-year time of travel criterion from the Phase II Expansion to potential sensitive receptors is met regardless of this additional travel time.

The locations within the Phase II Expansion solid waste boundary with the fastest route to one of the identified sensitive receptors are identified on Figure 6-1. Figure 6-1 also shows the locations where the imported one-foot-thick soil layer is proposed for an additional 3.8 years of travel time.

The results of the calculated travel times from the Phase II Expansion pump stations (Cell 18 Pump Station, Cell 19 Pump Station, and Cell 20 Pump Station) and the leachate storage tanks containment area to the sensitive receptors are summarized in Table 6-4. The calculations for the travel times summarized in Table 6-4 are included in Appendix V.

TABLE 6-4

SUMMARY OF CALCULATED TRAVEL TIMES TO SITE SENSITIVE RECEPTORS FROM PHASE II EXPANSION PUMP STATIONS AND LEACHATE STORAGE TANKS

Location	Site Sensitive Receptor	Flow Path 1 Calculated Lateral Travel Time In Till Soil (Yrs)	Flow Path 2 Calculated Vertical Travel Time in Till Soil + Lateral Travel Time in Bedrock (Yrs)
Cell 18 Pump Station	Point B	1,731	23.0
Cell 19 Pump Station	Point E	1,435	16.7
Cell 20 Pump Station	Point B	7,161	26.2
Leachate Storage Tanks Containment Area	Point G	714	43.4

Based on the assumptions and evaluations described above in this section, the summary provided in Table 6-4 demonstrates that the fastest potential travel times from the Phase II Expansion pump stations and leachate storage tanks containment area exceed the required three-year travel time at the subject sensitive receptors.

7.0 WATER QUALITY AND FUTURE MONITORING

Water quality has been monitored at the JRL since 1990, when the Site was first selected for the development of the existing landfill. Currently, samples are collected at fifty groundwater monitoring wells and piezometers, four pore-water monitoring locations, four surface water monitoring locations, two stormwater monitoring locations, 15 landfill or former leachate pond underdrain monitoring locations, five leak detection locations, and one leachate monitoring location. A detailed evaluation of the JRL water quality is compiled each year and included in the Facility's Annual Report. A copy of the 2024 Annual Water Quality Report (SME, 2025) is included in Appendix W and documents background and existing groundwater quality at JRL. The current water quality data demonstrates the effectiveness and integrity of the existing landfill liner system. With the Phase II Expansion, the current water quality monitoring program will continue with yearly adjustments, if deemed necessary, to reflect the operational status of the existing landfill cells (i.e., operational, or final covered), the Phase II Expansion development, and the previous year's water quality evaluation. Any changes to the JRL water quality monitoring program will be proposed in the Annual Report and will not be implemented until approved by the MEDEP.

7.1 Expansion Water Quality Monitoring Locations

Water quality at the JRL is currently monitored in accordance with the requirements of Ch. 405 following the MEDEP approved Environmental Monitoring Plan (EMP). The EMP has been updated to include the Phase II Expansion and the revised EMP is included in Volume IV of this Application and outlines the protocols, parameters, and locations for sampling of the groundwater, surface water, stormwater, leachate, leak detection systems, and underdrains.

Due to the construction of the Phase II Expansion, 12 wells and piezometers at nine locations that are included in the current EMP will be abandoned, and a total of 24 new monitoring locations will be established, consisting of:

- The addition of one till and one bedrock monitoring well at six additional locations;
- The inclusion of two existing downgradient piezometers;
- The conversion of one existing downgradient open borehole bedrock well to a bedrock groundwater monitoring well and the addition of one till monitoring well in its proximity;
- An additional surface water monitoring point and an additional pore-water monitoring location west of the Phase II Expansion at/near a groundwater discharge that flows to Judkins Brook;
- Three leak detection monitoring locations; and
- Three underdrain monitoring locations.

Further details of the new monitoring locations are provided in the revised EMP. The current and proposed monitoring locations, based on the revised EMP, are shown on Figure 7-1.

Since the Phase II Expansion will be developed in a series of cells beginning in 2027 and continue for approximately 10 to 12 years, the locations included in the monitoring program will be phased as landfill development proceeds.

7.1.1 Leachate Monitoring for the Phase II Expansion

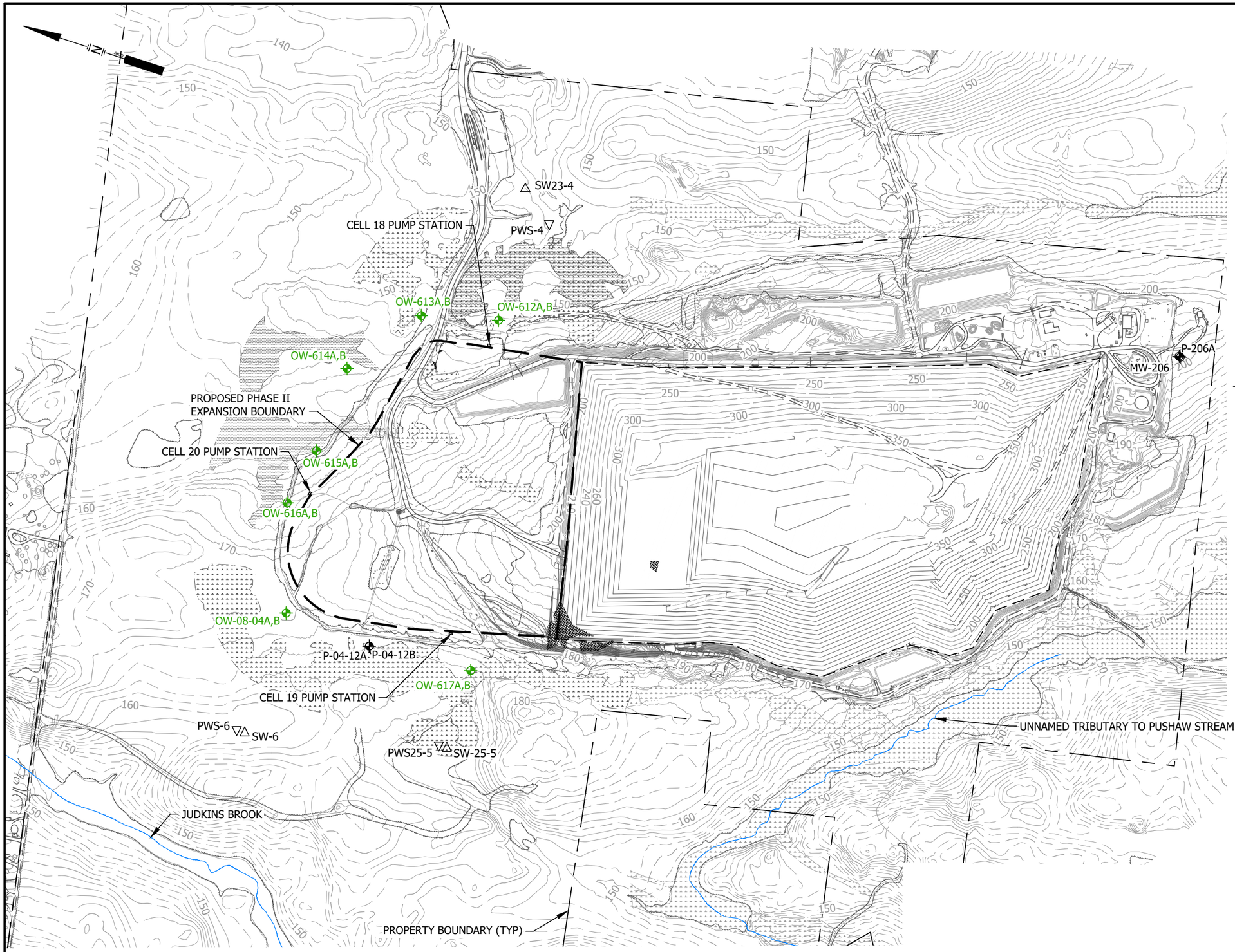
Leachate from the Phase II Expansion's leachate collection system will be pumped to one of two leachate storage tanks located in the southeastern portion of the JRL Facility via two force mains to the east and west of the landfill. Leachate from the Phase II Expansion will be combined with the leachate from the existing landfill cells in the storage tank. Leachate will be sampled at the storage tanks three times per year to characterize the leachate quality and provide information useful in assessing the results from the other monitoring locations. Each of the individual Phase II Expansion pump stations will be constructed with the ability to monitor flow and collect leachate and leak detection samples. The discharge from the pump stations will be measured monthly for specific conductance and flow.

7.1.2 Leak Detection and Underdrain Monitoring for the Phase II Expansion

The principal evaluation of the Phase II Expansion's primary liner performance will be from monitoring the Expansion's leak detection system located between the primary and secondary liners. Cells 18 and 19 will have permanent leak detection sump and pump systems that will discharge into the leachate collection system. Cell 20 will have a permanent leak detection pump system that will discharge into the leachate collection system. Each leak detection sump discharge will be sampled separately to monitor performance of the primary liner system. The discharge from the leak detection sumps will be routinely monitored for both flow and water quality, including monthly measurements for specific conductance and flow. A Leak Response Action Plan (LRAP) has been prepared for the Phase II Expansion cells, which outlines the procedures to evaluate the data collected from the leak detection systems and actions that will be implemented if the water quality data suggests that the primary liner is not performing as designed. In those cases, the routine sampling program may be expanded. The LRAP is found in Volume IV of the Application.

The underdrain system that will exist under approximately 36.2 acres of the Phase II Expansion provides additional locations to monitor the Phase II Expansion's liner performance. Therefore, the discharge locations for the underdrain will also be included in the routine monitoring program.

The proposed leak detection system and underdrain monitoring locations are described in the revised EMP and shown in Figure 7-1.



LEGEND

- LANDFILL BOUNDARY (APPROXIMATE)
- OW-616A,B — PROPOSED PHASE II GROUNDWATER MONITORING WELL
- EXISTING GROUNDWATER MONITORING WELL
- △ SURFACE WATER SAMPLING LOCATION
- ▽ PORE WATER SAMPLING LOCATION

NOTES:

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024. CONTROL POINTS BASED ON SURVEY BY PLIGSA & DAY LAND SURVEYORS OF BANGOR, MAINE, ON APRIL 24, 2025. VERTICAL DATUM: ASSUMED. SUBTRACT 0.34 FEET FROM ELEVATIONS LISTED TO CONVERT ELEVATIONS TO NAVD88. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC., OF CUMBERLAND, MAINE. SEE NOTE 1 ON DWG C-100.

FIGURE 7-1
PROPOSED MONITORING LOCATIONS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: GW LMN: P-MW CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 10/30/2025

\\Server\cfs\Casella\OldTownLandfill\Expansion\Phase II Expansion\Acad\Figures\GW.dwg, B_FIG 7-1, 10/30/2025 2:32:04 PM, bwb

7.1.3 Groundwater Monitoring Locations Around the Phase II Expansion

Well pairs are proposed at six new locations for the Phase II Expansion. Each well pair will include a monitoring well screened in the basal till soil and a monitoring well screened in bedrock. Existing piezometers P-04-12A and P-04-12B are proposed for monitoring groundwater surrounding the Phase II Expansion. Open borehole bedrock well PW-08-04 is proposed to be modified to an instrumented bedrock monitoring well and paired with a new proximate monitoring well screened in the basal till soil. The proposed Phase II Expansion monitoring locations are shown on Figure 7-1. The proposed screen depth intervals for each proposed monitoring well locations will be a function of the local geology. Tentative screen depth intervals and geologic units screened are summarized in the revised EMP. The proposed well locations have been selected to allow for monitoring around the entire perimeter of the Phase II Expansion at spacing similar to monitoring well spacing around the existing landfill.

Existing monitoring wells MW-206 and P-206A (see Figure 7-1), which are located south of the existing JRL on the ridge of the drumlin away from the current and future JRL operations, will be considered background monitoring wells for both the existing JRL and Phase II Expansion.

Wells OW-607B, MW-504, MW-08-01, P-04-11A, P-04-11B, MW-505, OW-608A, OW-608B, OW-609B, MW-506, MW-04-09A, and MW-04-09B, which are located within the Phase II Expansion boundaries, are currently monitored under the existing EMP but will be abandoned in accordance with Ch. 405 as the landfill cells are developed. Additionally, any wells and piezometers located within the Phase II Expansion that are not currently monitored under the existing EMP will be abandoned following proper removal and sealing requirements to eliminate potential pathways for leachate or leachate-impacted groundwater in the remote possibility of a landfill liner leak as the Phase II Expansion cells are developed.

7.1.4 Proposed Surface Water and Pore-Water Monitoring Locations Around the Phase II Expansion

Two surface water monitoring locations, SW23-4 and SW25-5, and their associated pore-water monitoring locations, PWS23-4, and PWS25-5, were previously added to the JRL EMP during the development of the Phase I Expansion. These monitoring locations are interpreted to be hydraulically downgradient from the Phase II Expansion. Monitoring at locations SW23-4 and PWS23-4 began in 2023 and monitoring at locations SW25-5 and PWS25-5 will begin in 2025, and these locations will continue to be monitored in accordance with the revised EMP.

One additional surface water monitoring location, SW-6, and one additional pore-water monitoring location, PWS-6, will be established to the west of the Phase II Expansion at the start of an unnamed and unmapped drainage to Judkins Brook (see Figure 7-1). Monitoring locations SW-6 and PWS-6 are located approximately 907 feet west of the Phase II Expansion boundary.

7.2 Proposed Future Sampling Parameters

The Phase II Expansion monitoring locations will be tested during the first four routinely scheduled monitoring events for the parameters specified in the revised EMP to characterize baseline groundwater quality. Thereafter, detection monitoring parameters will be used for Phase II Expansion monitoring locations at the frequency specified in the revised EMP.

7.3 Proposed Sampling Frequencies

Samples will be collected at a frequency of three times per year for water quality testing, which is the current sampling frequency for the existing JRL and is consistent with the Site sampling history and calculated groundwater velocities for the Site. The leachate, leak detection, and underdrain systems will be tested for specific conductance and flow every two weeks to evaluate the Phase II Expansion liner performance.

8.0 FINDINGS AND CONCLUSIONS

The Phase II Expansion Site has been thoroughly investigated by SME since 2004. These investigations, as well as investigations at the Site since 1990 for permitting the original JRL and subsequent monitoring, have provided a comprehensive understanding of the Site and its regional surroundings. Off-site groundwater users along Routes 16 and 43 and significant sand and gravel aquifers are hydrogeologically isolated from the Phase II Expansion by the surface waters and hydraulic boundaries that surround the Phase II Expansion Site's hilly topography. The properties along Old Stagecoach Road that are nearest to the Phase II Expansion are at approximately the same elevation as the northern Phase II Expansion footprint boundary but are hydraulically isolated by the local topographic saddle just north of the Phase II Expansion boundary. Additionally, the general geology of the Site, consisting of dense basil till soils overlying bedrock, limits the average velocity of groundwater from the site and allows for a groundwater travel time of more than six years to potential sensitive receptors with limited engineered improvement allowances.

As demonstrated by this report, the Phase II Expansion meets all the prohibitive and restrictive siting criteria contained in Ch. 401.1.C(2) and Ch. 401.1.C(3). The evaluation of known Site geologic and hydrogeologic conditions also demonstrates that the Phase II Expansion will meet the performance standards contained in Ch. 401.1.C(1). As such, development of the Phase II Expansion will not require any siting variances from the Rules.

The EMP for the existing Landfill has been updated to include the Phase II Expansion, and specifies the locations for monitoring the groundwater, pore-water, surface water, stormwater, landfill underdrain, former leachate pond underdrain, leak detection systems, and leachate. This EMP is based on (1) an extensive study of the natural soil and bedrock hydrogeology at the Site, (2) the engineered designs of the existing JRL and Phase II Expansion, and (3) conformance with minimum requirements for travel time from landfill liner potential leaks to sensitive receptors. The leachate and leak detection systems underlying both the proposed and existing landfill cells are an integral component of the EMP, as they will detect potential leachate leaks long before any groundwater quality changes would be detected at groundwater monitoring locations outside of the perimeter of the landfill. In the unlikely occurrence of a leachate leak, the EMP will allow for early detection and remedial action to protect the Site's potential sensitive receptors.

In summary, the Phase II Expansion can be approved and developed in accordance with the MEDEP's Solid Waste Management Rules and other applicable requirements.

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APPENDIX A

MEDEP NOVEMBER 6, 2023 LETTER, "DETERMINATION OF ENVIRONMENTAL FEASIBILITY" PHASE II EXPANSION

SME
SEVEE & MAHER
ENGINEERS

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

November 6, 2023

Jeffrey Pelletier, Environmental Manager
NEWSME Landfill Operations, LLC
358 Emerson Mill Road
Hampden, ME 04444
(via e-mail)

Re: Juniper Ridge Landfill Expansion
Old Town, Maine
Determination of Environmental Feasibility

Dear Mr. Pelletier:

The Department has completed its review of the Preliminary Information Report ("PIR") for a proposed expansion of the Juniper Ridge Landfill, prepared by Sevee & Maher Engineers, dated August 2023. The PIR was submitted by NEWSME Landfill Operations, LLC on behalf of the State of Maine, via the Bureau of General Services in the Department of Administrative and Financial Services.

The PIR provided the information required by the *Solid Waste Management Rules*, 06-096 C.M.R. ch. 401, §1(E) (last amended April 6, 2015). Based on our review of the information provided, the Department has determined that the proposed expansion is environmentally feasible and that the prohibitive siting criteria of 06-096 C.M.R. ch. 401, §1(C)(2) have been met. This determination of environmental feasibility does not constitute the Department's approval of the expansion, the site, or any potential variance requests. This determination is the Department's concurrence with the applicant that the site warrants further investigation to determine its suitability and to further define the facility design.

Sincerely,

KAREN KNUUTI
Division of Materials Management
Bureau of Remediation and Waste Management
Eastern Maine Regional Office

Copy (via e-mail): William Longfellow, DAFS, BGS
Rhonda Forrester, SME
Kathy Tarbuck, Sean Dougherty, MDEP
David Russell, City of Old Town

2023_11_06 JRL DEF ats91467

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APPENDIX B

1900 – 2024 EARTHQUAKE DATA

SME
SEVEE & MAHER
ENGINEERS

EARTHQUAKE SURVEY REPORT

1900 - Present Within 50Km of Site

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	State Plane Coordinates (feet) North/East:	
SITE:							
CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE				**Approximate Center Stat**		**479836.977 N**	**926096.739 E**
Bin 1: 0-24 Km		Number of Quakes: 9			Mag Min,max, ave: 0.5	3.5	1.243
1017	5/26/1926	ORONO		9.4	5.8	449641.53	932428.602
1276	8/22/1938	BANGOR	3.5	11.5	7.2	446066.301	909095.949
6016	5/1/2011	8.0KM S OF ORONO	0.9	20.1	12.5	416803.281	945323.367
7101	3/15/2016	5.0KM E OF BANGOR	0.5	20.3	12.6	413199.059	927147.74
3513	5/27/1983	E OF BANGOR - POSS BLAST	1.5	20.6	12.8	416794.343	950513.585
902	12/12/1918	BANGOR		21.2	13.2	413265.455	906383.281
7819	12/15/2022	14.0KM E OF BREWER	1	21.4	13.3	420423.15	963492.717
7353	1/18/2018	22.0KM ESE OF DEXTER	0.5	23.3	14.5	475528.77	849677.948
7822	12/17/2022	17.0KM E OF BREWER	0.8	24.6	15.3	413125.801	971272.214
Bin 2: 25-49 Km		Number of Quakes: 153			Mag Min,max, ave: 0.2	4.5	1.701
5501	10/25/2001	42KM NE OF BANGOR	3.2	26.4	16.4	558962.091	961051.958
7032	12/1/2015	17.0KM ESE OF ORONO	1.1	26.5	16.5	420413.574	989439.321
5604	1/20/2006	21KM SE OF DOVER-FOXCROFT	1.7	27.3	17.0	486552.783	836815.246
7817	11/27/2022	14.0KM ESE OF BREWER	0.6	27.7	17.2	394910.073	958272.021
7828	1/14/2023	19.0KM E OF BREWER	0.3	27.7	17.2	405831.351	979057.093
4197	5/11/1987	15 KM N-NE OF DOVER-FOXCR	1.9	27.8	17.3	530214.46	850029.178
7834	1/16/2023	14.0KM ESE OF BREWER	0.2	28.0	17.4	394907.041	960869.819
7969	8/27/2023	5.0KM NW OF HAMPDEN CENTER	0.6	28.7	17.8	402480.28	872583.21
6090	10/8/2011	12.0KM ESE OF HOWLAND	1.4	29.0	18.0	558949.801	979094.88
5920	3/30/2010	10.0KM SE OF BANGOR	1.1	29.3	18.2	384021.411	932267.172
5514	5/11/2002	10MI NE OF NEWPORT	3.3	29.9	18.6	446468.998	833941.887
7835	1/18/2023	16.0KM ESE OF BREWER	1	30.0	18.7	387616.007	960861.757
7818	11/27/2022	22.0KM E OF BREWER	0.5	30.1	18.7	402185.333	986846.902
7826	1/14/2023	19.0KM ESE OF BREWER	1.1	30.1	18.7	394895.55	976456.606
7820	12/15/2022	18.0KM ESE OF BREWER	1	30.3	18.8	391252.583	971258.771
3654	3/6/1984	NEAR DOVER FOXCROFT	1.8	30.4	18.9	486628.121	826468.947
7821	12/15/2022	19.0KM ESE OF BREWER	1	31.7	19.7	387605.633	973855.226
4060	8/22/1986	4 KM S OF BURLINGTON	2.5	31.8	19.7	548021.971	1004881.315
3831	3/4/1985	15 KM E OF DOVER-FOXCROFT	2.1	31.8	19.8	548460.1	847567.547
6803	3/28/2014	24.0KM ESE OF MILFORD	1.1	31.9	19.8	435026.543	1020550.121
2710	10/2/1977	DOVER-FOXCROFT	3.1	32.9	20.5	544866.505	839805.535
3978	3/19/1986	15 KM ESE OF DOVER-FOXCROFT	2	32.9	20.5	544866.505	839805.535
6012	4/30/2011	7.0KM NNE OF BUCKSPORT CENTER	0.9	32.9	20.5	373155.309	908835.957
5621	5/29/2006	12.07KM ESE OF DOVER-FOXCROFT	1.5	33.0	20.5	537611.338	834594.474
7825	1/13/2023	20.0KM ESE OF BREWER	1.5	33.0	20.5	383959.008	976452.576
5792	10/25/2008	EXETER 28KM NW OF BANGOR	2.2	33.3	20.7	461168.343	818507.771
3380	10/20/1982	ENDLESS LAKE	1.3	33.4	20.8	577459.849	876087.337
7830	1/14/2023	20.0KM ESE OF BREWER	2	33.6	20.9	380314.624	973851.644
7781	9/4/2021	21.0KM ESE OF BANGOR	0.8	33.6	20.9	380314.624	973851.644
7853	4/21/2024	20.0KM WNW OF BEDDINGTON	1.8	33.7	20.9	453280.929	1033471.793
2998	7/12/1980	S OF BANGOR	2	33.8	21.0	373205.583	895833.534
5796	11/2/2008	10.2KM SE OF DOVER-FOXCROFT	1.4	34.0	21.1	530376.787	826798.653
7833	1/14/2023	19.0KM SE OF BREWER	3.2	34.0	21.1	376672.321	968649.78

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	State Plane Coordinates (feet) North/East:	
7831	1/14/2023	20.0KM SE OF BREWER	1.9	34.0	21.1	376672.321	968649.78
7832	1/14/2023	20.0KM SE OF BREWER	1.8	34.0	21.1	376672.321	968649.78
5919	3/30/2010	14.0KM S OF BANGOR	3	34.8	21.6	365829.878	919215.526
5711	7/13/2007	12.2KM SW OF MILO	1.2	34.9	21.7	541294.783	829461.005
7827	1/14/2023	24.0KM ESE OF BREWER	0.4	35.0	21.8	383958.21	989448.283
5605	1/20/2006	9.3KM SE OF DOVER-FOXCROFT	1.8	35.2	21.9	534042.183	824245.442
7829	1/14/2023	20.0KM SE OF BREWER	0.7	35.3	22.0	373025.078	971247.579
6722	7/22/2013	21.0KM W OF BEDDINGTON	1.2	35.5	22.1	424104.633	1028351.602
7693	4/11/2020	5.0KM NNW OF WINTERPORT	2.2	35.6	22.1	369594.094	888015.525
6935	4/7/2015	29.0KM SSE OF LINCOLN CENTER	0.6	36.2	22.5	540766.31	1028106.885
4929	9/9/1990	2 KM WEST OF SEBEC CORNERS	1.7	36.8	22.9	552232.149	829542.23
5712	7/14/2007	12.6KM SW OF MILO	1.6	36.8	22.9	544979.511	824329.345
6848	8/3/2014	4.0KM NW OF WINTERPORT	1.6	36.9	22.9	365960.588	885397.594
4287	10/20/1987	15 KM E OF DOVER-FOXCROFT	1.5	36.9	23.0	559486.09	834751.522
6060	7/14/2011	11KM E OF BUCKSPORT CENTER	1.3	37.0	23.0	358503.036	932204.532
3189	10/7/1981	E OF DOVER-FOXCROFT	2.2	37.1	23.0	563113.549	837354.821
1130	11/13/1930	CORINNA		37.5	23.3	486816.309	803189.773
3475	3/10/1983	E OF DOVER-FOXCROFT	1.6	37.8	23.5	526853.615	811281.43
3235	1/19/1982	SEBEC LAKE	2.2	37.8	23.5	573997.879	845159.324
2014	9/8/1967	DOVER-FOXCROFT	2.5	38.1	23.7	559523.759	829596.403
1963	11/7/1966	DOVER-FOXCROFT	2.3	38.1	23.7	559523.759	829596.403
2015	9/8/1967	DOVER-FOXCROFT	0.7	38.1	23.7	559523.759	829596.403
5987	1/17/2011	10.0KM SW OF MILO	1.2	38.3	23.8	563150.579	832200.605
3481	3/16/1983	E OF DOVER-FOXCROFT	1.8	38.7	24.1	552291.047	821806.843
4182	4/25/1987	N5 KM E OF DOVER-FOXCROFT	2.8	38.7	24.1	555916.896	824413.292
3820	2/6/1985	16 KM SE OF DOVER-FOXCROF	1.9	38.7	24.1	555916.896	824413.292
3147	8/19/1981	E OF DOVER FOXCROFT	2	39.0	24.2	566796.399	832227.252
7409	5/21/2018	9.0KM ENE OF DOVER-FOXCROFT	2.3	39.4	24.5	559562.704	824441.285
5488	7/13/2001	S OF DOVER-FOXCROFT	1.6	39.4	24.5	512358.759	800826.961
3152	8/22/1981	SE OF DOVER FOXCROFT	1.9	39.6	24.6	566815.393	829650.596
7208	12/19/2016	6.0KM SE OF DOVER-FOXCROFT	1.3	39.7	24.7	541436.681	811402.292
7852	4/21/2024	18.0KM NW OF BEDDINGTON		39.9	24.8	471576.655	1056724.463
2970	5/7/1980	GRAHAM LAKE	1.8	39.9	24.8	383980.554	1015439.697
6549	7/27/2012	7.0KM ENE OF DOVER-FOXCROFT	1	40.0	24.9	559582.656	821863.725
5555	6/22/2004	9.6KM (6mi) NE OF DOVER-FOXCROFT	2	40.1	24.9	563208.518	824469.282
3024	9/8/1980	NE OF DIXMONT	3.2	40.1	24.9	369774.601	854203.403
7851	4/21/2024	14.0KM WNW OF BEDDINGTON	0.3	40.1	24.9	449694.042	1054208.888
2764	2/15/1978	DOVER-FOXCROFT	2	40.2	25.0	566834.706	827073.94
3072	2/15/1981	SW OF DOVER-FOXCROFT	1.7	40.2	25.0	566834.706	827073.94
2971	5/10/1980	MILO	2.6	40.3	25.1	570461.22	829677.7
3398	11/21/1982	SE OF DOVER-FOXCROFT	1.7	40.3	25.1	570461.22	829677.7
5345	8/4/1994	SE OF DOVER-FOSCROFT	3	40.4	25.1	584935.417	845232.541
5869	11/17/2009	45.4KM NE OF ORONO	1	40.6	25.2	559006.781	1033223.643
5298	5/8/1992	DOVER-FOXCROFT	2.7	40.6	25.2	555977.709	816679.26
2542	10/5/1976	DOVER-FOXCROFT	1.7	40.6	25.2	555977.709	816679.26
2850	10/4/1978	DOVER-FOXCROFT	0.7	40.6	25.2	555977.709	816679.26
3069	2/9/1981	SE OF DOVER-FOXCROFT	0.9	40.7	25.3	563228.47	821892.174
6548	7/26/2012	5.0KM ESE OF DOVER-FOXCROFT	1	40.8	25.3	548728.251	811462.754
7514	4/1/2019	9.0KM ENE OF DOVER-FOXCROFT	0.8	40.8	25.3	566854.338	824497.284
7419	6/9/2018	9.0KM ENE OF DOVER-FOXCROFT	0.7	40.8	25.3	566854.338	824497.284
7866	3/28/2024	10.0KM ENE OF DOVER-FOXCROFT	0.5	40.8	25.3	566854.338	824497.284
6011	4/30/2011	2KM SSE OF BUCKSPORT CENTER	1.6	41.0	25.5	347666.272	900934.334

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	State Plane Coordinates (feet) North/East:	
2962	4/21/1980	NORTHERN GRAHAM LAKE	2.6	41.0	25.5	383988.853	1020637.979
6001	3/25/2011	16.0KM SSE OF LINCOLN CENTER	2.2	41.0	25.5	580847.133	1015148.196
3566	10/6/1983	E OF DOVER-FOXCROFT	1.5	41.1	25.5	574107.053	829704.808
3599	12/4/1983	NEAR DOVER-FOXCROFT	3.3	41.3	25.7	555998.619	814101.249
3227	1/7/1982	NE OF SEBEC LAKE	2	41.3	25.7	577733.899	832307.221
1061	2/8/1928	MILO	4.5	41.4	25.7	595806.616	855597.957
1968	1/8/1967	MILO	1.8	41.4	25.7	595806.616	855597.957
1068	3/22/1928	MILO		41.4	25.7	595806.616	855597.957
1059	1/21/1928	MILO		41.4	25.7	595806.616	855597.957
1062	2/8/1928	MILO		41.4	25.7	595806.616	855597.957
1063	2/8/1928	MILO		41.4	25.7	595806.616	855597.957
1069	3/28/1928	MILO		41.4	25.7	595806.616	855597.957
1070	3/29/1928	MILO		41.4	25.7	595806.616	855597.957
6638	1/29/2013	9.0KM ENE OF DOVER-FOXCROFT	1.8	41.4	25.7	566874.29	821920.628
5578	5/11/2005	9.5KM (6mi) NE OF DOVER-FOXCROFT	2.4	41.5	25.8	570500.165	824525.291
2960	4/10/1980	NE OF GRAHAM LAKE	3.1	41.8	26.0	380343.352	1020644.247
7003	8/16/2015	6.0KM ENE OF DOVER-FOXCROFT	0.9	41.9	26.1	563269.331	816737.959
5954	9/9/2010	25.0KM NNW OF BEDDINGTON	0.6	42.0	26.1	504406.353	1061779.718
6130	1/21/2012	9.0KM NE OF DOVER-FOXCROFT	1.4	42.1	26.2	570520.117	821949.087
5872	11/21/2009	48.5KM NNE OF ORONO	0.7	42.2	26.2	573578.588	1028037.809
4196	5/11/1987	15 KM E-NE OF DOVER-FOXCR	1.9	42.2	26.2	574145.998	824553.303
7017	10/17/2015	7.0KM W OF MILO	0.6	42.4	26.4	585006.923	834934.954
7265	6/1/2017	6.0KM ENE OF DOVER-FOXCROFT	1.2	42.6	26.4	563290.24	814160.851
7539	6/5/2019	8.0KM NE OF DOVER-FOXCROFT	1	42.7	26.5	570540.388	819372.882
4027	6/24/1986	DOVER-FOXCROFT (FELT AND	2.7	43.2	26.8	559687.203	808975.929
1973	2/5/1967	WEST OF BANGOR	1.5	43.2	26.9	377241.137	828247.769
3052	11/22/1980	SW OF MILO	2.6	43.2	26.9	566936.06	814190.66
6024	5/3/2011	4.0KM S OF BUCKSPORT CENTER	1.3	43.3	26.9	340385.776	898301.228
6014	4/30/2011	4.0KM S OF BUCKSPORT CENTER (PO	1.3	43.5	27.0	340396.468	895696.719
5682	2/26/2007	10.8KM NNW OF ELLSWORTH	1.7	43.9	27.2	354797.732	997263.602
2907	9/27/1979	NE OF ELLSWORTH	2.2	44.0	27.3	373056.997	1023257.262
5802	12/17/2008	SEBEC AREA	1.5	44.0	27.4	595908.127	840159.716
3153	8/22/1981	SE OF DOVER FOXCROFT	1.8	44.5	27.6	566978.837	809037.348
1515	12/28/1947	DOVER-FOXCROFT	3.9	44.5	27.7	559731.257	803820.81
1537	11/29/1948	DOVER-FOXCROFT	3	44.5	27.7	559731.257	803820.81
1966	12/1/1966	DOVER-FOXCROFT	1.7	44.5	27.7	559731.257	803820.81
1064	2/9/1928	DOVER-FOXCROFT		44.5	27.7	559731.257	803820.81
1538	11/29/1948	DOVER-FOXCROFT		44.5	27.7	559731.257	803820.81
1065	2/17/1928	DOVER-FOXCROFT		44.5	27.7	559731.257	803820.81
5879	12/2/2009	10.9KM WNW OF MILO	1.5	44.6	27.7	585083.535	824637.368
6013	4/30/2011	5.0KM S OF BUCKSPORT CENTER	1.3	44.6	27.7	336751.043	895681.531
6147	2/28/2012	15.0KM SSW OF DOVER-FOXCROFT	1.6	44.6	27.7	508879.516	782707.864
2787	4/14/1978	MONROE	1.8	44.6	27.7	358904.581	843727.212
4064	8/31/1986	10 KM W OF BUCKSPORT	2.6	44.7	27.8	347855.391	861880.104
3917	10/15/1985	6 KM NE OF DOVER-FOXCROFT	2	45.1	28.0	585103.487	822062.971
7471	12/9/2018	16.0KM NNW OF BEDDINGTON	1.6	45.3	28.2	478938.372	1074811.6
2758	1/24/1978	ELLSWORTH	1.2	45.6	28.3	391340.523	1046607.901
5503	12/27/2001	56KM ENE OF BANGOR	2.6	45.7	28.4	500812.514	1074717.098
2202	3/25/1973	N.OF MILO	2.9	46.0	28.6	595982.185	829867.556
2347	7/22/1975	DOVER-FOXCROFT	1.7	46.0	28.6	595982.185	829867.556
7871	3/17/2024	14.0KM W OF BUCKSPORT CENTER	1.1	46.2	28.7	347917.952	851465.641
7652	1/12/2020	22.0KM SW OF BEDDINGTON	1.3	46.3	28.8	384042	1044030.253

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	State Plane Coordinates (feet) North/East:	
7266	6/7/2017	16.0KM W OF BUCKSPORT CENTER	2.1	47.0	29.2	347951.148	846258.409
7314	9/28/2017	8.0KM NNE OF DOVER-FOXCROFT	0.8	47.1	29.3	577938.202	806554.216
6009	4/30/2011	7KM SSW OF BUCKSPORT CENTER	1.3	47.3	29.4	329494.204	887833.617
3321	7/8/1982	20 KM NE OF ELLSWORTH	2.1	47.3	29.4	373091.47	1038860.168
7602	10/23/2019	10.0KM NNE OF DOVER-FOXCROFT	0.2	47.4	29.4	585186.485	811765.386
5087	6/7/1991	23 MILES NE OF ELLSWORTH	2.6	47.4	29.5	457087.444	1080086.346
3326	7/19/1982	E OF GRAHAM LAKE	2	47.9	29.8	373098.333	1041460.652
6025	5/4/2011	9.0KM SSW OF BUCKSPORT CENTER	1.3	48.2	29.9	325837.148	890423.393
3284	4/15/1982	NW OF DOVER-FOXCROFT	1.6	48.2	29.9	552603.893	785708.373
5076	5/23/1991	10 KM NW OF BEDDINGTON	2.2	48.5	30.1	431556.519	1077609.327
7836	1/19/2023	12.0KM W OF ELLSWORTH	2	48.5	30.2	325638.143	966005.939
5086	6/7/1991	23 MILES NE OF ELLSWORTH	2.6	49.2	30.6	424265.356	1077641.631
3098	6/16/1981	E OF ELLSWORTH	2	49.3	30.6	354839.865	1028496.248
7218	1/7/2017	8.0KM N OF DOVER-FOXCROFT	0.9	49.7	30.9	581651.564	798860.857
5487	7/2/2001	PENOBSCOT REGION	1.3	49.8	30.9	318502.948	900820.007
7473	12/18/2018	14.0KM NW OF MILO	1.7	49.9	31.0	614192.643	832574.088
		Total Number of Quakes:	162		Mag Min,max, ave:	0.2	4.5 1.6792

Data Source(s):

Weston Observatory at Boston College.

Downloaded from Source: 2/6/2023

Last Event on Record: 2/6/2023

http://www.bc.edu/research/westonobservatory/northeast/eqcatalogs/

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
1017	5/26/1926	ORONO		9.4	5.8	449641.5	932428.6
1276	8/22/1938	BANGOR	3.5	11.5	7.2	446066.3	909095.9
6016	5/1/2011	8.0KM S OF ORONO	0.9	20.1	12.5	416803.3	945323.4
7101	3/15/2016	5.0KM E OF BANGOR	0.5	20.3	12.6	413199.1	927147.7
3513	5/27/1983	E OF BANGOR - POSS BLAST	1.5	20.6	12.8	416794.3	950513.6
902	12/12/1918	BANGOR		21.2	13.2	413265.5	906383.3
7819	12/15/2022	14.0KM E OF BREWER	1	21.4	13.3	420423.2	963492.7
7353	1/18/2018	22.0KM ESE OF DEXTER	0.5	23.3	14.5	475528.8	849677.9
7822	12/17/2022	17.0KM E OF BREWER	0.8	24.6	15.3	413125.8	971272.2
5501	10/25/2001	42KM NE OF BANGOR	3.2	26.4	16.4	558962.1	961052.0
7032	12/1/2015	17.0KM ESE OF ORONO	1.1	26.5	16.5	420413.6	989439.3
5604	1/20/2006	21KM SE OF DOVER-FOXCROFT	1.7	27.3	17.0	486552.8	836815.2
7817	11/27/2022	14.0KM ESE OF BREWER	0.6	27.7	17.2	394910.1	958272.0
7828	1/14/2023	19.0KM E OF BREWER	0.3	27.7	17.2	405831.4	979057.1
4197	5/11/1987	15 KM N-NE OF DOVER-FOXCR	1.9	27.8	17.3	530214.5	850029.2
7834	1/16/2023	14.0KM ESE OF BREWER	0.2	28.0	17.4	394907.0	960869.8
7969	8/27/2023	5.0KM NW OF HAMPDEN CENTER	0.6	28.7	17.8	402480.3	872583.2
6090	10/8/2011	12.0KM ESE OF HOWLAND	1.4	29.0	18.0	558949.8	979094.9
5920	3/30/2010	10.0KM SE OF BANGOR	1.1	29.3	18.2	384021.4	932267.2
5514	5/11/2002	10MI NE OF NEWPORT	3.3	29.9	18.6	446469.0	833941.9
7835	1/18/2023	16.0KM ESE OF BREWER	1	30.0	18.7	387616.0	960861.8
7818	11/27/2022	22.0KM E OF BREWER	0.5	30.1	18.7	402185.3	986846.9
7826	1/14/2023	19.0KM ESE OF BREWER	1.1	30.1	18.7	394895.6	976456.6
7820	12/15/2022	18.0KM ESE OF BREWER	1	30.3	18.8	391252.6	971258.8
3654	3/6/1984	NEAR DOVER FOXCROFT	1.8	30.4	18.9	486628.1	826468.9
7821	12/15/2022	19.0KM ESE OF BREWER	1	31.7	19.7	387605.6	973855.2
4060	8/22/1986	4 KM S OF BURLINGTON	2.5	31.8	19.7	548022.0	1004881.3
3831	3/4/1985	15 KM E OF DOVER-FOXCROFT	2.1	31.8	19.8	548460.1	847567.5
6803	3/28/2014	24.0KM ESE OF MILFORD	1.1	31.9	19.8	435026.5	1020550.1
2710	10/2/1977	DOVER-FOXCROFT	3.1	32.9	20.5	544866.5	839805.5
3978	3/19/1986	15 KM ESE OF DOVER-FOXCROFT	2	32.9	20.5	544866.5	839805.5
6012	4/30/2011	7.0KM NNE OF BUCKSPORT CENTER	0.9	32.9	20.5	373155.3	908836.0
5621	5/29/2006	12.07KM ESE OF DOVER-FOXCROFT	1.5	33.0	20.5	537611.3	834594.5
7825	1/13/2023	20.0KM ESE OF BREWER	1.5	33.0	20.5	383959.0	976452.6
5792	10/25/2008	EXETER 28KM NW OF BANGOR	2.2	33.3	20.7	461168.3	818507.8
3380	10/20/1982	ENDLESS LAKE	1.3	33.4	20.8	577459.8	876087.3
7830	1/14/2023	20.0KM ESE OF BREWER	2	33.6	20.9	380314.6	973851.6
7781	9/4/2021	21.0KM ESE OF BANGOR	0.8	33.6	20.9	380314.6	973851.6
7853	4/21/2024	20.0KM WNW OF BEDDINGTON	1.8	33.7	20.9	453280.9	1033471.8
2998	7/12/1980	S OF BANGOR	2	33.8	21.0	373205.6	895833.5
5796	11/2/2008	10.2KM SE OF DOVER-FOXCROFT	1.4	34.0	21.1	530376.8	826798.7
7833	1/14/2023	19.0KM SE OF BREWER	3.2	34.0	21.1	376672.3	968649.8
7831	1/14/2023	20.0KM SE OF BREWER	1.9	34.0	21.1	376672.3	968649.8
7832	1/14/2023	20.0KM SE OF BREWER	1.8	34.0	21.1	376672.3	968649.8
5919	3/30/2010	14.0KM S OF BANGOR	3	34.8	21.6	365829.9	919215.5
5711	7/13/2007	12.2KM SW OF MILO	1.2	34.9	21.7	541294.8	829461.0
7827	1/14/2023	24.0KM ESE OF BREWER	0.4	35.0	21.8	383958.2	989448.3
5605	1/20/2006	9.3KM SE OF DOVER-FOXCROFT	1.8	35.2	21.9	534042.2	824245.4
7829	1/14/2023	20.0KM SE OF BREWER	0.7	35.3	22.0	373025.1	971247.6

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
6722	7/22/2013	21.0KM W OF BEDDINGTON	1.2	35.5	22.1	424104.6	1028351.6
7693	4/11/2020	5.0KM NNW OF WINTERPORT	2.2	35.6	22.1	369594.1	888015.5
6935	4/7/2015	29.0KM SSE OF LINCOLN CENTER	0.6	36.2	22.5	540766.3	1028106.9
4929	9/9/1990	2 KM WEST OF SEBEC CORNERS	1.7	36.8	22.9	552232.1	829542.2
5712	7/14/2007	12.6KM SW OF MILO	1.6	36.8	22.9	544979.5	824329.3
6848	8/3/2014	4.0KM NW OF WINTERPORT	1.6	36.9	22.9	365960.6	885397.6
4287	10/20/1987	15 KM E OF DOVER-FOXCROFT	1.5	36.9	23.0	559486.1	834751.5
6060	7/14/2011	11KM E OF BUCKSPORT CENTER	1.3	37.0	23.0	358503.0	932204.5
3189	10/7/1981	E OF DOVER-FOXCROFT	2.2	37.1	23.0	563113.5	837354.8
1130	11/13/1930	CORINNA		37.5	23.3	486816.3	803189.8
3475	3/10/1983	E OF DOVER-FOXCROFT	1.6	37.8	23.5	526853.6	811281.4
3235	1/19/1982	SEBEC LAKE	2.2	37.8	23.5	573997.9	845159.3
2014	9/8/1967	DOVER-FOXCROFT	2.5	38.1	23.7	559523.8	829596.4
1963	11/7/1966	DOVER-FOXCROFT	2.3	38.1	23.7	559523.8	829596.4
2015	9/8/1967	DOVER-FOXCROFT	0.7	38.1	23.7	559523.8	829596.4
5987	1/17/2011	10.0KM SW OF MILO	1.2	38.3	23.8	563150.6	832200.6
3481	3/16/1983	E OF DOVER-FOXCROFT	1.8	38.7	24.1	552291.0	821806.8
4182	4/25/1987	N5 KM E OF DOVER-FOXCROFT	2.8	38.7	24.1	555916.9	824413.3
3820	2/6/1985	16 KM SE OF DOVER-FOXCROF	1.9	38.7	24.1	555916.9	824413.3
3147	8/19/1981	E OF DOVER FOXCROFT	2	39.0	24.2	566796.4	832227.3
7409	5/21/2018	9.0KM ENE OF DOVER-FOXCROFT	2.3	39.4	24.5	559562.7	824441.3
5488	7/13/2001	S OF DOVER-FOXCROFT	1.6	39.4	24.5	512358.8	800827.0
3152	8/22/1981	SE OF DOVER FOXCROFT	1.9	39.6	24.6	566815.4	829650.6
7208	12/19/2016	6.0KM SE OF DOVER-FOXCROFT	1.3	39.7	24.7	541436.7	811402.3
7852	4/21/2024	18.0KM NW OF BEDDINGTON		39.9	24.8	471576.7	1056724.5
2970	5/7/1980	GRAHAM LAKE	1.8	39.9	24.8	383980.6	1015439.7
6549	7/27/2012	7.0KM ENE OF DOVER-FOXCROFT	1	40.0	24.9	559582.7	821863.7
5555	6/22/2004	9.6KM (6mi) NE OF DOVER-FOXCROFT	2	40.1	24.9	563208.5	824469.3
3024	9/8/1980	NE OF DIXMONT	3.2	40.1	24.9	369774.6	854203.4
7851	4/21/2024	14.0KM WNW OF BEDDINGTON	0.3	40.1	24.9	449694.0	1054208.9
2764	2/15/1978	DOVER-FOXCROFT	2	40.2	25.0	566834.7	827073.9
3072	2/15/1981	SW OF DOVER-FOXCROFT	1.7	40.2	25.0	566834.7	827073.9
2971	5/10/1980	MILO	2.6	40.3	25.1	570461.2	829677.7
3398	11/21/1982	SE OF DOVER-FOXCROFT	1.7	40.3	25.1	570461.2	829677.7
5345	8/4/1994	SE OF DOVER-FOSCROFT	3	40.4	25.1	584935.4	845232.5
5869	11/17/2009	45.4KM NE OF ORONO	1	40.6	25.2	559006.8	1033223.6
5298	5/8/1992	DOVER-FOXCROFT	2.7	40.6	25.2	555977.7	816679.3
2542	10/5/1976	DOVER-FOXCROFT	1.7	40.6	25.2	555977.7	816679.3
2850	10/4/1978	DOVER-FOXCROFT	0.7	40.6	25.2	555977.7	816679.3
3069	2/9/1981	SE OF DOVER-FOXCROFT	0.9	40.7	25.3	563228.5	821892.2
6548	7/26/2012	5.0KM ESE OF DOVER-FOXCROFT	1	40.8	25.3	548728.3	811462.8
7514	4/1/2019	9.0KM ENE OF DOVER-FOXCROFT	0.8	40.8	25.3	566854.3	824497.3
7419	6/9/2018	9.0KM ENE OF DOVER-FOXCROFT	0.7	40.8	25.3	566854.3	824497.3
7866	3/28/2024	10.0KM ENE OF DOVER-FOXCROFT	0.5	40.8	25.3	566854.3	824497.3
6011	4/30/2011	2KM SSE OF BUCKSPORT CENTER	1.6	41.0	25.5	347666.3	900934.3
2962	4/21/1980	NORTHERN GRAHAM LAKE	2.6	41.0	25.5	383988.9	1020638.0
6001	3/25/2011	16.0KM SSE OF LINCOLN CENTER	2.2	41.0	25.5	580847.1	1015148.2
3566	10/6/1983	E OF DOVER-FOXCROFT	1.5	41.1	25.5	574107.1	829704.8
3599	12/4/1983	NEAR DOVER-FOXCROFT	3.3	41.3	25.7	555998.6	814101.2

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
3227	1/7/1982	NE OF SEBEC LAKE	2	41.3	25.7	577733.9	832307.2
1061	2/8/1928	MILO	4.5	41.4	25.7	595806.6	855598.0
1968	1/8/1967	MILO	1.8	41.4	25.7	595806.6	855598.0
1059	1/21/1928	MILO		41.4	25.7	595806.6	855598.0
1069	3/28/1928	MILO		41.4	25.7	595806.6	855598.0
1070	3/29/1928	MILO		41.4	25.7	595806.6	855598.0
1063	2/8/1928	MILO		41.4	25.7	595806.6	855598.0
1068	3/22/1928	MILO		41.4	25.7	595806.6	855598.0
1062	2/8/1928	MILO		41.4	25.7	595806.6	855598.0
6638	1/29/2013	9.0KM ENE OF DOVER-FOXCROFT	1.8	41.4	25.7	566874.3	821920.6
5578	5/11/2005	9.5KM (6mi) NE OF DOVER-FOXCROFT	2.4	41.5	25.8	570500.2	824525.3
2960	4/10/1980	NE OF GRAHAM LAKE	3.1	41.8	26.0	380343.4	1020644.2
7003	8/16/2015	6.0KM ENE OF DOVER-FOXCROFT	0.9	41.9	26.1	563269.3	816738.0
5954	9/9/2010	25.0KM NNW OF BEDDINGTON	0.6	42.0	26.1	504406.4	1061779.7
6130	1/21/2012	9.0KM NE OF DOVER-FOXCROFT	1.4	42.1	26.2	570520.1	821949.1
5872	11/21/2009	48.5KM NNE OF ORONO	0.7	42.2	26.2	573578.6	1028037.8
4196	5/11/1987	15 KM E-NE OF DOVER-FOXCR	1.9	42.2	26.2	574146.0	824553.3
7017	10/17/2015	7.0KM W OF MILO	0.6	42.4	26.4	585006.9	834935.0
7265	6/1/2017	6.0KM ENE OF DOVER-FOXCROFT	1.2	42.6	26.4	563290.2	814160.9
7539	6/5/2019	8.0KM NE OF DOVER-FOXCROFT	1	42.7	26.5	570540.4	819372.9
4027	6/24/1986	DOVER-FOXCROFT (FELT AND	2.7	43.2	26.8	559687.2	808975.9
1973	2/5/1967	WEST OF BANGOR	1.5	43.2	26.9	377241.1	828247.8
3052	11/22/1980	SW OF MILO	2.6	43.2	26.9	566936.1	814190.7
6024	5/3/2011	4.0KM S OF BUCKSPORT CENTER	1.3	43.3	26.9	340385.8	898301.2
6014	4/30/2011	4.0KM S OF BUCKSPORT CENTER (POOR	1.3	43.5	27.0	340396.5	895696.7
5682	2/26/2007	10.8KM NNW OF ELLSWORTH	1.7	43.9	27.2	354797.7	997263.6
2907	9/27/1979	NE OF ELLSWORTH	2.2	44.0	27.3	373057.0	1023257.3
5802	12/17/2008	SEBEC AREA	1.5	44.0	27.4	595908.1	840159.7
3153	8/22/1981	SE OF DOVER FOXCROFT	1.8	44.5	27.6	566978.8	809037.3
1515	12/28/1947	DOVER-FOXCROFT	3.9	44.5	27.7	559731.3	803820.8
1537	11/29/1948	DOVER-FOXCROFT	3	44.5	27.7	559731.3	803820.8
1966	12/1/1966	DOVER-FOXCROFT	1.7	44.5	27.7	559731.3	803820.8
1064	2/9/1928	DOVER-FOXCROFT		44.5	27.7	559731.3	803820.8
1065	2/17/1928	DOVER-FOXCROFT		44.5	27.7	559731.3	803820.8
1538	11/29/1948	DOVER-FOXCROFT		44.5	27.7	559731.3	803820.8
5879	12/2/2009	10.9KM WNW OF MILO	1.5	44.6	27.7	585083.5	824637.4
6013	4/30/2011	5.0KM S OF BUCKSPORT CENTER	1.3	44.6	27.7	336751.0	895681.5
6147	2/28/2012	15.0KM SSW OF DOVER-FOXCROFT	1.6	44.6	27.7	508879.5	782707.9
2787	4/14/1978	MONROE	1.8	44.6	27.7	358904.6	843727.2
4064	8/31/1986	10 KM W OF BUCKSPORT	2.6	44.7	27.8	347855.4	861880.1
3917	10/15/1985	6 KM NE OF DOVER-FOXCROFT	2	45.1	28.0	585103.5	822063.0
7471	12/9/2018	16.0KM NNW OF BEDDINGTON	1.6	45.3	28.2	478938.4	1074811.6
2758	1/24/1978	ELLSWORTH	1.2	45.6	28.3	391340.5	1046607.9
5503	12/27/2001	56KM ENE OF BANGOR	2.6	45.7	28.4	500812.5	1074717.1
2202	3/25/1973	N.OF MILO	2.9	46.0	28.6	595982.2	829867.6
2347	7/22/1975	DOVER-FOXCROFT	1.7	46.0	28.6	595982.2	829867.6
7871	3/17/2024	14.0KM W OF BUCKSPORT CENTER	1.1	46.2	28.7	347918.0	851465.6
7652	1/12/2020	22.0KM SW OF BEDDINGTON	1.3	46.3	28.8	384042.0	1044030.3
7266	6/7/2017	16.0KM W OF BUCKSPORT CENTER	2.1	47.0	29.2	347951.1	846258.4

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
7314	9/28/2017	8.0KM NNE OF DOVER-FOXCROFT	0.8	47.1	29.3	577938.2	806554.2
6009	4/30/2011	7KM SSW OF BUCKSPORT CENTER	1.3	47.3	29.4	329494.2	887833.6
3321	7/8/1982	20 KM NE OF ELLSWORTH	2.1	47.3	29.4	373091.5	1038860.2
7602	10/23/2019	10.0KM NNE OF DOVER-FOXCROFT	0.2	47.4	29.4	585186.5	811765.4
5087	6/7/1991	23 MILES NE OF ELLSWORTH	2.6	47.4	29.5	457087.4	1080086.3
3326	7/19/1982	E OF GRAHAM LAKE	2	47.9	29.8	373098.3	1041460.7
6025	5/4/2011	9.0KM SSW OF BUCKSPORT CENTER	1.3	48.2	29.9	325837.1	890423.4
3284	4/15/1982	NW OF DOVER-FOXCROFT	1.6	48.2	29.9	552603.9	785708.4
5076	5/23/1991	10 KM NW OF BEDDINGTON	2.2	48.5	30.1	431556.5	1077609.3
7836	1/19/2023	12.0KM W OF ELLSWORTH	2	48.5	30.2	325638.1	966005.9
5086	6/7/1991	23 MILES NE OF ELLSWORTH	2.6	49.2	30.6	424265.4	1077641.6
3098	6/16/1981	E OF ELLSWORTH	2	49.3	30.6	354839.9	1028496.2
7218	1/7/2017	8.0KM N OF DOVER-FOXCROFT	0.9	49.7	30.9	581651.6	798860.9
5487	7/2/2001	PENOBSCOT REGION	1.3	49.8	30.9	318502.9	900820.0
7473	12/18/2018	14.0KM NW OF MILO	1.7	49.9	31.0	614192.6	832574.1
3378	10/16/1982	ENDLESS LAKE	2.5	50.0	31.1	642948.2	907235.4
7887	2/18/2024	13.0KM NNW OF SEARSPORT	1.4	50.1	31.1	329643.4	859169.3
7408	5/18/2018	7.0KM NW OF DEXTER	0.8	50.2	31.2	512707.4	764659.0
5449	12/25/1999	10 KM NNE OF HARTLAND	3.2	50.3	31.3	465340.7	761572.5
7582	8/29/2019	4.0KM WNW OF BEDDINGTON	1	50.4	31.3	435238.0	1085371.8
5753	3/3/2008	36.8KM ENE OF WATERVILLE	1.9	50.6	31.5	351781.7	820250.4
6018	5/2/2011	11.0KM SSW OF BUCKSPORT CENTER	1.5	50.9	31.6	318582.3	882569.7
7762	2/21/2021	6.0KM NNW OF BEDDINGTON	1	50.9	31.6	449846.0	1090483.9
6830	7/4/2014	11.0KM SSW OF DEXTER	0.3	51.1	31.8	465368.3	758983.2
5507	2/25/2002	9KM SSW OF BUCKSPORT	2	51.1	31.8	314878.6	895590.5
5776	7/21/2008	2.3KM NNW OF ELLSWORTH	1.6	51.5	32.0	329283.5	1002490.9
7711	6/28/2020	7.0KM NNW OF DOVER-FOXCROFT	1.1	51.6	32.0	574478.8	785917.0
1406	1/14/1943	DOVER-FOXCROFT	4.3	51.6	32.0	545465.5	770162.7
7260	5/26/2017	18.0KM SE OF BUCKSPORT CENTER	1.8	51.8	32.2	311084.7	945128.8
6010	4/30/2011	12.0KM SSW OF BUCKSPORT CENTER	1.7	52.0	32.3	314936.9	882552.3
6017	5/1/2011	12.0KM SSW OF BUCKSPORT CENTER	1.4	52.0	32.3	314936.9	882552.3
6114	12/12/2011	24.0KM SSW OF MILLINOCKET	1.4	52.0	32.3	650212.8	914961.3
6020	5/2/2011	12.0KM SSW OF BUCKSPORT CENTER	1.7	52.2	32.4	314949.5	879944.7
7429	6/29/2018	20.0KM NNE OF MILO	2.3	52.2	32.5	643099.6	873862.4
2757	1/24/1978	ELLSWORTH	2	52.4	32.5	343909.1	1031123.1
7505	3/11/2019	7.0KM NW OF DOVER-FOXCROFT	0.6	52.4	32.6	567262.3	778117.5
6992	7/13/2015	8.0KM W OF DOVER-FOXCROFT	0.8	52.4	32.6	552757.1	770237.6
5083	6/5/1991	8 KM W OF DEXTER	2.2	52.5	32.6	487298.5	754044.8
7984	7/26/2023	16.0KM NNE OF DOVER-FOXCROFT	0.7	52.6	32.7	607083.3	809375.5
6015	5/1/2011	13.0KM SSW OF BUCKSPORT CENTER	1.7	52.6	32.7	314975.7	874729.4
3520	6/2/1983	E OF ENDLESS LAKE	2.3	53.0	32.9	650303.3	891865.1
7088	2/12/2016	2.0KM ESE OF GUILFORD	1.9	53.0	33.0	545519.2	765004.0
6113	12/11/2011	23.0KM SSW OF MILLINOCKET	1	53.1	33.0	653858.8	914973.6
5370	5/28/1995	GRAHAM LAKE	2	53.3	33.1	358547.1	1051909.1
7169	9/6/2016	9.0KM NW OF DOVER-FOXCROFT	1.8	53.5	33.2	578174.4	780801.2
8002	5/30/2023	21.0KM NE OF ELLSWORTH	0.5	53.7	33.3	362209.8	1057101.1
6021	5/3/2011	14.0KM SSW OF BUCKSPORT CENTER	1.5	53.7	33.4	311330.3	874710.6
7472	12/14/2018	17.0KM NW OF MILO	1.2	54.0	33.6	621582.6	819778.2
6026	5/4/2011	14.0KM SSW OF BUCKSPORT CENTER	1.2	54.1	33.6	307646.1	882517.5

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
6022	5/3/2011	14.0KM SSW OF BUCKSPORT CENTER	1	54.1	33.6	307646.1	882517.5
7059	1/15/2016	1.0KM NNW OF BEDDINGTON	2.3	54.2	33.7	435304.3	1098336.1
6019	5/2/2011	15.0KM SSW OF BUCKSPORT CENTER	1.5	54.3	33.8	307658.7	879909.0
2986	6/25/1980	NE OF CAMBRIDGE	1.7	54.4	33.8	501938.8	749035.5
5348	9/22/1994	NEAR SPRINGFIELD	2.6	54.4	33.8	599187.7	1058855.1
7485	1/14/2019	1.0KM SE OF GUILFORD	1.7	54.5	33.9	545574.1	759845.2
7203	12/6/2016	15.0KM NE OF ELLSWORTH	1.1	54.6	33.9	347594.8	1046736.7
7568	8/1/2019	5.0KM NE OF GUILFORD	0.8	54.8	34.1	560102.4	765157.4
3807	12/22/1984	10KM NE OF BEDDINGTON	2.5	54.8	34.1	449915.4	1103439.2
6027	5/4/2011	16.0KM SSW OF BUCKSPORT CENTER	1.3	55.0	34.2	307698.5	872083.4
6023	5/3/2011	16.0KM SSW OF BUCKSPORT CENTER	1.6	55.6	34.6	304026.3	877282.2
6034	5/13/2011	14.0KM ENE OF ELLSWORTH	0.8	55.7	34.6	340296.4	1044153.7
5347	9/16/1994	7 KM SW OF SPRINGFIELD	3.7	56.3	35.0	602852.7	1063986.2
1416	6/12/1943	ELLSWORTH		56.5	35.1	303758.0	984250.0
3073	2/15/1981	SW OF DOVER-FOXCROFT	2	56.6	35.2	516580.4	744033.6
7554	7/13/2019	7.0KM NNE OF GUILFORD	1.2	57.0	35.4	571067.1	762696.4
867	12/11/1912	EASTPORT	4	57.2	35.5	486433.2	1113578.7
4055	8/15/1986	15 KM SW OF DOVER-FOXCROF	2.4	57.4	35.7	516610.3	741450.6
7163	8/20/2016	12.0KM NW OF DOVER-FOXCROFT	0.2	57.5	35.7	578331.5	765349.4
5349	9/22/1994	NEAR SPRINGFIELD	2	58.0	36.1	613780.7	1061373.4
4386	4/9/1988	28 KM NORTH OF BEDDINGTON	2.2	58.1	36.1	515598.9	1113398.6
7837	1/28/2023	20.0KM SSW OF MILLINOCKET	1	58.3	36.2	668521.9	894510.7
5510	3/15/2002	25KM N OF MILO	2.6	59.3	36.9	661433.4	856005.7
7553	7/13/2019	10.0KM N OF GUILFORD	1.5	59.4	36.9	582032.2	760238.1
7000	8/7/2015	9.0KM SW OF GUILFORD	1.1	59.6	37.0	527608.1	736414.5
2866	12/20/1978	W OF DEXTER	2.2	59.9	37.2	502150.0	730942.1
7371	2/4/2018	12.0KM N OF GUILFORD	1.6	59.9	37.2	589296.3	762890.7
7098	3/9/2016	36.0KM SW OF TOPSFIELD	0.8	60.0	37.3	548395.0	1110616.8
5650	9/26/2006	19KM NNW OF BAR HARBOR	1.6	60.3	37.5	329392.1	1054607.9
5366	4/11/1995	PENOBSCOT BAY	2.3	60.3	37.5	281977.9	921570.5
2996	7/7/1980	DOVER-FOXCROFT	2.2	61.2	38.0	545837.0	736630.9
3531	7/15/1983	N OF BELFAST	1.6	61.6	38.3	300649.5	832903.7
3416	12/23/1982	LOWER SYSLADOBSIS LAKE	1.7	61.7	38.3	573885.0	1105310.4
4397	5/6/1988	20 KM SW OF DOVER-FOXCROFT	2.4	61.7	38.3	509504.6	725862.6
3922	10/24/1985	18 KM NW OF DOVER-FOXCROFT	2.7	62.4	38.8	603879.8	763046.4
7232	2/15/2017	30.0KM SW OF TOPSFIELD	1.9	62.6	38.9	570269.8	1110484.1
5692	4/20/2007	54KM ENE OF BANGOR	0.7	62.6	38.9	450078.2	1129349.9
5481	1/20/2001	42 KM W OF MACHIAS	2.1	63.2	39.3	428186.9	1126907.0
7501	3/3/2019	28.0KM NNW OF MILO	0.9	63.5	39.5	668844.9	838103.2
7194	11/4/2016	29.0KM SW OF TOPSFIELD	0.9	63.8	39.6	573931.5	1113037.7
6973	5/27/2015	29.0KM SW OF TOPSFIELD	1.4	64.0	39.8	570301.8	1115636.5
5988	1/18/2011	7.0KM WNW OF BELFAST	1.4	64.5	40.1	289713.4	832826.2
1518	1/6/1948	DOVER-FOXCROFT	3.4	64.8	40.2	632888.1	778768.9
1519	1/7/1948	DOVER-FOXCROFT		64.8	40.2	632888.1	778768.9
5798	11/10/2008	16.1KM E OF SKOWHEGAN	0.3	64.9	40.3	411072.4	724649.3
6956	4/30/2015	28.0KM ENE OF ELLSWORTH	1.1	65.0	40.4	347784.4	1093601.8
6645	2/17/2013	32.0KM ENE OF ELLSWORTH	0.8	65.6	40.7	358776.9	1103954.6
2038	9/23/1968	DOVER-FOXCROFT	3.8	65.6	40.8	560545.3	726494.1
6981	6/25/2015	27.0KM SW OF TOPSFIELD	1	65.7	40.8	577609.9	1118165.7

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
6059	7/7/2011	17.0KM ESE OF SEARSPORT	2.3	65.9	40.9	263743.8	924130.9
6940	4/10/2015	18.0KM WNW OF WESLEY	0.8	66.6	41.4	486647.8	1144617.6
2716	10/25/1977	SE OF SOUTH SPRINGFIELD	2.7	67.5	42.0	610343.7	1105097.9
2723	11/25/1977	S.SPRINGFIELD	2.6	67.5	42.0	610343.7	1105097.9
8034	4/10/2023	18.0KM NNW OF GUILFORD	0.7	68.2	42.4	607755.6	742511.8
5489	7/14/2001	25 KM SW OF DOVER-FOXCROFT	1.7	68.5	42.6	502513.4	702509.6
5492	7/31/2001	36 KM WNW OF MACHIHAS	2	68.6	42.6	402740.8	1137467.2
3933	11/25/1985	11 KM WNW OF GUILFORD	2.8	69.1	42.9	571580.0	718900.9
7272	6/25/2017	22.0KM SW OF TOPSFIELD	1.4	69.2	43.0	592227.1	1123218.6
7282	7/10/2017	32.0KM WSW OF MILLINOCKET	0.5	70.3	43.7	690758.1	833136.0
5639	9/22/2006	12.4KM NNE OF BAR HARBOR	0.8	70.4	43.7	303953.5	1075564.0
7273	6/25/2017	22.0KM SW OF TOPSFIELD	1.3	70.4	43.7	595890.4	1125767.2
2934	1/24/1980	SW OF MT KATAHDIN	1.9	71.0	44.1	694385.4	835723.6
5643	9/22/2006	9.4KM NNE OF BAR HARBOR	0.8	71.5	44.4	292985.4	1067779.9
4540	12/28/1988	3 KM NE OF ALBION	3.4	71.6	44.5	308529.4	765133.7
5637	9/22/2006	12KM NNE OF BAR HARBOR	1	71.7	44.6	300319.5	1078189.0
5424	9/5/1998	Near Blue Hill Falls	2.7	71.7	44.6	245464.3	947624.7
5770	6/1/2008	32KM NNE OF MIL	1.4	71.9	44.6	712309.4	887026.0
3003	7/25/1980	E OF PENOBSCOT BAY	1.5	72.1	44.8	252725.0	992095.6
5732	10/15/2007	10KM NE OF BAR HARBOR	0.5	72.2	44.9	300331.1	1080798.5
5804	12/24/2008	1.5KM NNW OF CLINTON	2.2	72.3	44.9	360067.3	721420.2
6115	12/13/2011	26.0KM ESE OF SEARSPORT	2.3	72.8	45.2	241823.7	945001.9
5651	9/28/2006	6.4KM N OF BAR HARBOR	2.5	72.8	45.2	285684.6	1065197.2
7417	6/7/2018	24.0KM SSW OF ELLSWORTH	1.1	73.1	45.4	245434.5	976401.7
5668	11/3/2006	12KM (7.46MI) NE OF BAR HARBOR	0.9	73.1	45.4	296685.8	1080815.0
2360	9/14/1975	NORTH OF DOVER-FOX	2	73.1	45.4	669347.8	779131.8
6607	11/24/2012	16.0KM W OF BELFAST	2.1	73.4	45.6	275399.7	798759.8
7226	1/27/2017	22.0KM W OF MILLINOCKET	1.6	73.6	45.7	712446.6	861440.7
5652	9/28/2006	5.7KM N OF BAR HARBOR	1.8	73.7	45.8	282039.3	1065211.0
5768	5/30/2008	9.1KM NE OF BAR HARBOR	2.4	73.9	45.9	293040.4	1080831.4
4909	7/31/1990	BODFISH	1.6	74.0	46.0	626107.7	732447.0
5934	6/6/2010	14.0KM SSE OF CLINTON	0.8	74.0	46.0	316015.7	746955.2
5640	9/22/2006	8.5Km NNE OF BAR HARBOR	1	74.2	46.1	285715.8	1073030.8
4947	10/15/1990	SOUTHEAST	2.2	74.2	46.1	577832.1	1149069.3
6960	5/9/2015	9.0KM ESE OF SKOWHEGAN	1.2	74.6	46.3	396860.7	695894.2
1813	12/1/1962	DOVER-FOXCROFT	3.1	74.6	46.4	705361.3	830683.9
5632	9/22/2006	6.4KM NNE OF BAR HARBOR	1.8	75.1	46.7	282070.4	1073046.0
5631	9/22/2006	5.3KM NNE OF BAR HARBOR	1.9	75.5	46.9	278414.4	1070449.0
5630	9/22/2006	5KM NNE OF BAR HARBOR	1.2	75.5	46.9	278414.4	1070449.0
5641	9/22/2006	5KM NNE OF BAR HARBOR	1	75.5	46.9	278414.4	1070449.0
7259	5/23/2017	18.0KM NE OF BAR HARBOR	1.4	75.7	47.1	304081.2	1101653.7
5633	9/22/2006	3KM N OF BAR HARBORr	1.4	76.0	47.2	271093.6	1062639.5
2936	1/26/1980	NE OF DEER ISLE	2.1	76.0	47.3	230892.9	942364.0
5765	5/24/2008	7KM NE OF BAR HARBOR	1.1	76.1	47.3	282092.8	1078269.3
858	10/20/1910	PENOBSCOT BAY		76.1	47.3	230995.6	905713.8
7786	10/16/2021	23.0KM W OF MILLINOCKET	1.8	76.2	47.3	719770.0	856369.2
7151	7/9/2016	23.0KM W OF MILLINOCKET	1.4	76.2	47.3	719770.0	856369.2
7587	9/9/2019	24.0KM SE OF BEDDINGTON	0.7	76.2	47.4	381007.3	1155822.9
2543	10/6/1976	MILLINOCKET	2.1	76.4	47.5	712634.4	833296.9

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State 479836.977 N 926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5670	11/4/2006	6.4KM (4MI) NE OF BAR HARBOR	1.2	76.5	47.5	278436.1	1075673.2
6083	9/14/2011	11KM S OF BELFAST	1.3	76.5	47.5	242236.0	845573.3
1077	8/30/1928	BROOKLIN		76.5	47.5	230868.0	958071.3
5645	9/22/2006	8KM NE OF BAR HARBOR	1.3	76.5	47.6	282104.4	1080880.9
5669	11/4/2006	8KM (5MI) NE OF BAR HARBOR	1.3	76.5	47.6	282104.4	1080880.9
7277	7/1/2017	18.0KM SSW OF TOPSFIELD	1.9	76.6	47.6	585165.3	1154160.2
5644	9/22/2006	5.8KM NE OF BAR HARBOR	1.1	77.4	48.1	274790.8	1075688.8
7219	1/17/2017	13.0KM E OF WATERVILLE	1.1	77.5	48.2	316195.7	731309.4
5363	3/7/1995	12 MILES NW OF MACHIAS	2.4	77.8	48.4	428578.1	1176188.5
5646	9/22/2006	2KM NE OF BAR HARBOR	2.4	77.8	48.4	267468.1	1067879.7
7140	6/17/2016	22.0KM W OF MILLINOCKET	1.3	78.1	48.5	727046.4	858971.4
6044	6/5/2011	30.0KM ENE OF GREENVILLE	1.8	78.1	48.5	698392.3	792224.2
6944	4/17/2015	18.0KM ESE OF WATERVILLE	0.8	78.2	48.6	301492.9	741574.0
5647	9/23/2006	4.5KM NE OF BAR HARBOR	1.5	78.3	48.6	271145.5	1075704.4
5661	10/22/2006	3.2KM (2MI) NE OF BAR HARBOR	1.5	78.3	48.6	267478.5	1070493.1
3172	9/16/1981	W OF LONG ISLAND	2	78.4	48.7	223588.6	950206.1
7279	7/2/2017	17.0KM SSW OF TOPSFIELD	1	78.5	48.8	588853.9	1159278.3
5658	10/10/2006	NEAR BAR HARBOR, unreliable loc/depth	1.5	78.8	48.9	263822.8	1067893.9
5662	10/22/2006	1.6KM (1MI) ENE OF BAR HARBOR	0.9	78.8	48.9	263822.8	1067893.9
7096	3/6/2016	16.0KM ENE OF GREENVILLE	0.7	79.0	49.1	673265.1	753532.9
5664	10/22/2006	2.4KM (1.5MI) NE OF BAR HARBOR	1	79.2	49.2	263833.2	1070507.8
6045	6/5/2011	32.0KM ENE OF GREENVILLE	1.7	79.6	49.5	705660.7	794851.8
1109	12/5/1929	SKOWHEGAN		79.7	49.5	415420.3	672782.9
5660	10/17/2006	1.6KM (1MI) E OF BAR HARBOR	1.1	79.7	49.5	260177.5	1067908.2
5634	9/22/2006	4KM E OF BAR HARBOR	1.2	80.1	49.8	263854.9	1075735.5
5663	10/22/2006	2.4KM (1.5MI) E OF BAR HARBOR	2.3	80.1	49.8	260187.9	1070522.5
5649	9/26/2006	2KM E OF BAR HARBOR	1.6	80.1	49.8	260187.9	1070522.5
3276	3/26/1982	NE OF CHINA	2.3	80.5	50.0	320032.7	715709.5
5638	9/22/2006	3.2KM ESE OF BAR HARBOR	1.7	80.6	50.1	260198.6	1073136.8
4695	8/17/1989	5 KM NE SKOWHEGAN	1.8	80.7	50.1	422788.7	667701.2
5767	5/29/2008	14.4KM SE OF WATERVILLE	1.7	80.9	50.3	294262.2	736270.4
5693	4/29/2007	1.94KM SE OF BAR HARBOR	1.4	81.1	50.4	256542.6	1070537.2
7147	6/27/2016	25.0KM W OF MILLINOCKET	0.3	81.1	50.4	734403.8	848792.8
1424	12/19/1943	WATERVILLE	2.7	81.3	50.5	342143.1	697753.8
1085	12/12/1928	WATERVILLE		81.3	50.5	342143.1	697753.8
1834	10/9/1963	CHINA	2.5	81.5	50.7	305353.9	723352.6
1102	10/9/1929	WATERVILLE		81.5	50.7	305353.9	723352.6
8037	4/3/2023	3.0KM NW OF WESLEY	1.3	81.6	50.7	476144.4	1193871.9
3543	8/12/1983	SW OF CRAWFORD LAKE	3.8	82.4	51.2	476170.4	1196459.8
5675	12/18/2006	4KM (2.5MI) SE OF BAR HARBOR	2.4	82.4	51.2	252908.0	1073167.0
3261	3/3/1982	E OF STONINGTON	2.2	82.6	51.3	209044.6	931839.2
6677	4/1/2013	14.0KM WNW OF MILLINOCKET	1	82.6	51.3	748746.9	892306.9
5648	9/23/2006	4.5KM SE OF BAR HARBOR	1.2	82.9	51.5	249252.1	1070566.5
5642	9/22/2006	4KM SE OF BAR HARBOR	0.9	82.9	51.5	249252.1	1070566.5
5854	9/19/2009	37.0KM NE OF GREENVILLE	1.2	83.0	51.6	723799.1	805248.7
7966	8/31/2023	25.0KM W OF MILLINOCKET	1.3	83.0	51.6	741679.3	851396.0
5676	12/29/2006	4.4KM (2.75MI) SE OF BAR HARBOR	3.1	83.4	51.8	249262.8	1073182.2
5659	10/15/2006	4.8KM (3MI) SE OF BAR HARBOR	0.7	83.4	51.8	249262.8	1073182.2
5635	9/22/2006	4KM SSE OF BAR HARBOR	3.4	83.5	51.9	245596.4	1067965.1

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5636	9/22/2006	4KM SSE OF BAR HARBOR	2.6	83.5	51.9	245596.4	1067965.1
5653	9/30/2006	4.8KM SSe OF BAR HARBORr	2.1	83.5	51.9	245596.4	1067965.1
7130	5/21/2016	20.0KM WNW OF MILLINOCKET	0.8	83.8	52.1	748863.2	869321.1
7128	5/17/2016	21.0KM WNW OF MILLINOCKET	1.7	84.0	52.2	748877.7	866767.2
7927	12/5/2023	31.0KM W OF MILLINOCKET	0.5	84.2	52.3	738195.4	828374.2
5704	6/9/2007	4.2KM SE OF BAR HARBOR	1.6	84.3	52.4	245617.5	1073197.3
7400	4/27/2018	37.0KM NE OF GREENVILLE	1.1	84.3	52.4	727467.7	802723.9
3514	5/27/1983	BAKER MOUNTAIN	2	84.6	52.6	684381.3	738282.5
5434	2/26/1999	11 km SE of Waterville	3.7	84.8	52.7	298160.4	715433.8
3182	9/27/1981	E OF DEER ISLE	2.1	84.9	52.8	201731.2	942307.2
4103	11/8/1986	MOUNTAINVILLE	2	84.9	52.8	201731.2	942307.2
5654	10/3/2006	6.5KM (4MI) SE OF BAR HARBOR	4.2	85.2	52.9	245639.8	1078429.5
2904	9/14/1979	S OF MT. KATAHDIN	2.1	85.2	53.0	745412.4	838647.5
3019	8/31/1980	E OF CHINA LAKE	2.8	85.2	53.0	272360.0	738629.5
7560	7/21/2019	25.0KM WNW OF MILLINOCKET	1.8	85.3	53.0	748988.3	848889.4
5774	6/20/2008	11.6KM NW OF SKOWHEGAN	1.3	85.6	53.2	444984.0	647294.0
5758	4/15/2008	6.7KM NW OF WATERVILLE	1.8	85.7	53.2	349725.2	677023.2
3146	8/19/1981	W OF PEMADUMCOOK LAKE	1.8	86.0	53.5	749040.5	841227.4
3564	9/30/1983	W OF MACHIAS	2.1	86.2	53.6	399612.8	1197232.8
2734	12/20/1977	CHINA LAKE	1.9	86.3	53.7	309299.5	699920.4
5379	11/12/1995	EAST OF MT DESERT ISLAND	3	86.4	53.7	264027.1	1109715.9
7768	5/7/2021	12.0KM NNW OF MILLINOCKET	1.4	86.4	53.7	763241.0	915341.9
5667	11/3/2006	8KM (5MI) SE OF BAR HARBOR	1	86.6	53.8	238338.0	1075844.5
6536	7/1/2012	26.0KM ENE OF BAR HARBOR	1.1	86.7	53.9	293396.5	1140868.6
7356	1/19/2018	7.0KM NW OF WATERVILLE	0.7	86.7	53.9	342434.3	676917.7
6748	9/28/2013	6.0KM SSE OF WESLEY	1.2	86.8	53.9	454431.4	1209634.0
5947	7/29/2010	20.0KM NW OF MACHIAS	2.6	87.1	54.1	428884.6	1207313.7
3145	8/19/1981	W OF PEMADUMCOOK LAKE	2.3	87.3	54.2	756263.8	851490.7
2409	12/31/1975	ROCKLAND		87.5	54.4	213259.2	819183.9
1134	12/25/1930	WATERVILLE		87.6	54.5	305689.1	697262.8
3018	8/31/1980	E OF CHINA LAKE	2.4	88.0	54.7	265130.1	733318.0
7805	8/11/2022	17.0KM W OF MACHIAS	2.9	88.0	54.7	388702.6	1199941.7
5757	4/15/2008	6.3KM NW OF WATERVILLE	1.2	88.1	54.8	342510.2	671708.7
7056	12/30/2015	20.0KM WSW OF MACHIAS	1	88.2	54.8	366751.6	1192360.4
7847	5/3/2024	9.0KM N OF OAKLAND	2	88.5	55.0	349878.4	666608.7
5584	8/14/2005	6KM NE OF AUGUSTA	1.9	88.5	55.0	294683.4	702336.3
6151	3/5/2012	6.0KM S OF WATERVILLE	1.1	89.5	55.6	305795.8	689435.9
7920	12/18/2023	15.0KM W OF MACHIAS	1.2	89.8	55.8	385110.7	1205177.1
7756	1/17/2021	15.0KM W OF MACHIAS	2.7	90.6	56.3	377819.7	1205253.2
7802	8/11/2022	14.0KM W OF MACHIAS	0.8	90.6	56.3	392456.7	1210297.5
6832	7/6/2014	17.0KM SSE OF WATERVILLE	1.1	90.7	56.4	272676.0	712499.6
2410	12/31/1975	PETIT MANAN PT.	1.9	90.8	56.5	278854.1	1146199.7
7803	8/11/2022	13.0KM W OF MACHIAS	2.8	91.7	57.0	381520.1	1210414.3
7808	8/13/2022	13.0KM W OF MACHIAS	1.9	91.7	57.0	381520.1	1210414.3
5470	9/7/2000	20 KM E OF AUGUSTA	3.2	91.7	57.0	246873.1	735720.6
7051	12/21/2015	19.0KM WSW OF MACHIAS	0.8	91.7	57.0	355893.2	1200275.9
8010	5/19/2023	14.0KM SE OF BAR HARBOR	0.4	92.0	57.2	227475.0	1091601.1
7757	1/27/2021	13.0KM W OF MACHIAS	1.3	92.1	57.2	377874.6	1210453.3
2875	2/1/1979	NAHMAKANTA LAKE	1.9	92.1	57.2	760194.8	813225.4

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
7809	8/16/2022	12.0KM W OF MACHIAS	1.9	92.4	57.4	381548.0	1213013.9
7806	8/12/2022	12.0KM W OF MACHIAS	1.3	92.4	57.4	381548.0	1213013.9
1859	4/17/1964	SOLON	1.9	92.7	57.6	489162.9	622129.5
7812	8/17/2022	13.0KM W OF MACHIAS	2.9	92.8	57.7	377902.5	1213053.3
6578	10/1/2012	1.0KM SE OF MADISON	1.3	93.0	57.8	412472.1	628596.9
6798	3/14/2014	19.0KM NNW OF MILLINOCKET	1.1	93.1	57.9	785126.9	912866.4
7811	8/17/2022	12.0KM W OF MACHIAS	2.3	93.2	57.9	381576.3	1215613.5
7813	8/20/2022	12.0KM W OF MACHIAS	1.9	93.2	57.9	381576.3	1215613.5
6143	2/17/2012	11.0KM SE OF WESLEY	2.3	93.4	58.1	443727.0	1230487.0
7801	8/11/2022	12.0KM W OF MACHIAS	1.6	93.6	58.1	377930.8	1215653.4
5440	6/9/1999	E of Petit Manan Pt.	1.8	93.9	58.4	264272.8	1146310.1
6662	3/10/2013	15.0KM WSW OF MACHIAS	0.7	94.2	58.5	359647.2	1210647.9
6142	2/17/2012	12.0KM SE OF WESLEY	1.7	94.2	58.5	443757.5	1233079.0
1979	3/2/1967	WEST OF MACHIAS	0.7	94.3	58.6	377959.4	1218253.4
7020	11/1/2015	19.0KM ESE OF BAR HARBOR	2.3	94.4	58.7	238574.0	1120333.3
6595	10/29/2012	11.0KM ESE OF WESLEY	1.5	94.6	58.8	454725.1	1235540.3
7810	8/16/2022	11.0KM W OF MACHIAS	2.8	94.7	58.8	381633.8	1220812.7
7873	3/15/2024	16.0KM WNW OF WATERVILLE	1.6	94.9	58.9	350241.8	643176.1
7804	8/11/2022	10.0KM W OF MACHIAS	1.4	95.4	59.3	381663.0	1223412.3
6707	6/21/2013	4.0KM SW OF OAKLAND	3	96.1	59.7	313542.4	658239.6
5542	8/22/2003	13KM S OF WATERVILLE	2.4	96.3	59.8	280388.0	681247.0
6539	7/11/2012	13.0KM ESE OF WESLEY	1.7	96.3	59.8	451142.1	1240766.0
7317	10/2/2017	13.0KM WSW OF MACHIAS	1.1	96.3	59.9	359732.0	1218454.7
7841	7/19/2024	17.0KM ENE OF AUGUSTA	2.5	96.4	59.9	261945.0	696674.7
6534	6/18/2012	18.0KM SW OF MACHIAS	1.2	96.5	60.0	341420.0	1210842.3
1026	11/24/1926	CALAIS		96.6	60.0	487630.4	1242907.5
5541	8/22/2003	9.3KM WSW OF WATERVILLE	2.2	96.9	60.2	317268.3	653080.1
7108	3/29/2016	17.0KM SW OF MACHIAS	1	97.9	60.9	341476.1	1216051.4
1328	3/28/1940	STARK	3	98.1	60.9	379795.0	620244.4
7280	7/3/2017	9.0KM NW OF MADISON	0.4	98.5	61.2	438397.8	605691.3
6144	2/17/2012	17.0KM ESE OF WESLEY	2.4	99.1	61.6	440301.5	1248676.6
2831	8/8/1978	S OF COOPER	1.8	99.1	61.6	440301.5	1248676.6
6806	3/30/2014	17.0KM W OF CALAIS	1.2	99.4	61.8	560545.3	1242005.9
6141	2/17/2012	17.0KM ESE OF WESLEY	1.4	99.7	62.0	443979.8	1251222.8
3021	9/4/1980	SE OF CHINA LAKE	2.8	100.0	62.2	228899.6	714562.8
6936	4/9/2015	5.0KM NW OF MACHIAS	0.6	100.2	62.3	396490.2	1244029.9
6139	2/17/2012	18.0KM ESE OF WESLEY	0.8	100.5	62.4	444012.9	1253814.8
7211	12/27/2016	23.0KM SW OF CALAIS	1.2	100.6	62.5	495085.4	1255745.8
3257	2/21/1982	20 KM SE OF FARMINGTON	2	100.6	62.5	339562.2	627370.7
8042	3/4/2023	11.0KM WNW OF OAKLAND	1.2	100.7	62.6	328539.1	632399.7
3277	3/28/1982	E OF NEW SHARON	2.4	101.8	63.3	365348.6	612188.3
6700	5/29/2013	12.0KM E OF AUGUSTA	1.6	102.1	63.4	243825.3	688580.4
7212	12/27/2016	22.0KM SW OF CALAIS	1.4	102.2	63.5	495153.1	1260917.2
7751	11/27/2020	37.0KM NW OF MILLINOCKET	1	102.2	63.5	803751.3	839063.5
7611	10/27/2019	21.0KM N OF TOPSFIELD	0.8	102.3	63.6	709283.3	1171055.6
5469	8/22/2000	11 KM SE OF MACHIAS	2.1	102.7	63.8	338006.9	1231720.9
3752	9/9/1984	30 KM SSE OF BAR HARBOR	2.3	102.8	63.9	176358.7	1073484.1
1862	6/5/1964	MT. KATAHDIN	2.6	102.8	63.9	814427.0	882419.6
5726	10/2/2007	10 KM E OF CARRABASSETT	2.3	102.9	64.0	489770.9	588504.0

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
7898	1/17/2024	34.0KM NW OF MILLINOCKET	0.5	103.1	64.1	810924.3	856939.1
5927	5/3/2010	23.0KM N OF MACHIAS	1.3	103.2	64.1	458730.7	1263988.6
7631	11/20/2019	10.0KM N OF MACHIAS	0.7	103.3	64.2	418560.8	1259331.7
3258	2/21/1982	SE OF FARMINGTON	1.8	103.3	64.2	365440.5	606984.7
3518	5/31/1983	MEDDYBEMPS LAKE	1.2	103.5	64.3	538901.9	1260338.6
6140	2/17/2012	17.0KM N OF MACHIAS	1	103.8	64.5	440502.6	1264231.1
1945	7/24/1966	JONESPORT	3.7	103.9	64.5	268326.0	1193324.3
2968	5/4/1980	SE OF AUGUSTA	2.9	104.2	64.8	229172.8	693616.2
7607	10/26/2019	23.0KM N OF TOPSFIELD	1.1	104.8	65.1	713000.7	1178698.0
864	3/20/1912	CALAIS		105.2	65.4	524422.8	1268277.8
3506	5/12/1983	NW OF MEDDYBEMPS LAKE	1.6	105.2	65.4	542616.6	1265450.0
6643	2/8/2013	8.0KM NNE OF AUGUSTA	1.5	105.3	65.4	262507.6	657459.8
7586	9/7/2019	20.0KM ESE OF ROCKLAND	1.7	105.4	65.5	136296.5	886962.2
7610	10/27/2019	23.0KM N OF TOPSFIELD	0.6	105.5	65.6	716646.7	1178663.4
7319	10/10/2017	23.0KM SSE OF SEBOOMOOK	1.5	105.6	65.6	736029.4	692889.6
7609	10/27/2019	23.0KM N OF TOPSFIELD	2.3	105.9	65.8	713049.8	1183815.0
3000	7/17/1980	NE OF MACHIAS	1.9	106.0	65.9	425989.8	1269613.4
7608	10/27/2019	23.0KM N OF TOPSFIELD	1.1	106.7	66.3	716695.9	1183779.5
7606	10/26/2019	23.0KM N OF TOPSFIELD	1	106.7	66.3	716695.9	1183779.5
7053	12/23/2015	30.0KM N OF FARMINGTON	0.9	107.0	66.5	468145.2	575144.7
7612	10/27/2019	24.0KM N OF TOPSFIELD	0.6	107.3	66.7	716721.0	1186337.6
2995	7/4/1980	NW OF AUGUSTA	2.8	107.7	66.9	288483.1	629126.1
7605	10/26/2019	23.0KM N OF TOPSFIELD	0.8	107.7	66.9	713125.9	1191490.6
7935	11/6/2023	11.0KM E OF RANDOLPH	1	108.6	67.5	214663.3	688178.7
7033	12/5/2015	10.0KM NW OF WALDOBORO	1.4	108.9	67.7	181320.5	729713.2
3583	10/30/1983	NW OF BELGRADE	2.9	109.6	68.1	284925.2	623842.2
3201	11/8/1981	SE OF COOPER	0.2	109.7	68.2	451725.5	1284814.2
2905	9/22/1979	E OF FARMINGTON	2.1	109.7	68.2	376855.9	581174.4
7288	7/18/2017	5.0KM NW OF WALDOBORO	1.9	110.1	68.4	170263.8	740085.9
5683	3/4/2007	16KM SE OF ISLE AU HAUT, OFFSHORE	2.2	110.3	68.5	125146.9	997403.6
7285	7/16/2017	7.0KM WNW OF WALDOBORO	1.8	110.9	68.9	170323.8	734835.1
1999	7/1/1967	AUGUSTA	4.1	111.1	69.1	251816.8	641598.9
2001	7/1/1967	AUGUSTA	4.1	111.1	69.1	251816.8	641598.9
2002	7/1/1967	AUGUSTA	2.1	111.1	69.1	251816.8	641598.9
1993	7/1/1967	AUGUSTA	1.9	111.1	69.1	251816.8	641598.9
1991	7/1/1967	AUGUSTA	1.9	111.1	69.1	251816.8	641598.9
1994	7/1/1967	AUGUSTA		111.1	69.1	251816.8	641598.9
3579	10/27/1983	E OF ISLE AU HAUT	2.1	111.7	69.4	121505.7	1002668.2
7678	3/9/2020	14.0KM SE OF FARMINGTON	2.3	111.9	69.5	336608.7	588228.2
6516	5/7/2012	5.0KM WNW OF WALDOBORO	1.5	112.0	69.6	162973.5	740003.5
911	11/9/1920	EASTPORT		112.4	69.8	488332.7	1294639.0
899	1/14/1918	EASTPORT		112.4	69.8	488332.7	1294639.0
3443	2/3/1983	N OF MEDDYBEMPS LAKE	1	112.8	70.1	517498.4	1294206.7
2000	7/1/1967	AUGUSTA	3.7	112.9	70.2	255631.9	631196.3
3626	1/19/1984	S OF CALAIS	3.5	112.9	70.2	448230.6	1295232.4
1990	7/1/1967	AUGUSTA	3.6	113.1	70.3	248255.8	636308.4
7965	9/1/2023	36.0KM SE OF BAR HARBOR	0.4	113.4	70.5	173065.8	1136498.5
7663	1/23/2020	6.0KM SSW OF CALAIS	1.5	113.6	70.6	539372.9	1293882.1
4398	5/7/1988	22 KM SSE OF FARMINGTON	2.6	113.7	70.7	322027.0	587956.7

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
1997	7/1/1967	AUGUSTA	2.4	113.8	70.7	292578.5	603079.0
5779	8/23/2008	22.0KM NW OF AUGUSTA	2.4	113.8	70.7	292578.5	603079.0
5589	9/25/2005	6.4KM NW OF AYERS	3.5	114.0	70.8	499347.1	1299647.4
1998	7/1/1967	AUGUSTA	2.4	114.1	70.9	259407.9	623412.0
4171	4/13/1987	50 KM SE OF NORTHEAST HAR	3	114.2	70.9	191514.4	1165220.4
6473	3/11/2012	33.0KM WNW OF SHERMAN	1.1	114.3	71.0	854415.1	910568.8
5390	5/3/1996	N OF WINTHROP	2.8	114.3	71.0	285241.4	605560.5
5388	5/1/1996	N OF WINTHROP	2.8	114.3	71.0	285241.4	605560.5
2198	2/26/1973	BELGRADE LAKES	2.4	114.4	71.1	307349.0	592903.4
1995	7/1/1967	AUGUSTA	3.5	114.4	71.1	244653.1	633632.7
7451	8/30/2018	4.0KM WSW OF WALDOBORO	1.5	114.5	71.2	152008.6	742507.7
874	1/13/1914	CALAIS		114.7	71.3	561247.7	1293557.1
1091	3/29/1929	CALAIS		114.7	71.3	561247.7	1293557.1
1996	7/1/1967	AUGUSTA	2.4	114.8	71.3	270522.6	613142.5
3459	2/17/1983	N OF MEDDYBEMPS LAKE	0.9	114.9	71.4	550348.7	1296298.5
1992	7/1/1967	AUGUSTA	2.1	115.4	71.7	263186.8	615630.4
7856	4/14/2024	27.0KM NNE OF TOPSFIELD	0.1	115.8	72.0	724338.7	1216951.6
7664	1/26/2020	4.0KM S OF CALAIS	0.9	116.2	72.2	546780.9	1301511.9
6611	12/6/2012	29.0KM SSW OF HOULTON	1.1	116.5	72.4	818170.4	1103879.3
7291	7/28/2017	21.0KM S OF CALAIS	1.4	117.1	72.8	488568.4	1310158.4
7824	1/10/2023	8.0KM S OF WALDOBORO	1.3	117.3	72.9	133612.8	758083.3
5981	12/16/2010	34.0KM W OF GREENVILLE	1.3	117.4	72.9	675660.0	594594.9
2775	3/15/1978	SE OF CALAIS	1.9	117.6	73.1	543214.3	1306727.0
5387	4/24/1996	SE OF LIVERMORE FALLS	2.7	117.9	73.3	292863.9	587414.3
6529	6/10/2012	17.0KM SSE OF CALAIS	1.3	118.0	73.3	503191.5	1312516.3
6514	5/2/2012	39.0KM W OF GREENVILLE, POO	0.7	118.4	73.6	654081.1	578783.6
3602	12/8/1983	SOUTH OF CALAIS	2.7	119.1	74.0	517815.1	1314870.5
6941	4/11/2015	20.0KM SSE OF MACHIAS	1.2	119.3	74.1	327777.9	1286580.5
7775	7/18/2021	20.0KM SSE OF CALAIS	1.7	119.5	74.2	492336.2	1317860.1
818	3/18/1906	READFIELD		120.0	74.6	270895.4	592235.0
807	3/21/1904	PASSAMAQUODDY BAY	5.9	120.2	74.7	488731.8	1320504.7
1081	11/20/1928	NW OF EASTPORT		120.2	74.7	488731.8	1320504.7
808	3/21/1904	PASSAMAQUODDY BAY		120.2	74.7	488731.8	1320504.7
809	3/21/1904	PASSAMAQUODDY BAY		120.2	74.7	488731.8	1320504.7
5425	9/16/1998	Approx 30 km NE of Machias	2.9	120.5	74.9	459566.5	1320972.4
5679	2/1/2007	8.8KM SW OF AUGUSTA	2.1	120.7	75.0	219222.5	627976.5
1980	3/11/1967	CALAIS	2.3	120.8	75.1	525189.0	1319919.2
7182	10/18/2016	6.0KM ESE OF CALAIS	1.2	120.9	75.1	547022.2	1316988.1
3999	4/29/1986	10 KM SW OF WEST FORKS	2.5	121.1	75.2	621734.7	555006.2
7388	3/29/2018	46.0KM ESE OF BAR HARBOR	1.1	121.4	75.4	180790.0	1188929.0
6612	12/6/2012	23.0KM SW OF HOULTON	1.2	121.4	75.5	836401.8	1103771.8
2003	7/1/1967	AUGUSTA	3.2	121.4	75.5	215577.2	627916.1
3092	5/24/1981	W OF PASSAMAQUODDY BAY	2.1	121.9	75.7	499752.6	1325499.6
7840	7/28/2024	8.0KM SSE OF WINTHROP CENTER	2.8	122.0	75.8	215620.8	625296.0
7387	3/29/2018	30.0KM ENE OF TOPSFIELD	1	122.1	75.9	692133.6	1265987.7
7617	11/1/2019	18.0KM ESE OF EUSTIS	1.1	122.3	76.0	545665.0	530202.5
4729	10/2/1989	MT. KIBBY	2.2	122.6	76.2	589247.5	538879.7
7753	12/9/2020	14.0KM SE OF CALAIS	3	123.1	76.5	521669.2	1327725.4
6615	12/8/2012	47.0KM SE OF BAR HARBOR	2.2	123.4	76.7	169829.8	1186407.3

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5780	8/30/2008	3.1KM ENE OF WILTON	2.7	123.5	76.7	344770.7	544087.2
6064	8/20/2011	20.0KM ESE OF MACHIAS	1.2	123.6	76.8	371990.7	1317169.6
2774	3/9/1978	SE OF CALAIS	1.6	123.8	77.0	543543.7	1327365.5
6057	7/3/2011	10KM NW OF WINTHROP CENTER	1.3	123.8	77.0	256410.6	586737.4
5882	12/7/2009	5.5KM SW OF GARDINER	1.8	124.0	77.1	189847.7	640609.8
3324	7/15/1982	NW OF MT KATAHDIN	2.8	124.1	77.1	880236.8	852298.9
7618	11/1/2019	18.0KM SE OF EUSTIS	1.3	124.1	77.1	531252.0	522140.1
7350	1/17/2018	8.0KM NNE OF RICHMOND	2.8	124.3	77.3	178747.5	650933.8
8040	3/11/2023	15.0KM ESE OF DAMARISCOTTA	1.1	124.4	77.3	108097.4	757817.2
2902	8/24/1979	WAYNE	2.4	124.5	77.4	285971.6	566385.5
7754	12/9/2020	15.0KM SE OF CALAIS	2.2	124.6	77.5	521754.8	1332890.4
5375	8/19/1995	E OF GLENMERE	2.6	125.0	77.7	96953.1	778777.5
7355	1/18/2018	7.0KM N OF RICHMOND	1.7	125.9	78.3	178870.6	643060.1
3332	8/3/1982	SE OF WESTERN HEAD	2	125.9	78.3	372114.7	1324972.4
6051	6/18/2011	18KM SE OF CALAIS	1.4	126.0	78.3	510904.4	1338240.7
7170	9/18/2016	11.0KM W OF EASTPORT	0.9	126.1	78.4	456219.3	1339165.2
3533	7/16/1983	S OF BOYDEN LAKE	1.1	126.6	78.6	489074.1	1341197.3
5324	7/10/1993	100 KM EAST OF PORTLAND	3	126.9	78.9	93384.2	770838.9
6636	1/26/2013	13.0KM E OF EUSTIS	1.9	127.1	79.0	564178.9	517712.0
8006	5/24/2023	16.0KM NW OF EASTPORT	0.7	127.4	79.2	500055.4	1343596.2
5989	1/31/2011	19.0KM NNW OF EASTPORT	2	127.5	79.2	507346.8	1343471.0
5868	11/14/2009	24.5KM E OF MACHIAS	1	127.9	79.4	386866.5	1335134.5
7748	11/22/2020	44.0KM NE OF EUSTIS	1.9	127.9	79.4	687255.8	561494.1
6510	4/22/2012	29.0KM SE OF MACHIAS	0.8	128.1	79.6	309897.1	1310316.2
919	9/9/1922	N.PERRY		128.1	79.6	489162.9	1346370.5
7135	6/1/2016	15.0KM NW OF EASTPORT	0.9	128.1	79.6	492808.5	1346307.5
7983	7/27/2023	18.0KM SE OF CALAIS	1.5	128.5	79.8	518328.5	1345866.1
3119	7/9/1981	W PASSAMAQUODDY BAY	1.8	128.7	80.0	525620.0	1345739.9
6547	7/25/2012	15.0KM NNW OF EASTPORT	1.5	128.9	80.1	496499.1	1348830.1
7354	1/18/2018	5.0KM NNW OF RICHMOND	1	129.5	80.5	168018.7	637635.6
6568	9/16/2012	54.0KM SE OF BAR HARBOR	0.7	129.9	80.7	155402.5	1202306.8
7138	6/9/2016	13.0KM WSW OF GARDINER	1.3	130.1	80.8	194017.6	609194.6
6937	4/9/2015	48.0KM W OF GREENVILLE	1.9	130.3	81.0	680231.2	548528.9
7396	4/20/2018	14.0KM NNW OF EASTPORT	0.9	130.5	81.1	496589.8	1354001.5
6939	4/10/2015	41.0KM NNE OF EUSTIS	0.5	130.8	81.3	683877.2	548606.1
6928	3/2/2015	11.0KM SE OF EUSTIS	1.3	130.9	81.3	546302.5	501824.6
2906	9/24/1979	PASSAMAQUODDY BAY	1.8	131.3	81.6	492989.9	1356652.0
6976	6/1/2015	9.0KM SE OF EUSTIS	1.7	132.0	82.0	553653.9	499414.5
6923	2/17/2015	18.0KM ESE OF CALAIS	2.1	132.1	82.1	536738.6	1355873.4
7569	8/2/2019	12.0KM SSE OF EUSTIS		132.2	82.1	539131.0	496494.4
5838	7/1/2009	5.1KM WSW OF EASTPORT	1.8	132.6	82.4	449288.2	1360020.5
7570	8/2/2019	13.0KM SSE OF EUSTIS	0.3	132.7	82.5	531900.1	493742.3
6588	10/16/2012	29.0KM ESE OF MACHIAS	1.3	132.9	82.6	354187.9	1343487.6
6885	11/30/2014	30.0KM SE OF MACHIAS	0.8	132.9	82.6	324850.7	1333553.8
2846	9/24/1978	NE OF DALLAS	2.2	132.9	82.6	488212.3	490128.2
7274	6/27/2017	6.0KM SSW OF LIVERMORE FALLS	1.2	133.3	82.8	279262.1	537504.8
5406	4/29/1997	W OF WILTON	2.6	133.3	82.9	323453.6	517562.2
813	7/15/1905	SABBATUS	4.5	133.5	82.9	197990.1	590901.6
5903	2/17/2010	30.0KM E OF MACHIAS	1.7	133.8	83.1	379885.0	1353455.7

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5537	5/12/2003	32.5KM SE OF MACHIAS, OFFSHORE	2.7	133.9	83.2	310226.5	1331184.5
1021	8/28/1926	FARMINGTON	4	133.9	83.2	418884.6	491093.4
1985	5/12/1967	BLUE MOUNTAINS	2.3	133.9	83.2	418884.6	491093.4
3465	2/23/1983	PASSAMAQUODDY BAY	0.7	134.5	83.6	536878.0	1363615.5
4457	8/15/1988	27 KM W OF HOULTON	2.2	134.6	83.7	898211.1	1067912.6
2329	6/21/1975	NW OF MT.KATAHDIN	2	134.9	83.8	888390.2	755955.8
6968	5/22/2015	8.0KM WNW OF CHISHOLM	2.4	135.1	83.9	308872.0	517242.7
7772	5/23/2021	11.0KM N OF EASTPORT	1	135.2	84.0	489578.1	1369649.7
6651	2/22/2013	35.0KM SE OF MACHIAS	1.3	135.7	84.3	295645.0	1331421.7
6511	4/22/2012	36.0KM SE OF MACHIAS	1	135.7	84.3	295645.0	1331421.7
4724	9/17/1989	MEDUXNEKEAG LAKE	1.8	135.8	84.4	887465.7	1106007.0
2800	5/16/1978	LIVERMORE	2.6	136.3	84.7	268435.9	532048.6
1467	7/15/1945	EASTPORT	3.6	136.4	84.8	453169.3	1372910.7
1470	8/28/1945	EASTPORT		136.4	84.8	453169.3	1372910.7
1535	11/21/1948	EASTPORT		136.4	84.8	453169.3	1372910.7
1199	8/26/1934	EASTPORT		136.4	84.8	453169.3	1372910.7
1206	3/4/1935	EASTPORT		136.4	84.8	453169.3	1372910.7
3905	9/7/1985	12.5 KM W OF HOULTON	2.3	136.4	84.8	887497.0	1111080.2
5793	10/25/2008	2.4KM N OF LIVERMORE 34KM WNW OF A	2.6	136.6	84.9	275837.6	526976.6
5451	1/3/2000	18 KM S OF LIVERMORE FALLS	3.3	136.9	85.0	238947.8	547137.6
7025	11/8/2015	34.0KM SE OF MACHIAS	1.4	137.0	85.1	321423.2	1346649.6
6674	3/30/2013	56.0KM W OF HOULTON	1	137.0	85.1	927214.6	969060.7
7720	7/29/2020	13.0KM N OF BATH	2.4	137.1	85.2	135212.6	637109.7
5402	1/4/1997	E OF PORTLAND	2.1	137.4	85.4	45690.7	804700.5
3997	4/28/1986	25 KM NNE OF AUBURN	2.2	137.5	85.4	231604.1	549607.5
916	10/10/1921	EASTPORT		137.7	85.6	416713.3	1373584.0
2749	1/5/1978	OFF SE COAST	2	138.1	85.8	317822.3	1349319.3
4036	7/12/1986	30 KM W OF HOULTON	3.2	138.1	85.8	912766.6	1060251.8
2930	1/14/1980	S OF MOUNT DESERT ISLAND	2.7	138.7	86.2	56156.2	1092453.6
4367	3/11/1988	24 KM E OF BATH	2.3	139.2	86.5	72062.7	720514.7
7601	10/15/2019	29.0KM S OF EUSTIS	1.3	139.3	86.5	477773.5	469163.3
2485	4/15/1976	N.OF LEWISTON	2.4	139.4	86.6	213272.5	554480.0
2748	1/5/1978	OFF SE COAST	1.9	139.5	86.7	288526.6	1341985.1
5876	11/25/2009	41.3KM SE OF MACHIAS	0.8	139.6	86.7	277503.8	1336943.1
7882	2/28/2024	15.0KM NE OF LEWISTON	1.3	139.6	86.8	198484.8	564678.2
6628	1/14/2013	6.0KM N OF BOOTHBAY HARBOR	2.5	139.7	86.8	90765.5	683843.0
1376	8/30/1941	HOULTON	3.7	139.9	86.9	887672.4	1136446.2
5346	9/5/1994	GULF - E OF BRUNSWICK	3.2	140.0	87.0	49696.8	765130.4
878	2/22/1914	RANGELEY LAKE	4.4	140.0	87.0	492419.9	466934.9
2883	4/18/1979	BATH	4.1	140.8	87.5	105765.0	655076.9
7735	9/20/2020	38.0KM SE OF MACHIAS	0.8	140.9	87.5	306976.1	1354724.7
7793	4/16/2022	65.0KM SE OF BAR HARBOR	2.5	141.0	87.6	130167.6	1228866.8
7890	2/3/2024	4.0KM ENE OF EASTPORT	1.3	141.0	87.6	460753.6	1388317.0
6517	5/9/2012	12.0KM WSW OF CHISHOLM	1	141.0	87.6	279881.9	508766.6
5622	6/1/2006	37.5KM SE OF MACHIAS, OFFSHORE	1.6	141.2	87.8	292304.6	1349756.4
6630	1/16/2013	5.0KM ENE OF BOOTHBAY HARBOR	1.5	141.4	87.9	72259.8	704690.5
7981	8/8/2023	18.0KM SSW OF LIVERMORE FALLS	2.5	141.6	88.0	239328.8	528815.4
4505	11/14/1988	10 KM S OF FARMINGTON	3.3	141.6	88.0	309399.3	493761.7
5984	1/5/2011	OFFSHORE ME, 37.0KM S OF EASTPORT	1.4	141.8	88.1	332724.6	1367310.3

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State 479836.977 N 926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5674	12/15/2006	12KM (7.5MI) ESE OF RUMFORD	1.6	141.9	88.2	320456.2	488798.0
3756	9/21/1984	25 KM SW OF FARMINGTON	2.5	142.1	88.3	305753.9	493677.8
5837	6/28/2009	14.7KM SW OF LIVERMORE FALLS	1.3	142.3	88.4	261539.6	513591.0
3516	5/29/1983	NE OF RUMFORD	1.6	142.6	88.6	327869.0	483754.2
7100	3/14/2016	5.0KM ESE OF DIXFIELD CENTER	1	142.7	88.7	313165.4	488628.5
6108	12/3/2011	21.0KM N OF LEWISTON	1.7	142.8	88.7	232038.2	528660.7
6100	10/27/2011	21.0KM N OF SEBOOMOOK	1.9	142.8	88.8	878456.1	679693.1
6949	4/23/2015	14.0KM N OF LEWISTON	0.9	143.3	89.0	206194.0	543848.5
2915	11/13/1979	SE OF CANTON	2.1	143.3	89.0	269004.1	505909.6
3515	5/29/1983	E OF RUMFORD	3.3	143.5	89.2	305874.6	488458.9
5452	1/17/2000	3.5 KM NNE OF DIXFIELD	3.5	143.7	89.3	331637.7	478627.3
7434	7/16/2018	6.0KM SE OF DIXFIELD CENTER	1.2	143.8	89.4	309580.8	485934.7
7729	8/28/2020	18.0KM N OF AUBURN	1.3	143.9	89.4	221047.1	531048.5
4381	4/2/1988	10 KM E OF BATH	2.2	144.2	89.6	57580.0	712421.0
4258	8/26/1987	5 KM S OF DALLAS	2.9	144.7	89.9	489163.2	451322.8
7086	2/11/2016	28.0KM SSW OF EUSTIS	2.4	144.8	90.0	481871.8	451137.4
7090	2/13/2016	29.0KM SSW OF EUSTIS	1	144.8	90.0	478226.1	451044.7
3559	9/18/1983	NE OF LEWISTON	1.9	145.4	90.4	187861.3	548723.2
7869	3/21/2024	6.0KM NNW OF DIXFIELD CENTER	1.6	145.6	90.5	342824.4	468467.3
7309	9/5/2017	21.0KM N OF MEXICO	1.6	145.8	90.6	401537.5	454298.1
7379	3/1/2018	43.0KM SE OF MACHIAS	1.9	145.8	90.6	296270.7	1367966.3
5359	2/12/1995	SE OF LEWISTON	2.5	146.0	90.7	191613.1	543550.4
3560	9/18/1983	NE OF LEWISTON	2	146.2	90.9	180518.1	551200.6
5939	6/17/2010	17.0KM NNE OF EASTPORT	1.7	146.3	90.9	501212.5	1405641.6
8047	2/22/2023	19.0KM NNE OF EASTPORT	0.6	146.4	91.0	512149.7	1405421.4
7670	2/23/2020	7.0KM NE OF LEWISTON	2.2	146.8	91.2	180570.9	548576.0
7669	2/23/2020	6.0KM ENE OF LEWISTON	1	147.8	91.8	169530.1	553607.1
3880	7/20/1985	SE OF BATH	2.1	147.9	91.9	46711.5	707004.1
1543	10/5/1949	HOUGHTON	3.4	148.1	92.1	434677.4	442152.6
2745	1/3/1978	OFF SE COAST	2.6	148.3	92.1	97332.7	1226602.3
7349	1/8/2018	46.0KM SE OF MACHIAS	1.6	148.5	92.3	292767.5	1375864.1
1120	3/11/1930	TOPSHAM		149.0	92.6	125087.1	589573.1
3034	9/29/1980	SW OF EAGLE LAKE	1.5	149.3	92.8	939440.0	756534.4
1086	12/25/1928	NEW LIMERICK		149.8	93.1	924136.6	1136170.9
5361	2/17/1995	SE OF LEWISTON	2.4	149.8	93.1	188240.0	530357.5
1793	12/14/1961	OFF SE COAST	3.3	150.7	93.6	49379.7	1169049.6
3526	6/29/1983	SW OF MONHEGAN ISLAND	2.4	151.0	93.9	24553.5	730514.6
5714	7/16/2007	LEWISTON	2.4	152.1	94.5	166204.7	537776.5
2878	2/21/1979	LEWISTON	1.9	152.4	94.7	158806.5	542880.3
833	1/15/1908	BATH		152.4	94.7	88173.9	615266.8
863	12/17/1911	BATH		152.4	94.7	88173.9	615266.8
2366	10/10/1975	SABBATUS	2.2	152.5	94.8	155107.9	545433.6
2365	10/10/1975	SABBATUS	1.9	152.5	94.8	155107.9	545433.6
3934	11/26/1985	3 KM N OF AUBURN	1.7	152.8	94.9	166259.1	535150.1
1473	10/30/1945	LEWISTON		152.9	95.0	162559.5	537701.2
1202	1/15/1935	LEWISTON		152.9	95.0	162559.5	537701.2
996	10/18/1925	LEWISTON		152.9	95.0	162559.5	537701.2
5917	3/21/2010	70.0KM SSE OF MACHIAS	1.8	152.9	95.0	156756.5	1310022.1
7180	10/14/2016	2.0KM ESE OF LEWISTON	1.4	153.0	95.1	158860.3	540253.1

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
3493	4/12/1983	13KM SW OF MONHEGAN ISLAN	3.1	153.4	95.3	9796.1	746214.9
5744	12/11/2007	6.2KM NW OF BRUNSWICK	2.2	153.4	95.3	110603.2	584042.0
5727	10/2/2007	4.8KM NW OF BRUNSWICK	2.4	153.7	95.5	106909.8	586608.3
3643	2/13/1984	EAST OF AUBURN	1.9	154.2	95.8	158968.8	534998.7
7522	4/15/2019	25.0KM SW OF EUSTIS	0.9	154.3	95.9	511849.8	420867.4
5842	7/24/2009	15.2KM N OF RUMFORD CENTER	1.4	154.4	95.9	365613.7	432566.3
5751	1/25/2008	5.2KM NW OF BRUNSWICK	1.7	154.8	96.2	107006.8	581341.5
5946	7/25/2010	OFFSHORE, ME, 43.0KM SSE OF EASTPOR	3.1	154.9	96.2	315237.4	1406759.9
3914	10/7/1985	3 KM N OF AUBURN	2.3	154.9	96.3	155323.6	534923.0
1585	2/18/1952	EAGLE LAKE		155.6	96.7	961318.9	756782.7
5819	3/9/2009	7.6KM N OF MECHANIC FALLS	1.7	155.6	96.7	192453.3	504201.8
3892	8/12/1985	17KM NW OF HOULTON	2.2	156.3	97.1	953216.6	1123308.6
4298	11/3/1987	29 KM NW OF TURNER	2.5	156.6	97.3	277527.2	453812.3
3661	3/13/1984	12KM S AUBERN	2.1	157.0	97.6	122091.2	555295.4
5224	1/3/1992	MT ZIRCON REGION	2.5	157.2	97.7	332804.4	431713.5
4095	10/23/1986	100KM SE FROM ELLSWORTH	2.3	157.3	97.8	9041.0	1137650.2
5845	7/29/2009	11.1KM NNW OF RUMFORD CENTER	1.3	157.4	97.8	347522.3	426883.3
903	7/11/1919	BRUNSWICK		157.4	97.8	88636.5	588910.6
4465	8/25/1988	SOUTH DURHAM	2.5	157.8	98.1	96120.6	578504.1
6788	2/7/2014	15.0KM NW OF MEXICO	0.8	158.0	98.2	369601.7	419651.9
3891	8/10/1985	20 KM NW OF HOULTON	2.2	158.2	98.3	956917.2	1130866.9
3064	1/4/1981	N OF BRUNSWICK	3	158.3	98.4	84991.5	588844.5
1388	3/8/1942	LEWISTON	2.6	158.9	98.8	200160.5	486007.7
7351	1/17/2018	40.0KM SSW OF EUSTIS	0.9	159.3	99.0	461233.8	403950.3
3503	5/4/1983	NW OF RUMFORD	2.2	159.5	99.1	369740.9	414448.2
7221	1/21/2017	18.0KM S OF RUMFORD CENTER	2.1	159.7	99.2	270432.3	445789.7
1983	4/28/1967	MONTICELLO	2.5	159.9	99.4	960601.3	1135895.0
1576	10/28/1951	S.PARIS	2.9	160.0	99.4	237235.6	460672.4
6148	2/29/2012	24.0KM NW OF EUSTIS	1.6	160.1	99.5	624939.4	421350.2
1101	10/8/1929	LEWISTON		160.3	99.6	126108.2	536949.0
3846	4/12/1985	E OF COBURN GORE	3.1	160.8	99.9	625009.5	418779.8
2422	2/5/1976	LEWISTON		160.9	100.0	115011.6	544621.2
7486	1/16/2019	30.0KM SW OF EUSTIS	2.4	161.4	100.3	512489.4	397608.5
5358	11/21/1994	NORWAY	2.8	162.4	100.9	325925.5	415880.8
4770	12/8/1989	MT ZIRCON	1.8	162.6	101.0	289127.4	427966.8
5870	11/19/2009	11.7KM NW OF RUMFORD CENTER	2.5	163.1	101.3	344363.0	408552.7
5628	8/5/2006	26KM NW OF RUMFORD	1.9	163.9	101.8	399474.8	394446.6
5893	2/2/2010	34.0KM SSW OF PRESQUE ISLE	2	163.9	101.9	1003885.6	1047297.3
7463	10/17/2018	7.0KM NNW OF SOUTH PARIS	1.3	164.0	101.9	233913.5	447491.7
7199	11/26/2016	4.0KM N OF FREEPORT	1.2	164.0	101.9	85537.2	559847.8
5985	1/7/2011	26.0KM WNW OF EUSTIS	1.6	164.1	102.0	618073.0	405724.5
7299	8/18/2017	41.0KM NE OF EASTPORT	1.5	164.3	102.1	564353.7	1458520.6
2941	2/25/1980	PENNESSEEWASSEE LAKE	2.3	164.4	102.2	226557.7	449928.7
7346	1/1/2018	21.0KM N OF HOULTON	0.4	164.5	102.2	968057.6	1156051.7
4317	12/13/1987	12 KM NE OF COBURN GORE	2.3	164.6	102.3	643451.2	411574.2
3233	1/17/1982	NW OF EAGLE LAKE	2.4	165.0	102.6	1001185.4	779939.7
2865	12/4/1978	BLUE MOUNTAIN	1.6	165.1	102.6	406911.6	389455.3
901	8/21/1918	BRIDGETON-NORWAY	4.5	165.6	102.9	200782.9	459784.1
7741	10/21/2020	6.0KM NNE OF NORWAY CENTER	1.6	165.9	103.1	230399.8	442162.9

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
1090	2/5/1929	AUBURN		166.2	103.3	126666.7	510636.8
6776	12/28/2013	39.0KM ESE OF CLAYTON LAKE	1	166.2	103.3	1018872.3	843127.5
5730	10/9/2007	14.7KM WNW OF RUMFORD	2	167.1	103.8	352083.2	393125.8
7019	10/30/2015	17.0KM W OF RUMFORD CENTER	1.4	167.2	103.9	341074.4	395426.8
6792	2/11/2014	19.0KM WNW OF MEXICO	1.5	167.3	104.0	348437.7	393024.3
7650	1/8/2020	17.0KM SW OF RUMFORD CENTER	1	168.4	104.7	297043.2	404659.5
4100	10/28/1986	12 KM W OF DIXFIELD	2.3	168.4	104.7	319129.8	397429.4
5799	11/13/2008	15KM WSW OF RUMFORD	2.2	168.8	104.9	315484.3	397329.0
5378	10/20/1995	NW OF MT ZIRCON	2.8	168.9	105.0	330210.4	392517.2
3169	9/6/1981	EAGLE LAKE	2	169.0	105.0	1008695.4	759843.1
5357	11/20/1994	NORWAY	3	169.9	105.6	208594.4	438989.8
5442	7/27/1999	73 KM WSW OF PRESQUE ISLE	2.7	170.3	105.8	1036873.5	881022.7
4914	8/10/1990	GREENWOOD	2	170.9	106.2	230870.2	423831.3
5722	9/13/2007	18.5KM WNW OF RUMFORD	1.8	171.2	106.4	348804.2	380001.6
2997	7/12/1980	W OF AUBURN	2.2	171.2	106.4	171685.2	456448.8
2845	9/23/1978	W OF SNOW MOUNTAIN	1.9	171.6	106.6	604299.3	377013.8
6594	10/29/2012	34.0KM NW OF MEXICO	0.9	172.3	107.1	403937.2	365972.3
7814	9/16/2022	12.0KM NW OF NORWAY CENTER	2.4	172.4	107.1	245797.0	411126.7
7468	11/25/2018	10.0KM S OF OXFORD	1.1	173.8	108.0	145978.0	463712.8
2860	10/31/1978	CRESCENT LAKE	1.9	174.1	108.2	127440.4	476431.0
2861	10/31/1978	CRESCENT LAKE	2	174.2	108.3	123733.8	478977.3
2859	10/30/1978	CRESCENT LAKE	1.6	175.0	108.8	116382.5	481440.2
7278	7/2/2017	12.0KM NNE OF NORTH WINDHAM	0.9	175.4	109.0	105265.8	489088.7
7362	1/24/2018	8.0KM S OF NORWAY CENTER	2.7	175.5	109.0	186923.6	430563.7
2973	5/14/1980	E OF SPECKLED MT	2.1	175.5	109.1	238717.6	403078.1
7594	9/25/2019	35.0KM WSW OF ASHLAND	2.9	175.6	109.1	1055034.1	896210.0
7267	6/12/2017	25.0KM W OF MEXICO	0.7	175.8	109.2	330875.8	369056.2
817	3/4/1906	PORTLAND-LEWISTON		176.3	109.6	53207.4	535448.7
2746	1/4/1978	OTISFIELD	3.2	176.4	109.6	142523.9	455736.8
2858	10/29/1978	CRESCENT LAKE	2.5	176.6	109.8	105386.4	483820.9
6930	3/11/2015	29.0KM WNW OF RUMFORD CENTER	2.2	177.0	110.0	353052.6	359272.5
3296	5/14/1982	S OF GLOUCESTER	2.8	177.2	110.1	131460.8	460731.6
8003	5/29/2023	8.0KM SSE OF MARS HILL	1.3	177.3	110.2	1015441.4	1153123.9
7415	6/4/2018	15.0KM N OF NORTH WINDHAM	1.4	177.5	110.3	116628.9	470910.0
4295	10/31/1987	5 KM NE OF PARMACHENEE LA	2.3	177.9	110.5	575902.5	350393.6
4648	5/22/1989	20 KM SW OF AUBURN	2.3	178.4	110.9	105569.8	475919.3
3297	5/17/1982	S OF GLOUCESTER	2.3	179.7	111.6	105693.6	470651.6
6531	6/13/2012	51.0KM NW OF MEXICO	1.3	179.9	111.8	455910.7	336369.2
6942	4/15/2015	33.0KM WNW OF RUMFORD CENTER	0.8	180.6	112.2	357085.3	346361.6
6709	6/26/2013	14.0KM WNW OF NORWAY CENTER	1.6	180.8	112.4	231858.0	387167.9
6931	3/11/2015	32.0KM W OF RUMFORD CENTER	1.3	180.9	112.4	353439.8	346252.1
7839	8/6/2024	12.0KM ESE OF ASHLAND	0.8	181.1	112.6	1062224.1	1044598.1
6945	4/18/2015	32.0KM W OF RUMFORD CENTER	0.7	181.2	112.6	349794.4	346142.5
3453	2/16/1983	SQUAPAN LAKE	1	181.2	112.6	1065825.0	1026988.7
6577	10/1/2012	42.0KM W OF EUSTIS	1.3	181.8	113.0	594448.4	340652.2
7713	7/4/2020	12.0KM WSW OF NORWAY CENTER	2.3	183.4	113.9	198833.6	394125.1
7715	7/6/2020	12.0KM WSW OF NORWAY CENTER	1	183.5	114.0	202550.9	391602.6
2747	1/4/1978	OTISFIELD	2.4	183.6	114.1	124688.8	439502.3
6870	10/4/2014	23.0KM WNW OF NORWAY CENTER	1.6	184.2	114.5	250677.2	366742.0

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
1016	5/15/1926	PORTLAND		184.8	114.8	16757.8	534700.6
5977	11/19/2010	5.0KM N OF BRIDGTON	1.4	185.8	115.4	165741.9	403734.6
4219	6/18/1987	N OF HARRISON	0	187.1	116.3	165883.6	398481.0
851	1/23/1910	WINDHAM	4	187.3	116.4	54355.9	482647.7
4751	11/3/1989	8.6 KM WNW OF RAYMOND	2.4	189.1	117.5	99239.3	436227.4
1198	8/3/1934	PORTLAND		190.0	118.1	17316.0	508256.1
1197	8/2/1934	PORTLAND		190.0	118.1	17316.0	508256.1
1196	8/2/1934	PORTLAND		190.0	118.1	17316.0	508256.1
904	7/23/1919	PORTLAND		190.0	118.1	17316.0	508256.1
1407	2/10/1943	PORTLAND		190.0	118.1	17316.0	508256.1
824	10/21/1906	PORTLAND		190.0	118.1	17316.0	508256.1
4923	8/23/1990	10 KM NE OF WEST PARIS	2.1	190.8	118.6	65913.1	456511.6
5417	6/7/1998	75 km W of Presque Isle	1.9	190.9	118.6	1102644.7	858779.3
2207	6/15/1973	NEAR NH-QUEBEC BORDER	4.7	191.9	119.2	610013.0	310234.0
6880	11/14/2014	6.0KM SSW OF NORTH WINDHAM	1.2	192.3	119.5	47435.3	466634.8
5486	5/25/2001	APRX 10 KM ESE OF PRESQUE ISLE	1.9	192.7	119.8	1080847.9	1122420.5
7308	9/2/2017	2.0KM WSW OF SOUTH PORTLAND	1.2	193.0	120.0	-4780.6	518369.9
6780	1/16/2014	8.0KM W OF NORTH WINDHAM	1.3	193.2	120.0	66170.9	445956.6
1754	9/19/1958	CAPE ELIZABETH	4	193.6	120.3	-19691.2	533953.9
7730	9/8/2020	3.0KM WSW OF PORTLAND	1	193.7	120.4	-965.9	510507.3
4425	7/8/1988	1.0 KM NNW OF WHITE ROCK	2.2	194.4	120.8	40208.0	463820.4
7301	8/24/2017	12.0KM SE OF SOUTH PORTLAND	2.2	195.2	121.3	-38235.0	549487.3
6005	4/4/2011	3.0KM NW OF WESTBROOK	1.4	195.9	121.7	17966.9	479167.1
5764	5/19/2008	6KM ESE OF PRESQUE ISLE	2.4	196.4	122.0	1091823.8	1127365.7
4053	8/9/1986	E SEBAGO	2.1	196.8	122.3	66567.2	430124.1
7785	9/25/2021	7.0KM SSW OF SOUTH PORTLAND	2	197.9	123.0	-22948.7	515334.4
6675	3/30/2013	12.0KM WSW OF NORTH WINDHAM	1.7	198.0	123.0	51787.5	437675.6
7903	1/4/2024	14.0KM N OF ASHLAND	1.8	199.2	123.8	1127793.1	1011817.9
6988	7/9/2015	16.0KM NNW OF FRYEBURG CENTER	0.7	200.0	124.3	208019.8	328776.4
5531	3/16/2003	17KM NW OF BORHAM	1.4	200.5	124.6	48342.0	429661.5
2981	5/27/1980	E OF ROUND POND	1.5	200.8	124.7	1131994.2	833907.7
7942	10/21/2023	6.0KM ENE OF PRESQUE ISLE	1.3	201.2	125.0	1110021.9	1122216.8
3161	8/30/1981	SE OF PORTLAND	2.4	201.2	125.1	-67548.9	556876.1
1712	4/26/1957	PORTLAND	3.8	201.8	125.4	-41229.3	517597.7
6717	7/14/2013	16.0KM NE OF LAKE ARROWHEAD	1.1	201.8	125.4	44764.2	426927.7
7255	5/18/2017	28.0KM SE OF SOUTH PORTLAND	1.3	202.0	125.5	-82479.4	575188.3
1903	6/22/1965	NNW OF HOULTON	2.9	202.2	125.6	1142377.1	959206.8
5369	5/26/1995	SEBAGO LAKE	2.7	203.2	126.3	56108.9	411366.0
2224	11/27/1973	SW OF CARIBOU	2	203.5	126.5	1142377.1	1009293.2
6817	5/29/2014	81.0KM SE OF EASTPORT	1.9	205.4	127.7	271596.6	1567146.8
2767	2/21/1978	N OF PORTAGE	2.4	205.5	127.7	1153324.6	954214.9
4159	3/13/1987	NE OF CORNISH	1.4	206.1	128.1	63891.5	393082.9
5952	8/29/2010	10.0 KM ENE OF LAKE ARROWHEAD	2.3	208.5	129.6	15671.8	423540.1
7677	3/9/2020	39.0KM E OF KENNEBUNKPORT	2.8	211.0	131.1	-122765.1	585092.4
1373	7/1/1941	OFF KENNEBUNKPORT	2	211.7	131.6	-92587.4	532464.7
5530	3/16/2003	17KM W OF BORHAM	2.2	211.8	131.6	8586.2	415416.4
7787	12/7/2021	35.0KM SE OF OLD ORCHARD BEACH	2.6	212.2	131.9	-122620.3	577109.1
3237	1/21/1982	NW OF MUSQUACOOK MOUNTAIN	2.6	212.6	132.1	1151216.2	736415.4
5680	2/6/2007	8KM SW OF WINTERVILLE	1.3	213.2	132.5	1178856.7	951754.3

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
5529	3/16/2003	21KM W OF BORHAM	1.8	213.4	132.6	12508.1	404929.4
7972	8/18/2023	21.0KM SSE OF ALLAGASH	0.8	213.9	132.9	1179181.7	866765.5
5627	7/14/2006	60KM NW OF PRESQUE ISLE	3.9	215.3	133.8	1186175.2	939272.6
6122	12/30/2011	20.0KM SSE OF ALLAGASH	2	215.8	134.1	1186404.6	879302.9
6589	10/16/2012	10.0KM SE OF LAKE ARROWHEAD	4	217.3	135.0	-16928.3	414755.4
823	10/20/1906	SACO		217.4	135.1	-54369.8	453611.4
909	6/7/1920	SACO		217.4	135.1	-54369.8	453611.4
828	6/29/1907	BIDDEFORD		217.4	135.1	-54369.8	453611.4
822	10/19/1906	SACO		217.4	135.1	-54369.8	453611.4
5356	11/18/1994	PORTER	2.2	219.5	136.4	50572.6	347791.7
6610	12/4/2012	7.0KM S OF LAKE ARROWHEAD	2.6	221.1	137.4	-12724.6	393662.2
7960	9/9/2023	6.0KM SSW OF LAKE ARROWHEAD	0.8	222.6	138.3	-8792.5	383168.1
5320	5/18/1993	10 KM NORTH OF ALFRED	2	222.7	138.4	-38729.0	411538.0
2705	9/8/1977	LITTLE OSSIPEE POND	1.8	222.7	138.4	-31231.1	403775.5
7097	3/8/2016	21.0KM ESE OF ALLAGASH	1.3	223.2	138.7	1211795.5	909385.4
6129	1/16/2012	11.0KM SSE OF ALLAGASH	2.1	224.0	139.2	1212034.5	861971.3
7961	9/9/2023	9.0KM SW OF LAKE ARROWHEAD	1.4	225.6	140.2	-8426.5	369928.1
2939	2/9/1980	W OF BIDDEFORD	2.4	226.7	140.9	-30734.3	385221.0
3710	6/8/1984	45 KM SSE OF PORTLAND	2.2	228.2	141.8	-154493.0	528538.1
5784	10/5/2008	3.8KM NE OF SHAPLEIGH	1.8	228.6	142.1	-23006.2	369520.7
3906	9/9/1985	35 KM SW OF PORTLAND	1.9	229.7	142.8	-97849.9	441927.2
3624	1/16/1984	NEAR MADAWASKA LAKE	2.4	229.8	142.8	1222717.9	1054084.5
4025	6/21/1986	15 KM NW OF ALFRED	1.4	229.8	142.8	-34088.3	374517.6
5734	10/16/2007	15.5KM NNW OF SANFORD	1.9	230.2	143.1	-19062.7	359025.2
2899	7/28/1979	S OF KENNEBUNKPORT	3.5	232.8	144.7	-131287.0	467749.8
3956	1/29/1986	SHAPLEIGH	2.1	233.7	145.2	-41082.1	363708.0
1252	10/12/1937	KENNEBUNKPORT		234.8	145.9	-127265.5	451862.4
3496	4/17/1983	15KM N OF CARIBOU	2.4	235.6	146.4	1237411.0	1078954.6
2522	7/28/1976	OFF SW COAST	2.3	236.1	146.7	-179840.5	520012.5
2606	12/14/1976	DICKEY		237.4	147.5	1252401.0	827357.4
7789	1/17/2022	7.0KM WNW OF SPRINGVALE	1.7	239.3	148.7	-59081.3	355232.9
2608	12/16/1976	DICKEY		240.0	149.1	1259777.8	817458.5
4338	1/24/1988	12 KM WSW OF ALFRED	2.7	240.2	149.3	-73960.5	365441.5
7453	9/9/2018	16.0KM SE OF FORT KENT	1.2	241.8	150.3	1270008.3	996690.1
7256	5/21/2017	17.0KM ENE OF YORK HARBOR	1.7	242.4	150.6	-167671.9	464237.2
3478	3/14/1983	W OF SANFORD	1.9	243.0	151.0	-73585.0	352161.9
7524	4/18/2019	11.0KM WSW OF VAN BUREN	1.2	243.8	151.5	1262991.1	1088786.4
5342	5/22/1994	13 KM NNW OF BERWICK	2.2	247.6	153.8	-91733.2	348983.2
5334	9/14/1993	NEAR CARIBOU	1.5	247.8	154.0	1288259.0	1011592.6
3580	10/28/1983	EAST OF YORK HARBOR	2.3	248.1	154.2	-200840.7	479497.8
7766	3/19/2021	21.0KM ESE OF YORK HARBOR	2.1	248.1	154.2	-200840.7	479497.8
5861	10/16/2009	16.5KM E OF YORK HARBOR	1.4	248.5	154.4	-193246.4	466313.0
5552	3/17/2004	4.2KM NE OF CAPE NEDDICK, OFFSHORE	2.1	248.5	154.4	-166837.1	429568.7
2062	8/24/1969	OFF SOUTHWESTERNMAINE	3.2	248.6	154.5	-200780.3	476827.1
4416	6/21/1988	12 KM SWS OF RIVIERE-VERT	1.5	252.8	157.1	1299305.8	1053810.2
2061	8/24/1969	OFF SOUTHWESTERN MAINE	2.9	253.0	157.2	-200159.0	450119.9
2052	5/11/1969	OFF SOUTHWESTERN MAINE	2.8	253.0	157.2	-200159.0	450119.9
5936	6/7/2010	OFFSHORE ME, 30.0KM ESE OF YORK HA	2.9	253.4	157.5	-234113.3	500155.8
4819	3/21/1990	NORTHERN	2	260.8	162.1	1324863.9	1061161.6

EARTHQUAKES IN MAINE

1900 - Present Distance from Site

CASELLA, JRL EXPANSION, W. OLDTOWN, MAINE **Approximate Center State** **479836.977 N** **926096.739 E**

Point Number	Quake Date	Region	Magnitude	Distance Km	Distance Miles	Coordinates North/East:	
829	7/11/1907	ME-NH COAST		267.3	166.1	-198103.7	369997.6
4955	10/26/1990	5 KM SW OF ST. ELEUTHERE		276.5	171.8	1373328.5	768931.5
7402	5/6/2018	85.0KM WNW OF ALLAGASH	2.2	282.4	175.5	1343322.3	590069.3
7399	4/24/2018	87.0KM WNW OF ALLAGASH	2.8	289.6	180.0	1368851.9	590590.8
7364	1/24/2018	91.0KM WNW OF ALLAGASH	1.7	290.3	180.4	1365514.1	575658.7
7446	8/8/2018	97.0KM WNW OF ALLAGASH	1.9	299.4	186.0	1394850.0	568860.3
7410	5/22/2018	84.0KM NW OF ALLAGASH	2	307.0	190.8	1454889.1	673712.5
7358	1/20/2018	104.0KM WNW OF ALLAGASH	1.2	309.1	192.0	1424298.5	557147.7
7381	3/13/2018	69.0KM NNE OF FORT KENT	3.5	314.5	195.4	1500023.6	1080130.6
6496	4/12/2012	312.0KM SE OF ROCKLAND	2.5	356.8	221.7	-437271.5	1653650.7
7900	1/13/2024	289.0KM SSE OF MACHIAS	2.8	367.5	228.4	-462059.1	1678717.1
6497	4/12/2012	331.0KM SE OF ROCKLAND	2.8	384.2	238.7	-565592.9	1630222.7
3418	12/23/1982	WHITINSVILLE	1.9	397.4	247.0	-539997.9	113665.4
7303	8/25/2017	325.0KM SSE OF MACHIAS	2.4	407.0	252.9	-538711.3	1789611.2
7304	8/25/2017	390.0KM SSE OF EASTPORT	3.4	474.4	294.8	-689411.4	1953402.9
7305	8/27/2017	394.0KM SSE OF EASTPORT	2.9	478.8	297.5	-684623.8	1980552.5

APPENDIX C

TEST PIT LOGS

SME
SEVEE & MAHER
ENGINEERS

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-09** LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/11/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.3 Dark brown sandy silt trace of gravel w/ gleyed zones	wet area surface seepage
5		Mottled brown gravelly sandy silt trace of cobbles 5.5	
10		Brown gravelly sandy silt	test pit excavated east to west . Refusal surface drops sharply to the east
		12.5 (basal till)	
15		REFUSAL	
20			
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-12** / LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/14/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.3 Reddish brown sandy silt trace of gravel w/ gleyed zones	many boulders at the surface bedrock outcrops to the west and south
5		Mottled brown gravelly sandy silt trace of cobbles and boulders	
		6.5 (basal till)	slight seepage at 6.5
10		REFUSAL	
15			
20			
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-13** LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/14/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.8 Dark brown organic layer	many boulders and cobbles at the surface
5		Mottled brown gravelly sandy silt trace of cobbles and boulders (basal till) 4.5	slight seepage at surface and 4.5
		REFUSAL	
10			
15			
20			
25			

Sevee Maher Engineers

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-14**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/14/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		1.0 Dark brown gravelly sandy silt trace of cobbles			
		Mottled brown gravelly sandy silt trace of cobbles medium dense	no seepage observed		
5		6.0			
		8.0 Brown gravelly sandy silt trace of cobbles dense		12.6	55.0
10		11.0			
		becoming grayish brown with manganese staining very dense			
15					
		18.0			
		Gray gravelly sandy silt trace of cobbles			
20		20.0 (basal till)			
		B.O.E.			
25					

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-17**
				LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/14/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.3 Reddish brown gravelly sandy silt trace of cobbles	
5		Mottled brown gravelly sandy silt trace of cobbles 5.0 medium dense	
10		Brown gravelly sandy silt trace of cobbles dense- very dense	
		13.5	moderate seepage at 12 ft
15		**** becoming grayish brown with blocky structure very dense	
20		19.0 (basal till)	
		B.O.E.	
25			

Sevee Maher Engineers

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-18** LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.0 Dark brown/ reddish brown gravelly sandy silt trace of cobbles	
5		Mottled brown gravelly sandy silt trace of cobbles dense	
			fractured
		9.0	appears drier than soils above
10		Brown silty fine sand	hole caving 8- 12 ft
		14.0	slight seepage at 14 ft
15		Brown gravelly sandy silt trace of cobbles and boulders	excavation staying open
		18.5 Gray gravelly sandy silt - very dense (basal till)	
20		B.O.E.	
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-19**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.0 Reddish brown gravelly sandy silt	many surficial cobblews and boulders
		Mottled brown gravelly sandy silt trace of cobbles and boulders	
		4.0	
5			slight seepage at 5 ft
		Brown gravelly sandy silt trace of cobbles dense- very dense blocky structure	
10			
		12.0	moderate seepage at 12 ft
15		**** becoming grayish brown with blocky structure very dense	
		**** becoming clayey	
20		21.5 (basal till)	
		B.O.E.	
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-20**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		1.0 Reddish brown gravelly sandy silt trace of cobbles	surficial bolders		
5		5.5 Mottled brown gravelly sandy silt trace of cobbles dense		11.2	52.6
10		Brown gravelly sandy silt trace of cobbles dense- very dense blocky structure	slight seepage at 8 ft		
15					
20		20.0 (basal till)			
25		B.O.E.			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-21**
				LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.2 Dark grayish brown gravelly sandy silt trace of cobbles	surficial bolders wet area slight seepage at 3 ft
5		Mottled brown gravelly sandy silt trace of cobbles and boulders 5.5	
10		Brown gravelly sandy silt trace of cobbles and many boulders dense	
15		15.0	
20		*** becoming grayish brown very dense 21.5 (basal till)	
25		B.O.E.	

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-22**
				LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		1.2 Reddish brown gravelly sandy silt			
5		4.5 Mottled brown gravelly sandy silt trace of cobbles and boulders			
	X			13.6	44.7
10	X	Brown gravelly sandy silt trace of cobbles and many boulders very dense **** has more gravel	many 1-2-inch rocks		
15		15.0 fine to medium sand with iron staining and silt layers			
20	X	(basal till)	heavy seepage at 21.5 (boiling up from bottom)		
		21.5 B.O.E.			
25					

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-23**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.0 Reddish brown gravelly sandy silt	
5		Mottled brown gravelly sandy silt trace of cobbles and boulders medium dense (4.0)	
10		Brown gravelly sandy silt trace of cobbles and boulders (10.0)	
		**** becoming grayish brown very dense	many 1-2-inch rocks
15		(15.0) fine to medium sand with iron staining and silt layers	
20		20.0 (basal till)	
		B.O.E.	
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-24**
				LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/15/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		0.8 Reddish brown gravelly sandy silt	surficial boulders		
5		Mottled brown gravelly sandy silt trace of cobbles and boulders 5.5			
		Brown gravelly sandy silt trace of cobbles and boulders	moderate seepage at 6 ft	14.2	63.0
10		**** becoming grayish brown very dense blocky structure and manganese staining			
15					
20		20.0 (basal till)			
		B.O.E.			
25					

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-25**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.8 Reddish/dark brown gravelly sandy silt	surficial cobbles
5		Mottled brown gravelly sandy silt trace of cobbles and boulders 4.0	slight seepage at 6 ft
10		Brown gravelly sandy silt trace of cobbles and boulders blocky structure and very dense **** more gravel (difficult to excavate)	
15			moderate seepage at 17 ft
20		21.5 (basal till)	
25		B.O.E.	

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-26** / LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.8 dark brown organic layer	surficial cobbles
		Mottled brown gravelly sandy silt trace of cobbles	
5		4.0	slight seepage at 4 ft
		Brown sandy silty gravel trace of cobbles	
10		12.5 (basal till)	heavy seepage at 12.5
		REFUSAL	
15			
20			
25			

TEST PIT LOG

PROJECT: WOTLF- FUTURE EXP		LOCATION: see plan	JOB NO. 03076	TEST PIT NO TP-04-27 / LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		1.3 Reddish brown gravelly sandy silt			
5		4.0 Brown gravelly sandy silt trace of cobbles	no mottling observed		
			slight seepage at 8 ft		
10		10.0 *** becoming grayish brown blocky structure and manganese staining	slight seepage at 10 ft		
15		15.0 *** becoming light brown blocky structure slightly sandier		14.3	58.9
20		(basal till) 22.2			
25		B.O.E.			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-28**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.5 Dark brown organic layer	slight surface seepage
		Mottled brown gravelly sandy silt trace of cobbles and boulders	
5		5.0	slight seepage at 4 ft
		Brown gravelly sandy silt trace of cobbles	
10			
		**** becoming sandier at 14 ft	
15		16.0 (basal till)	
		REFUSAL	moderate seepage at 17 ft
20			
25			

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TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-29**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		0.5 Dark brown sandy silt trace of gravel			
		Mottled brown gravelly sandy silt trace of cobbles and boulders	many 1-2 inch rocks difficult to excavate slight seepage at 5 ft		
5		5.0			
		*** less gravel			
10		11.0			
		*** becoming silty gravel with little sand trace of cobbles			
		14.0			
15		Brown gravelly sandy silt trace of cobbles		10.0	41.3
		18.0			
		**** becoming clayey (basal till)			
20		B.O.E.			
25					

TEST PIT LOG

PROJECT: WOTLF- FUTURE EXP		LOCATION: see plan	JOB NO. 03076	TEST PIT NO TP-04-30
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.5 Dark brown sandy silt trace of gravel	
5		Mottled brown clayey silt and boulders 4.5	seepage along clay prisms
		Brown clyey silt	
10		9.0 (marine ~~deposit~~ CLAY)	moderate seepage at 9 ft
		Brown gravelly sandy clayey silt	
15		medium dense	
		18.0 (basal till)	hole caving
20		B.O.E.	
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-31**
				LOGGED BY KPN
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/16/2004	GROUND ELEV.(FT)	GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		0.8 Dark brown sandy silt	
5		Mottled brown gravelly sandy silt trace of cobbles and boulders 4.5	medium dense
10		Brown gravelly sandy silt trace of cobbles and boulders	slight seepage 8-9 ft
15		12.0 **** becoming grayish brown trace of clay	
20		(basal till)	
25		B.O.E.	

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TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-32**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/17/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA
		1.0 Dark brown sandy silt	many surficial boulders and cobbles heavy surface seepage
		Mottled brown gravelly sandy silt trace of cobbles	
5		4.5	
		Brown gravelly sandy silt trace of cobbles and boulders	
10		**** becoming slightly sandier	
15			
20		20.5 (basal till)	
		B.O.E.	
25			

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-33**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/17/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		0.5 Dark brown sandy silt			
		1.0 ~~Gleyed~~ sandy silt	slight surface seepage		
5		Mottled brown gravelly sandy silt trace of cobbles			
		5.0			
		Brown gravelly sandy silt trace of cobbles and boulders	blocky structure		
		9.0 dense			
10					
		**** becoming grayish brown very dense			
15					
		18.0			
		*** becoming brown clayey gravelly sandy silt trace of		13.7	60.3
20					
		21.0 cobbles- medium dense (basal till)			
		B.O.E.			
25					

TEST PIT LOG

PROJECT: **WOTLF- FUTURE EXP**		LOCATION: see plan	JOB NO. 03076	TEST PIT NO **TP-04-34**
CONTRACTOR Sargent &Sargent	EXCAVATION EQUIPMENT Cat 330L	DATE 6/17/2004	GROUND ELEV.(FT)	LOGGED BY KPN
				GROUNDWATER DEPTH(FT) see remarks

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION AND CLASSIFICATION	REMARKS,LAB TEST RESULTS, WATER DATA	MC %	% Passing # 200 sieve
		1.0 Dark brown sandy silt			
		Mottled brown clayey silt			
5		5.0	moderae seepage at 6 ft		
		Olive brown silty clay			
10			slight seepage at 10 ft		
15		15.0 CLAY (marine sediments)			
		Brown clayey gravelly sandy silt trace of cobbles medium dense		12.1	54.8
20		20.5 (basal till)			
		B.O.E.			
25					

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TEST PIT NO. 112

GROUND SURFACE ELEV. _____ **PROJECT NO:** 9006

LOCATION OT-3 (SEE PLAN **DATE:** 03·15·90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.2 ORGANICS 0.75 RED BROWN SILTY SAND TR GRAVEL	
3	X	MOTTLED BROWN/GRAY SILTY GRAVELLY SAND TR COBBLES	
		4.0	DENSE TO VERY DENSE W/ DEPTH
5		BROWN SILTY GRAVELLY SAND TR COBBLES	
7	X		
9	X		
11			
13			
15		15.0 GRAY BROWN SILTY GRAVELLY SAND TR COBBLES	
17		17.5	
19		B.O.E.	

COMPLETION DEPTH 17.5 FEET **DEPTH TO WATER** 1-2 FEET SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. 113

GROUND SURFACE ELEV. _____ PROJECT NO: 9006

LOCATION OT-3 (SEE PLAN) DATE: 03.15.90

DEPTH - FEET	SAMPLES	DESCRIPTION (____WALL FACE)	REMARKS
1		0.2 ORGANICS RED BROWN/BROWN GRAVELLY 2.0 SAND TR SILT	
3		MOTTLED SILTY GRAVELLY SAND	
5		5.0	VERY DENSE
7		BROWN SILTY GRAVELLY SAND TR COBBLES	
9			
11			
13		13.0	
		14.0 BROWN SAND TR SILT	
15		REFUSAL	
17			
19			

COMPLETION DEPTH 14.0 FEET DEPTH TO WATER 0-2 FEET
@ 13.0
SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. TP 114

GROUND SURFACE ELEV. _____ PROJECT NO: 9006

LOCATION OT-3 (SEE PLAN) DATE: 03.15.90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.5 ORGANICS	
3		MOTTLED BROWN/GRAY SANDY SILT TR GRAVEL	DENSE BOULDER @ 3' 1+/- CY
5		5.0	
7	X	BROWN SILTY GRAVELLY SAND TR COBBLES	DENSE TO VERY DENSE W/ DEPTH
9	X		
11			
13			
15			
		16.0	
17		B.O.E	
19			

COMPLETION DEPTH 16.0 FEET DEPTH TO WATER HEAVY SURFACE SEEPAGE FEET

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. 116

GROUND SURFACE ELEV. _____ PROJECT NO: 9006

LOCATION OT-3 (SEE PLAN) DATE: 03·16·90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.5 ORGANICS	
		MOTTLED BROWN/GRAY SANDY SILT TR GRAVEL	
3		4.0	
5		BROWN SILTY GRAVELLY SAND TR COBBLES	DENSE TO VERY DENSE
7			
9			
11			
		12.0	
13	X	BROWN GRAVELLY SAND LITTLE SILT	SAND LAYERS
15			CAVED 12-17'
			MODERATE SEEPAGE
17		17.0	
		B.O.E.	
19			

COMPLETION DEPTH 17.0 FEET DEPTH TO WATER 0.5 ± FEET

12-17 SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

BEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. 117

GROUND SURFACE ELEV. _____ **PROJECT NO:** 9006

LOCATION OT-3 (SEE PLAN) **DATE:** 03·16·90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.2 ORGANICS	
		0.75 RED BROWN SILTY SAND TR GRAVEL	
3		3.0 MOTTLED BROWN/GRAY SILTY GRAVELLY SAND TR COBBLES	DENSE
5			
7		BROWN SILTY GRAVELLY SAND TR COBBLES	DENSE
9			
11			
13		13.0	
15		GRAY/BROWN SILTY GRAVELLY SAND TR COBBLES	
		16.5	
17		T3.0.E	
19			

COMPLETION DEPTH 16.5 FEET **DEPTH TO WATER** 0-0.75 FEET SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. 133

GROUND SURFACE ELEV. _____ PROJECT NO: 9006

LOCATION OT-3 (SEE PLAN) DATE: 03.27.90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.2 ORGANICS 1.0 DARK BROWN SILTY SAND MOTTLED BROWN/GRAY	
3		3.5 SILTY GRAVELLY SAND	
5		BROWN SILTY GRAVELLY SAND TR COBBLES	DENSE TO VERY DENSE W/ DEPTH
7			
9			
11			
13		13.0 14.0 BROWN GRAVELLY SAND LITTLE SILT	
15		REFUSAL	
17			
19			

COMPLETION DEPTH 14.0 FEET

DEPTH TO WATER 0-1.0 FEET
∇ 13-14
MODERATE SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

TEST PIT NO. 135

GROUND SURFACE ELEV. _____ PROJECT NO: 9003

LOCATION OT-3 (SEE PLAN) DATE: 03.27.90

DEPTH - FEET	SAMPLES	DESCRIPTION (____WALL FACE)	REMARKS
1		1.0 ORGANICS	
3		MOTTLED BROWN SILTY CLAY	STIFF
5		6.0	
7		BROWN SILTY GRAVELLY SAND TR COBBLES	MEDIUM DENSE
9		10.5	
11		BROWN SANDY GRAVEL TR SILT	LOOSE
13		14.0	
15		B.O.E.	
17			

COMPLETION DEPTH 14.0 FEET

DEPTH TO WATER SURFACE FEET
@ 10.5', 14.0
HEAVY SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

TEST PIT NO. 138

GROUND SURFACE ELEV. _____ PROJECT NO: 9006

OCATION OT-3 (SEE PLAN) DATE: 03-27-90

DEPTH - FEET	SAMPLES	DESCRIPTION (____ WALL FACE)	REMARKS
1		0.5 ORGANICS MOTTLED BROWN/GRAY SILTY GRAVELLY SAND OR COBBLES ± BOULDERS	
3		3.5	
5			DENSE TO VERY DENSE W/ DEPTH
7		BROWN SILTY GRAVELLY SAND OR COBBLES ± BOULDERS	
9			
11			
13			
15			
		16.0	
17		B.O.E.	

COMPLETION DEPTH _____ FEET DEPTH TO WATER 0-1.5 FEET HEAVY SEEPAGE

SURFACE DIMENSION _____ FEET x _____ FEET

SEVEE & MAHER ENGINEERS, INC.

Point	Northing	Easting	Ground Ele	Description	depth to be		bedrock elevation
1	480468.2	925146.2	190.9	TP23-01	>12	<	178.9
2	480535.5	925416.5	198.6	TP23-02	>12	<	186.6
3	480816.6	925247.2	190.8	TP23-03	>12	<	178.8
4	481267.1	925338.7	185.4	TP23-04	180.47		180.47
5	480855.1	924818.4	170.2	TP23-05	>12	<	158.2
6	481171	924924	176.7	TP23-06	>12	<	164.7
7	481924.4	925259.7	167.7	TP23-07	>12	<	155.7
8	481485.9	925389.2	179.8	TP23-08	169.8		169.8
9	481556.8	925085.7	175.8	TP23-09	>12	<	163.8
10	481288.7	925765.1	178.2	TP23-10	>12	<	166.2
11	481462.6	926377.9	160.4	TP23-11	>12	<	148.4
12	481148.3	926521.6	161.4	TP23-12	>12	<	149.4
13	480945.1	926779.2	155.5	TP23-13	>12	<	143.5
14	481768.3	926103.4	161.4	TP23-14	>12	<	149.4
15	481882.3	925755.1	160.4	TP23-15	>12	<	148.4
16	481352.5	925425.3	182.9	TP23-16	5.5		177.4
17	481394.5	925449	182.2	TP23-17			176.74
18	481447	925495.1	180.2	TP23-18	10		170.2
19	481263.2	925435.2	185.6	TP23-19	6.5		179.1
20	481182.4	925424.3	187.5	TP23-20	7.5		180
21	481101.8	925454.9	189.1	TP23-21	10.5		178.6
22	481360.7	925249.5	179.8	TP23-22	6.5		173.3
23	481239.5	925263.4	184.3	TP23-23	>12	<	172.3
24	481514	926383	162.7	Outcrop (XX)			
25	481516.1	926373.4	161.8	Outcrop (XX)			
26	481534.4	926402.8	161.8	Outcrop (XX)			
27	481528.5	926410	161.7	Outcrop (XX)			
28	481547.1	926412.5	160.8	Outcrop (XX)			
29	481528.2	926477.3	159.6	Outcrop (XX)			
30	481520.2	926484.8	158.7	Outcrop (XX)			
31	481508.4	926493.4	159.4	Outcrop (XX)			
32	481525.4	926495.7	157.6	Outcrop (XX)			

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-01
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
	0.4 Very Dark Brown Loamy Forest Duff w/ Organics	
1	1.0 Very Dark Greyish Brown Very Fine Sandy Silt (moist)	
	1- 12.2 Olive with Yellowish Red Mottling Very Fine Sandy Silt (moist)	
2	Large Cobbles and Boulders Present Throughout Test Pit	
3		
4		
		Seepage @ 4.1-feet
5		
6		
7		
		Seepage @ 7.6-feet
8		
9		
10		
11		
12		
	BOE: 12.2 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-02

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
TEST PIT DATE: 6/17/2024
SME JOB NO.: 240101.00

EXCAVATION CONTRACTOR: Thorton Construction
LOGGED BY: TJM

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.5	Black	Very Fine Sand w/ Silt Forest Duff w/ Organics	
1	1.4	Olive Grey	Very Fine Sandy Silt w/ more stone	
2	1.4 to 16.7	Dark Yellowish Brown	Very Fine Sandy Silt w/ Boulders and more stones present Large Cobbles and Boulders Present Throughout Test Pit Seeps present throughout test pit	
3				Seepage @ 2.6-feet
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17	BOE: 16.7 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-03
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.9 Black Very Fine Sand w/ Silt Forest Duff w/ Organics	
2	1.5 Greyish Brown Silty Fine Sand	
3	1.5 to 15.7 Greyish Brown w/ Yellowish Red Mottles Silty Fine Sand Large Cobbles and Boulders Present Throughout Test Pit	Seepage @ 2.6-feet
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16	BOE: 15.7 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-04
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.7 Black Very Silty w/ Fine Sand and Organics, Forest Duff	
2	2.2 Dark Greyish Brown Gravelly Sand w/ Silt w/ Boulders	
3	2.2 to 14 Reddish Brown/ Yellowish Brown/ Greyish Brown Mottling in a Dark Greyish Brown Matrix Course Sand w/ Silt and some Gravel	Seepage @ 2.9-feet
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
	BOE: 14 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-04
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.7 Black Very Silty w/ Fine Sand and Organics, Forest Duff	
2	2.2 Dark Greyish Brown Gravelly Sand w/ Silt w/ Boulders	
3	2.2 to 14 Reddish Brown/ Yellowish Brown/ Greyish Brown Mottling in a Dark Greyish Brown Matrix Course Sand w/ Silt and some Gravel	Seepage @ 2.9-feet
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
	BOE: 14 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-05
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.3	Dark Reddish Brown	Forest Duff	
1				
	1.3	Dark Yellowish Brown	Gravelly Silt with Sand	
	1.3 to 14.6	Dark Greyish Brown	Silty Sand w/ Gravel	
2	Large Cobbles and Boulders Present Throughout Test Pit			
3				Seepage @ 2.8-feet
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
	BOE: 14.6 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-06
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
	0.3 Dark Reddish Brown Forest Duff	
1		
2	1.9 Yellowish Brown Gravelly Silt	
3	1.9-14 Greyished Brown with faint Reddish Brown Mottling Gravelly Silt with Sand Large Cobbles and Boulders Present Throughout Test Pit	
4		Seepage @ 3.2-feet
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
	BOE: 14 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-07
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
0.3	Black Silt with Organics	
0.5		Yellowish Brown Clayie Silt w/ Boulders
1	0.5 to 16.5 Light Brownish Grey Clayey Silt with Sand and Gravel	
2	Large Cobbles and Boulders throughout Test Pit	
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		Seepage @ 12-feet
13		
14		
15		
16		
	BOE: 16.5 feet	
NOTES		

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Equipment: Hyundai LC300 Excavator
Test Pit ID: TP-24-08
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.8 Black Forest Duff	
2	1.6 Light Brownish Gray Gravelly Clayey Silt 1.6 to 17.9 Brown Clayey Silt with Gravel	
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
	BOE: 17.9 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-09
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
	0.3 Reddish Black Silt W/ Organics, Forest Duff	
1		
2	1.9 Strong Brown Sandy Silt	
3	1.9-17.6 Yellowish Brown w/ Reddish Brown Mottles Silt with Gravel and Sand Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
	BOE: 17.6 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-10
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
0.5	Black Gravelly Silt w/ Organics	
0.7		Light Brownish Gray Gravelly Sandy Silt w/ some clay
1	0.7 to 8 Light Yellowish Brown/Tan Gravelly Silt	
2		
3	Large Cobbles and Boulders Present Throughout Test Pit	
4		
5		
6		
7		
8	Tan Sandy Clay w/ Boulders	Test Pit Kept Caving In
	BOE: 8 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-11
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/17/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.7	Black/Very Dark Brown	Silt w/ Organics, Forest Duff	
	1.1	Gray	Gravelly Sandy Silt	
2	1.4	Reddish Brown	Silty Gravel	Seepage @ 1.8-feet
	1.4 to 13	Yellowish Brown/ Tan	Gravelly Sandy Silt	
3	Large Cobbles and Boulders Present Throughout Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
12				
13	More Gravel observed deeper into the Test Pit Seepage Apparent Throughout Test Pit			
	BOE: 13 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-12
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
	0.3 Black Silt w/ Organics, Forest Duff	
1	0.8 Light Gray Gravelly Coarse Sand w/ Silt 0.8 to 16.8 Strong Brown w/ Reddish Brown and Light Gray Mottling Gravelly Fine Sand w/ Silt	
2	Large Cobbles and Boulders Present Throughout Test Pit No Seepage Observed	
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	BOE: 16.8 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-13

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):

EXCAVATION CONTRACTOR: Thorton Construction
LOGGED BY: TJM
TEST PIT DATE: 6/18/2024
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.5	Black	Silt w/ Fine Sand and Organics	
1	1.1	Strong Brown	Gravelly Sandy Silt	Thickness Variable
	1.1 to 12.7	Light Olive Brown w/ Reddish Brown Mottling	Fine Sandy Silt w/ Some Gravel	
2	Large Cobbles and Boulders Present Throughout Test Pit			
3				
4				
5				Seepage @ 5-feet
6				
7				
8				
9				
10				
11				
12				
13				
	BOE: 12.7 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-14
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.7	Dark Reddish Brown	Sandy Silt w/ Organics	
	1.0	Light Gray w/ Very Dark Brown Mottling	Gravelly Sand w/ Trace Silt	
2	1.6	Reddish Orange Brown	Silty Sand	
	1.6 to 13.5	Light Olive Brown w/ Reddish Brown Mottling	Silt Coarse Sand w/ Some Gravel	
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages			
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
	BOE: 13.5 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-15
PROJECT: Casella
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Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.6	Black	Sandy Silt w/ Organics	Seepage @ 1-foot
2	1.9	Grayish Brown	Gravelly Sandy Silt	
3	1.9 to 12.9	Olive Brown w/ Reddish Brown Mottling Large Cobbles and Boulders Present Throughout Test Pit	Gravelly Silty Sand	
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
	BOE: 12.9 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-16
PROJECT: Casella
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Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.5	Black	Silt, Trace Sand w/ Organics	
	1.0	Brownish Grey	Gravelly Sandy Silt	
2	1 to 13	Light Brownish Gray w/ Reddish Brown Mottles	Gravelly Silty Clay w/ Trace Sand	Seepage @ 1.5-feet
3	Large Cobbles and Boulders Present Throughout Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
12				
13	Sand Present and Groundwater @ Bottom of Excavation			
	BOE: 13 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-17
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.4	Black	Silt w/ Organics	
2	1.4	Brown	Gravelly Sandy Silt	
	1.4 to 15	Strong Brown w/ Reddish Brown Mottling	Sandy Silt w/ Gravel	
3	Large Cobbles and Boulders Present in Test Pit No Apparent Seepages in Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
	BOE: 15 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-18
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.5	Black	Silt w/ Organics	
2	1.4	Grayish Brown	Gravelly Sandy Silt	
	1.4 to 15	Greyish Brown Mottling in a Reddish Brown Matrix	Gravelly Sandy Silt w/ Trace Clay	
3	Large Cobbles and Boulders Present in Test Pit			Seepage @ 3-feet
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
	BOE: 15 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-19
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.6	Reddish Brown	Sandy Silt w/ Organics	
2	1.5	Greyish Brown	Gravelly Sandy Silt	
	1.5 to 15	Olive Brown w/ Reddish Brown Mottling	Gravelly Silt w/ Some Sand	
3	Large Cobbles and Boulders Present in Test Pit			
4				
5				
6				
7				
8				Seepage @ 8-feet
9				
10				
11				
12				
13				
14				
15				
	BOE: 15 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-20
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.6 Light Brown Gravelly Sandy Silt	
2	1.6 Gray Gravelly Sandy Silt 1.6 to 12.5 Olive w/ Reddish Brown Mottling Gravelly Silt w/ Some Sand	
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepage in Test Pit	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
	BOE: 12.5 feet	
NOTES		

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Equipment: Hyundai LC300 Excavator
Test Pit ID: TP-24-21
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1		
2	2.0 Reddish Brown Gravelly Sandy Silt	
3	2 to 11.7 Olive Brown w/ Reddish Brown and Light Gray Mottling Gravel w/ Trace Silt Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit	
4		
5		
6		
7		
8		
9		
10		
11		
12		
	BOE: 11.7 feet	
NOTES		

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-22
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	1.0	Black	Sandy Silt w/ Organics	
2	1.9	Reddish Brown	Gravelly Sandy Silt	
3	1.9 to 5	Light Grayish Brown w/ Reddish Brown Mottling	Gravelly Sandy Silt	
4				
5	Bedrock Encountered @ 5-feet BGS			
	BOE: 5 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-23
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.6	Black	Sandy Silt w/ Organics	
	1.0	Light Grayish Brown	Gravelly Sandy Silt	
2	1 to 12	Olive Brown w/ Reddish Brown Mottling	Gravelly Sandy Silt	
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
12				
	BOE: 12 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-24
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/18/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	1.0	Black	Sandy Silt w/ Organics	
2	1.9	Reddish Brown	Gravelly Sandy Silt	
3	1.9 to 5	Olive Brown w/ Reddish Brown Mottling	Gravelly Sandy Silt	
4				
5				
6				
	Bedrock Encountered @ 6.5-feet BGS			
	BOE: 6.5-feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator

Test Pit ID: TP-24-25

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion

GROUND SURFACE ELEV. (ft):

EXCAVATION CONTRACTOR: Thorton Construction

TEST PIT DATE: 6/19/2024

LOGGED BY: TJM

SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.2	Black	Sandy Silt w/ Organics	
	0.6	Reddish Brown	Sandy Silt w/ Gravel	
1	Bedrock Encountered @ 0.6-feet			
	BOE: 0.6 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-26
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/19/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.6	Black	Sandy Silt w/ Organics	
1	1.0	Light Grayish Brown	Gravelly Sandy Silt	
	1 to 5.5	Olive Brown	Gravelly Sandy Silt	
2	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
3				
4				
5				
6				
	Bedrock Encountered @ 5.5 feet			
NOTES				

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Equipment: Hyundai LC300 Excavator
Test Pit ID: TP-24-27
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/19/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION	TEST RESULTS
1	0.4 Dark Reddish Brown Sandy Silt w/ Organics 0.4 to 5 Olive Brown w/ Reddish Brown Mottling Gravelly Sandy Silt	
2	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages in Test Pit	
3		
4		
5		
6		
	Bedrock Encountered @ 6.5 feet BGS	
	BOE: 6.5 feet	
NOTES		

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Equipment: Hyundai LC300 Excavator

Test Pit ID: TP-24-28

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion

GROUND SURFACE ELEV. (ft):

EXCAVATION CONTRACTOR: Thorton Construction

TEST PIT DATE: 6/19/2024

LOGGED BY: TJM

SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.6	Reddish Brown	Sandy Silt w/ Organics	
1	1.0	Light Grayish Brown	Gravelly Sandy Silt	
	1 to 5	Olive Brown	Gravelly Sandy Silt	
2	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
3				
4				
5				
	Bedrock Encountered @ 5 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator

Test Pit ID: TP-24-29

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion

GROUND SURFACE ELEV. (ft):

EXCAVATION CONTRACTOR: Thorton Construction

TEST PIT DATE: 6/19/2024

LOGGED BY: TJM

SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.2	Black	Sandy Silt w/ Organics	
	0.6	Reddish Brown	Gravelly Sandy Silt	
1	0.6 to 3	Olive Brown	Gravelly Sandy Silt	
2	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
3				
	Bedrock Encountered @ 3 feet			
NOTES				

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Equipment: Hyundai LC300 Excavator

Test Pit ID: TP-24-30

PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion

GROUND SURFACE ELEV. (ft):

EXCAVATION CONTRACTOR: Thorton Construction

TEST PIT DATE: 6/19/2024

LOGGED BY: TJM

SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.2	Reddish Brown	Sandy Silt w/ Organics	
	0.4	Light Gray	Gravelly Sandy Silt	
	0.4 to 7	Yellowish Brown w/ Reddish Brown Mottles	Gravelly Silty Clay w/ Trace Sand	
2				
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
4				
5				
6				
7	Bedrock Encountered @ 7 to 10 feet along the length of test pit			
8				
9				
10				
	BOE: 10 feet			
NOTES				

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Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-31
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/19/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
1	0.6	Black	Gravelly Silt w/ Organics	
	1.0	Light Gray	Gravelly Sandy Silt	
2	1 to 11	Olive Brown	Gravelly Sandy Silt	
3	Large Cobbles and Boulders Present Throughout Test Pit No Apparent Seepages Present in Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
	BOE: 11 feet			
NOTES				

SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 / Fax: 207.829.5692
smemaine.com

Equiptment: Hyundai LC300 Excavator
Test Pit ID: TP-24-32
PROJECT: Casella
Juniper Ridge Landfill
Phase II Expansion
GROUND SURFACE ELEV. (ft):
EXCAVATION CONTRACTOR: Thorton Construction
TEST PIT DATE: 6/19/2024
LOGGED BY: TJM
SME JOB NO.: 240101.00

DEPTH (FT)	DESCRIPTION			TEST RESULTS
	0.6	Black	Gravelly Silt w/ Organics	
1	1.0	Light Grayish Brown	Gravelly Sandy Silt	
	1 to 13.5	Olive Brown	Gravelly Sandy Silt	
2				
3	Large Cobbles and Boulders Present Throughout Test Pit			
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
	Seepage Present @ Bottom of Excavation			
	BOE: 13.5 feet			
NOTES				

APPENDIX D

BORING LOGS

SME
SEVEE & MAHER
ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. P-04-05 ~~P-04-01~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, Job# 03-076.08	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
07/19/04 7:15am Water @ 4.7'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/16/04 Start — DATE 07/20/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"	13"	2.0	1	1	2	6			Brown Silty F/M Sand,
"											2.5	w/Little Coarse Sand & Gravel
"												
"												Mottled Silty F/M Sand,
"											6.0	w/Trace of Clayey Silt, Coarse Sand & Gravel
"	2D	2"	24"	20"	7.0	16	28	35	35			
"												
48												
78												
30												
18	3D	2"	24"	18"	12.0	12	29	32	38			Olive Silty F/M Sand
24												w/Little Coarse Sand & Gravel,
51												w/Trace of Cobbles & Clay
28	4D	2"	24"	18"	15.0	24	32	55	50		15.0	
11	5D	2"	5"	5"	15.4	75						
17												Olive Clayey Silty F/M Sand,
31												w/Little Coarse Sand, Gravel & Cobbles
65	6D	2"	16"	10"	18.3	26	54	50			19.0	
72												
12	7D	2"	24"	14"	21.0	22	24	52	70			
9												
19	8D	2"	24"	17"	23.0	18	23	24	38			Olive Silty Fine Sand,
23												w/Little Coarse Sand, Gravel & Cobbles
30	9D	2"	24"	22"	25.0	21	25	27	33		25.0	
15												
15	10D	2"	24"	23"	27.0	19	27	34	62			
21												Olive Silty Fine Sand,
24	11D	2"	19"	7"	28.6	23	52	67	50			w/Little Coarse Sand, Gravel & Clay,
35												w/Trace of Cobbles
22	12D	2"	24"	24"	31.0	16	30	42	57		31.0	
23												
25	13D	2"	14"	1"	32.2	30	69	50				Olive Silty Fine Sand,
75												w/Some Gravel & Cobbles,
Open	14D	2"	5"	4"	34.4	50					34.4	w/Trace of Coarse Sand & Clay
Hole	1R	3.78"	1.2'	1.1'	35.8	92%					34.8	Cobble
"												Olive Silty Fine Sand w/Some Gravel & Cobbles,
"											37.0	w/Trace of Coarse Sand & Clay
"	15D	2"	7"		38.6	42	50					Brown Silty F/M Sand,
"											40.9	w/Coarse Sandy Gravel & Cobbles

SAMPLES
D = SPLIT SPOON — R = ROCK CORE
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE — V = VANE TEST
U = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 10.0' to 48.5'

HOLE NO. P-04-05

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. P-04-05 ~~P-04-01~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, Job# 03-076.08	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
07/19/04 7:15am Water @ 4.7'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/16/04 Start — DATE 07/20/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
"	16D	2"	5"		40.9	50						
"												Boulder
"											42.4	
"	17D	2"	14"	11"	43.7	35	75					
"	18D	2"	7"		44.6	60	50					Brown Fine Sandy Silt,
"												w/Little Coarse Sand, Gravel & Cobbles,
"	19D	2"	6"		46.5	65						w/Trace of Clay
"											47.5	
"											48.5	Rock
												Bottom of Boring @ 48.5'
												Piezometer Installed @ 48.0'
												Piezometer Installed @ 15.0'

SAMPLES
D = SPLIT SPOON — R = ROCK CORE
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE — V = VANE TEST
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SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

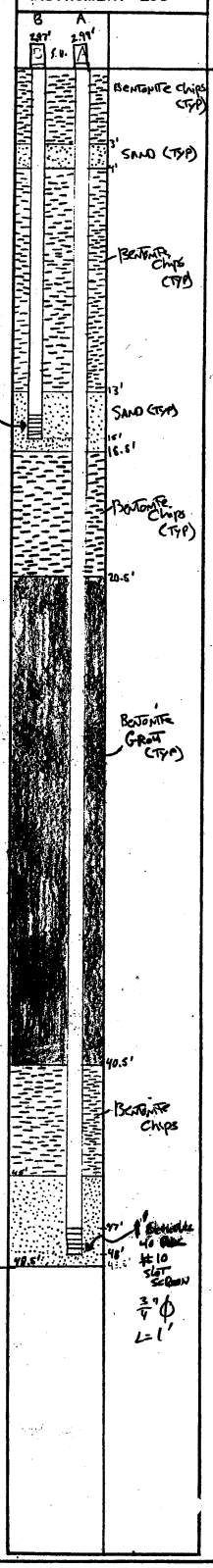
REMARKS:
Washed ahead from 10.0' to 48.5'

HOLE NO. P-04-05

PROJECT	West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-05
DATE COMPLETED 7/20/04	DATE WELLS INSTALLED 7/20/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 201.0'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JGS	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% Passing #200 Screen	K cm/sec	Water Content %
0	1D	0.1' 0-0.2' Topsoil	8			
		Mottled silty fine to medium sandy silt with a trace of clay, gravel				
5	2D	6.1'	70			
		Becoming... olive w/ trace of cobbles.				
10	3D		70	60.2%		10.2%
	4D		50/0.1'			
15	5D	15'	75/0.4'			
	6D	Increased clay content	50/0.3'			
20	7D		122			
	8D		62			
	9D		60			
25	10D		96			
	11D	..	50/0.1			
30	12D	31'	99			
	13D	Olive silty fine sand w/ some gravel, cobbles	50/0.2'			
	14D	sand a trace of course sand	50/0.4'		K_v =	
35	BR			44.5%	5.5×10^{-7}	9.6%
	15D	Brown silty fine to medium sand w/ course sand gravel and cobbles.	50/0.1'			
40	16D	41'	86/0.4'			
		42' Boulder				
	17D	Brown fine sandy silt w/ little course sand and gravel, trace of clay and cobbles.	50/0.2' 50/0.1'	67%		14.3%
45	18D		65/0.5'			
		48.5' (Basal Till) B.O.E.				
50						
55						
60						

INSTRUMENT LOG



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. P-04-06 ~~P-04-02~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, Job# 03-076.08	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/20/04 Start — DATE 07/21/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	2	5	5	7			Brown Silty Gravelly F/M Sand,
"											2.5	w/Trace of Cobbles
"	2D	2"	24"		4.0	18	18	32	40			
"												
"	3D	2"	24"		6.0	21	30	38	38			
"												
"	4D	2"	13"		7.1	20	30	50				Olive Silty F/M Sand,
130												w/Little Coarse Sand & Gravel,
58	5D	2"	20"		9.7	18	22	35	50			w/Trace of Cobbles
24												
45	6D	2"	20"		11.7	20	33	45	50		12.0	
53												
48	7D	2"	24"		14.0	25	38	53	70			Olive Silty F/M Sand,
92	8D	2"	7"		14.6	27	50					w/Little Coarse Sand, Gravel & Clay,
50											16.0	w/Trace of Cobbles
47												
52	9D	2"	18"		17.5	48	60	85				
60												
88	10D	2"	24"		20.0	24	30	38	50			
38												
40	11D	2"	24"		22.0	12	12	20	27			
35												Olive Clayey Silty F/M Sand,
32	12D	2"	24"		24.0	12	18	18	18			w/Little Coarse Sand & Gravel,
40												w/Trace of Cobbles
34	13D	2"	24"		26.0	7	16	30	42			
44												
35	14D	2"	24"		28.0	26	35	52	50			
58	15D	2"	6"		28.5	70					28.5	
50												
	1R	3.78"	4.7'	4.7'	34.4	100%						Rock
	2R	3.78"	5.0'	4.7'	39.4	94%						

SAMPLES

D = SPLIT SPOON — R = ROCK CORE
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE — V = VANE TEST
U = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:

[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

Washed ahead from 1.0' to 29.7'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. P-04-06 ~~P-04-02~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, Job# 03-076.08	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/20/04 Start — DATE 07/21/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
												Rock
	3R	3.78"	5.0'	5.0'	44.4	100%					44.4	
												Bottom of Boring @ 44.4'
												Piezometer Installed @ 43.9'
												Piezometer Installed @ 10.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

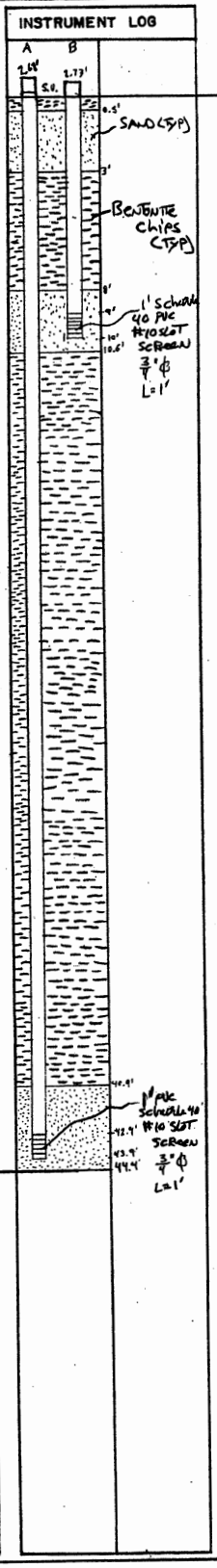
REMARKS:
Washed ahead from 1.0' to 29.7'

HOLE NO. P-04-06

PROJECT WEST BID TOWN LANDFILL EXPANSION	JOB NO. 03016.09	BORING NO. P-04-06	
DATE COMPLETED 7/22/04	DATE WELLS INSTALLED 7/21/04	DRILLING METHOD WASH ROTARY	
GROUND SURFACE ELEVATION (FT) 208.3'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JGS	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% PASSING #200 SCREEN	WATER CONTENT %
0	1D	0-0.3 TOPSOIL BROWN SILTY GRAVELLY FINE TO MEDIUM SAND W/ TRACE OF COBBLES	12			
	2D	2'	72			
6	3D	OLIVE FINE TO MEDIUM SANDY SILT W/ LITTLE COARSE SAND AND GRAVEL & TRACE OF COBBLES	76		62%	12.0%
	4D		50/0.1'			
	5D		50/0.2'			
10	6D		50/0.2'			
	7D		123			
	8D		50/0.1'			
15		16'				
	9D		145			
	10D	OLIVE CLAYEY SILT W/ FINE TO MEDIUM SAND W/ LITTLE COARSE SAND AND GRAVEL. TRACE OF COBBLES.	88			
20	11D		88			
	12D		36		49.8%	12.4%
25	13D		72			
	14D		102			
	15D	28.5' (BASALTILL)	70/0.5'			
30	1R	20% GRAY META-GRAY WACKE ... WX		20%		
	2R	100%? ... WITH SILTSTONE LAMINAE		100%?		
40	3R			100%		
		44.8' (Bedrock) B.O.E				
45						
50						
55						
60						

INSTRUMENT LOG



NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 3 HOLE NO. P-04-07 ~~P-04-03~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/22/04 Start — DATE 07/28/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"	22"	2.0	3	3	9	20		0.5	Gray Brown Fine Sandy Silt
"												Mottled Silty Fine Sand,
"	2D	2"	24"		4.0	28	46	32	32		3.0	w/Little Coarse Sand & Gravel
130	3D	2"	10"		4.8	24	50					Olive Silty Fine Sand
Spun											4.0	w/Little Coarse Sand, Gravel & Cobbles
Casing												Olive Silty Fine Sand,
											4.8	w/Little Coarse Sand & Gravel
	1R	3"	4.5'	4.5'	11.5	100%						
	2R	3"	5.0'	5.0'	16.5	100%						
	3R	3"	5.0'	5.0'	21.5	100%						Rock
	4R	3"	5.0'	5.0'	26.5	100%						
	5R	3"	5.0'	5.0'	31.5	100%						
	6R	3"	5.0'	5.0'	36.5	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 4.0' to 7.0';
Artesian Pressure @ 25.0'

HOLE NO. P-04-07

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 3 HOLE NO. P-04-07 ~~P-04-03~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/22/04 Start	DATE 07/28/04 Finish
TYPE	HW	SS	NQ2	SURFACE ELEVATION	
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	7R	3"	5.0'	5.0'	41.5	100%						
	8R	3"	5.0'	4.0'	46.5	80.%						
	9R	3"	4.2'	4.7'	50.7	111.9%						
	10R	3"	4.3'	5.0'	55.0	116.3%						
	11R	3"	3.2'	3.2'	58.2	100%						Rock
	12R	3"	5.0'	5.0'	63.2	100%						
	13R	3"	5.0'	4.8'	68.2	96%						
	14R	3"	5.0'	5.2'	73.2	104%						
	15R	3"	4.5'	4.5'	77.7	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 4.0' to 7.0';
Artesian Pressure @ 25.0'

P-04-07

HOLE NO. P-04-~~03~~

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 3 OF 3 HOLE NO. P-04-07 ~~P-04-03~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/22/04 Start	DATE 07/28/04 Finish
TYPE	HW	SS	NQ2		
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	16R	3"	5.0'	5.0'	82.7	100%						
	17R	3"	5.0'	5.0'	87.7	100%						
	18R	3"	5.0'	4.8'	92.7	96%						Rock
	19R	3"	4.8'	5.0'	97.5	104%						
	20R	3"	5.0'	4.9'	102.5	98%						
	21R	3"	5.0'	4.8'	107.5	96%					107.5	

Bottom of Boring @ 107.5'
Piezometer Installed @ 83.0'
Piezometer Installed @ 25.4'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

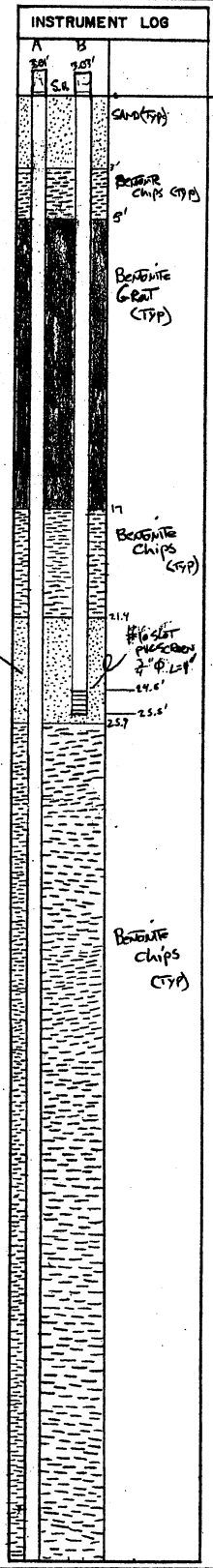
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 4.0' to 7.0';
Artesian Pressure @ 25.0'

HOLE NO. ~~P-04-03~~ P-04-07

PROJECT West Old Town Landfill Extension	JOB NO. 03076.09	BORING NO. P-04-07	Piezometers A&B
DATE COMPLETED 7/29/04	DATE WELLS INSTALLED 7/28/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 174.1'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JLS	
BOREHOLE DIAMETER (IN) 4.5" O.D. / 3.5" O.D. in Rock	ROCK CORE DIAMETER (IN.) 2"	SHEET 1 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Screen	Water Content %
0	1D	Gray Brown Fine Sandy Silt Mottled Silty Fine Sand with little Coarse Sand and Gravel	29		60.2%	11.6%
	2D	MOTTLED BROWN SILT 4' ... Increased Gravel Content (Basalt)	64			
5	3D	Olive Silty Fine Sand w/ little Coarse Sand & Gravel	50/0.3'		60%	11.4%
		Roller Cone. - No Sample.				
10	1R			100%		
	2R	DARK GRAY PHYLLITE AND GRAY SILTSTONE		100%		
15		... WX				
20	3R			88%		
	4R	... FRACTURE ZONE 25.5'		20%		
25	5R	GRAY META-GRAY WACKE		100%		
30	6R			86%		
35	7R	... OCCASIONAL PHYLLITE LAYERS		90%		
40	8R			93%		
45	9R			87%		
50	10R	... WX ZONE		90%		
55	11R			67%		
60		(Bedrock)				



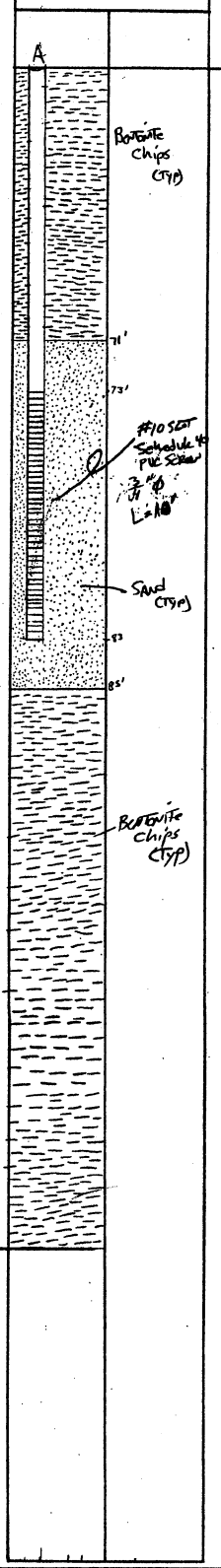
NOTES

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill Extension	JOB NO. 03076.09	BORING NO. P-04-07	
DATE COMPLETED 7/29/04	DATE WELLS INSTALLED 7/28/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 174.1'	DRILLING CONTRACTOR M.E.B.	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D. / 3.5" O.D. in Rock	ROCK CORE DIAMETER (IN.) 2"	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD
60			
65	12R	METAGRAY-WACKE WITH PHYLLITE INTERBEDDING	82%
	13R		100%
70	14R		100%
75	15R		75%
80	16R		78%
85	17R		96%
90	18R		100%
95	19R		100%
100	20R		100%
105	21R		100%
		107.5' (Bedrock) B.O.E.	

INSTRUMENT LOG



DEPTH (FT)
60
65
70
75
80
85
90
95
100
105

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. P-04-07 ~~P-04-07~~
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/28/04 Start	DATE 07/28/04 Finish
TYPE	HW			SURFACE ELEVATION	
SIZE I.D.	4"				
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												Same as P-04-03
"												
"											4.5	
											5.5	Rock
												Bottom of Boring @ 5.5'
												Piezometer Installed @ 5.3'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

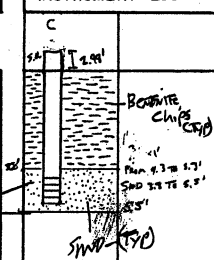
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Augered from surface to 5.0';
Put down casing,
Rollerconed & Washed ahead from 5.0' to 5.5',
Installed Piezometer

HOLE NO. P-04-07

PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-07C
DATE COMPLETED 7/24/04	DATE WELLS INSTALLED 7/28/04	DRILLING METHOD Auger
GROUND SURFACE ELEVATION (FT) 174.0'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JGS
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) N/A:	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION						INSTRUMENT LOG	DEPTH (FT)
0		See Log P-04-07 for stratigraphy.							0
5		5.5' (BASAL Till) B.O.E					#10 slot Schedule 40 PVC screen 3/4 φ L=1'		5
10									10



NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. P-04-08
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/29/04 Start	DATE 08/02/04 Finish
TYPE	HW	SS	HQ	SURFACE ELEVATIO	
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	4	6	7	9			Brown Silty F/M Sand,
"											2.0	w/Little Coarse Sand & Gravel
"	2D	2"	16"		3.3	12	65	50				
88												Olive Silty Fine Sand,
12	3D	2"	24"		6.0	15	23	27	35			w/Little M/C Sand,
20	4D	2"	11"		6.9	27	50				7.0	w/Trace of Gravel
48												
17	5D	2"	5"		8.4	50						
27												
35	6D	2"	8"		10.7	34	50					
32												
32												
33	7D	2"	24"		14.0	26	28	52	55			Olive Silty F/M Sand,
85												w/Some Coarse Sand & Gravel,
27	8D	2"	24"		16.0	22	40	40	38			w/Little Cobbles
30												
30	9D	2"	14"		17.2	25	52	50				
24												
35	10D	2"	19"		19.6	28	43	45	50		19.6	
68											20.4	Cobble
90	11D	2"	11"		21.4	30	50					
92												
48	12D	2"	20"		23.7	27	48	61	50			Olive Silty F/M Sand,
55												w/Some Coarse Sandy Gravel,
40	13D	2"	6"		25.5	105					25.5	w/Little Cobbles
43	14D	2"	7"		26.6	65	50					
40											28.0	Brown Fine Sandy Silt w/Little Gravel
51												
88	D	2"	1"	0"	29.1	50					30.0	Brown Fine Sandy Silt w/Some Gravel & Cobbles
52												
32	1R	3.78"	2.0'	1.0'	32.0	50.%						
60	D	2"	0"	0"	32.0	25						
55	16D	2"	7"		33.6	70	50					
60												Olive Sandy Silt
	17D	2"	6"		35.5	110						w/Some Gravel & Cobbles,
												w/Trace of Clay
	18D	2"	4"		37.3	100						
	D	2"	5"	0"	39.4	100						

SAMPLES
D = SPLIT SPOON R = ROCK
C = 2" SHELBY TUBE CORE
S = 3" SHELBY TUBE V = VANE
U = 3¼" SHELBY TUBE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 4.0' to 41.0';
Lost spoon shoe @ 41.2'

HOLE NO. P-04-08

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. P-04-08
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/29/04 Start	DATE 08/02/04 Finish
TYPE	HW	SS	HQ	SURFACE ELEVATIO	
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
												Olive Sandy Silt w/Some Gravel & Cobbles
	19D	2"	2"		41.2	100					41.2	w/Trace of Clay
												Bottom of Boring @ 41.2'
												Piezometer Installed @ 39.5'
												Piezometer Installed @ 16.5'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

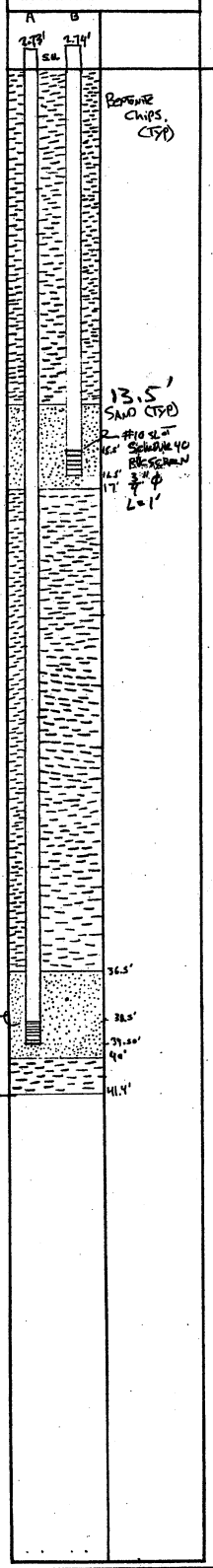
REMARKS:
Washed ahead from 4.0' to 41.0';
Lost spoon shoe @ 41.2'

HOLE NO. P-04-08

PROJECT West Oldtown Landfill Extension	JOB NO. 03076.09	BORING NO. P-04-08	
DATE COMPLETED 8/2/04	DATE WELLS INSTALLED 8/2/04	DRILLING METHOD WASH-ROTARY	
GROUND SURFACE ELEVATION (FT) 188.8'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% Passing #200 Screen	Water Content %
0	1D	0-0.2 TOPSOIL Brown Silty Fine Sand w/ Little Coarse Sand and Gravel	16		
	2D	2'	50/0.3'		
		Olive Silt/Fine Sand w/ Little Medium to Coarse Sand, Trace of Cobbles.		63.7%	13.3%
5	3D		62		
	4D	6.5'	54/0.4'		
	5D		50/0.4'		
10	6D	....Increased Gravel and Cobbles	50/0.2'		
	7D		107		
15	8D		78		
	9D		50/0.3'		
	10D	19.8'	50/0.1'		
20		Coarse Boulder			
	11D		50/0.4'		
	12D	Olive Silt w/ Fine to Medium Sand w/ some Coarse Sand, and Gravel. Little Cobble.	50/0.2'	60.1%	13.0%
25	13D	25.5'	105/0.5'	61.1%	14.3%
	14D		50/0.1'		
		BROWN FINE SANDY SILT/CLAY			
			NA		
30		30'			
		CLAYEY Olive Sandy Silt w/ Some Gravel and Cobbles			
	16D		50/0.1'		
35	17D	— Dense —	110/0.5'		
			100/0.3'		
40		41.4 (BASAL TILL) B.O.E			
45					

INSTRUMENT LOG



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. P-04-09
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 08/02/04 Start	DATE 08/03/04 Finish
TYPE	HW	SS	NQ2	SURFACE ELEVATIC	
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.3	Topsoil
"	1D	2"	24"		2.0	1	2	2	10			
"												
"	2D	2"	24"		4.0	14	35	33	40			
25												
3	3D	2"	24"		6.0	12	17	23	28			
5												
9	4D	2"	17"		7.4	29	45	50				
17												Olive Silty Fine Sand,
22	5D	2"	24"		10.0	21	30	51	48			w/Little Coarse Sand & Gravel,
2												w/Trace of Cobbles
7	6D	2"	24"		12.0	17	34	47	40			
27												
52	7D	2"	24"		14.0	21	28	29	37			
135												
14	8D	2"	17"		15.4	25	33	50				
16												
14	9D	2"	20"		17.7	14	18	33	50		18.0	
20	10D	2"	11"		18.9	22	50				18.9	Gray Fine Sandy Silt w/Trace of Gravel
50											19.9	Boulder
Spun	11D	2"	10"		20.8	30	50					
Casing												
"	12D	2"	11"		22.9	35	50					Gray Fine Sandy Silt w/Some Gravel & Cobbles
"												
"											25.0	
"	13D	2"	8"		25.7	35	50					
"												
"												Gray Silty Very Fine Sand
"	14D	2"	6"		28.5	125						w/Little M/C Sand,
"												Some Gravel & Cobbles
"	D	2"	2"	0"	30.2	50						
"	15D	2"	7"		31.6	55	50				31.6	
	1R	3"	3.0'	3.0'	35.1	100%						Rock
	2R	3"	4.9'	4.9'	40.0	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
4" Casing refusal @ 19.2', Boulder from 18.9' to 19.9', Went open hole to 25.0', some cave in, Changed over to 3" casing & spun 3" casing to 28.0', pulled 4" casing out

HOLE NO. P-04-09

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. P-04-09
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 08/02/04 Start	DATE 08/03/04 Finish
TYPE	HW	SS	NQ2		
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	3R	3"	5.0'	5.0'	45.0	100%						Rock
	R	3"	2.0'	0.0'	47.0	0%	Very	Hard	Rock		47.0	
												Bottom of Boring @ 47.0'
												Piezometer Installed @ 39.0'
												Piezometer Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

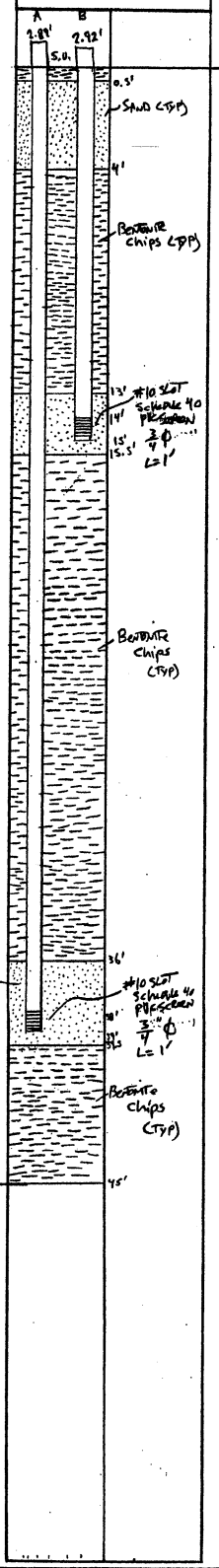
REMARKS:
4" Casing refusal @ 19.2', Boulder from 18.9' to 19.9', Went open hole to 25.0', some cave in, Changed over to 3" casing & spun 3" casing to 28.0', pulled 4" casing out

HOLE NO. P-04-09

PROJECT WEST OLDTOWN LANDFILL EXPANSION	JOB NO. 03016.09	BORING NO. P-04-09	
DATE COMPLETED 8/5/04	DATE WELLS INSTALLED 8/5/04	DRILLING METHOD WASH-ROTARY	
GROUND SURFACE ELEVATION (FT) 167.0'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. RILEY / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D. / 3.5" O.D. IN ROCK.	ROCK CORE DIAMETER (IN.) 2"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% PASSING #200 SCREEN	WATER CONTENT %
0		0-0.5' TOPSOIL				
	1D		12			
	2D		73			
5	3D	OLIVE SILTY FINE SAND WITH LITTLE GRAVEL, COARSE SAND AND A TRACE OF COBBLES.	51		51.4%	11.4%
	4D		50/0.4'			
	5D		99			
10	6D		87			
	7D		66			
15	8D		50/0.4'			
	9D		50/0.2'			
	10D	19'	50/0.4'			
20		20' BOULDER				
	11D	GRAY FINE SANDY SILT / CLAY WITH SOME GRAVEL AND COBBLES	50/0.3'			
	12D		50/0.4'			
25	13D	VERY GRAY SILTY VERY FINE SAND W/ LITTLE MEDIUM TO COARSE SAND AND SOME GRAVEL AND COBBLES	50/0.2'			
	14D		125/2.5"		46.9%	13.0%
30	15D	31.6' (BASAL TILL)	56/0.1'			
	1R	INTACT BEDDED PHYLLITE, SILTSTONE, METAGRAY WACKE		50%		
35	2R			50%		
40	3R	META-GRAY WACKE		100%		
45		45' (BEDROCK) B.O.E.				
50						
55						
60						

INSTRUMENT LOG



K_F = 9.7 x 10^-6 cm/s

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. P-04-10
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-A	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 08/05/04 Start	DATE 08/05/04 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#		SURFACE ELEVATI	
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	2	2	3	4		0.5	Gray Silty F/M Sand w/Little Gravel
"												Mottled Silty Fine Sand,
"	2D	2"	19"		3.6	33	40	46	50		2.0	w/Little M/C Sand & Gravel
28												
4	3D	2"	24"		6.0	16	16	28	40			
7												Brown Silty Fine Sand,
11												w/Little M/C Sand & Gravel,
19	4D	2"	18"		8.5	19	53	65				w/Trace of Cobbles
40											9.7	
Wash												
Ahead												
	1R	3.78"	5.0'	5.0'	15.7	100%						
	2R	3.78"	5.0'	5.0'	20.7	100%						Rock
	3R	3.78"	5.0'	5.0'	25.7	100%						
	4R	3"	4.3'	4.0'	30.0	93%						
	5R	3"	5.0'	5.0'	35.0	100%					35.0	
												Bottom of Boring @ 35.0'
												Piezometer Installed @ 34.1'
												Piezometer Installed @ 9.2'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

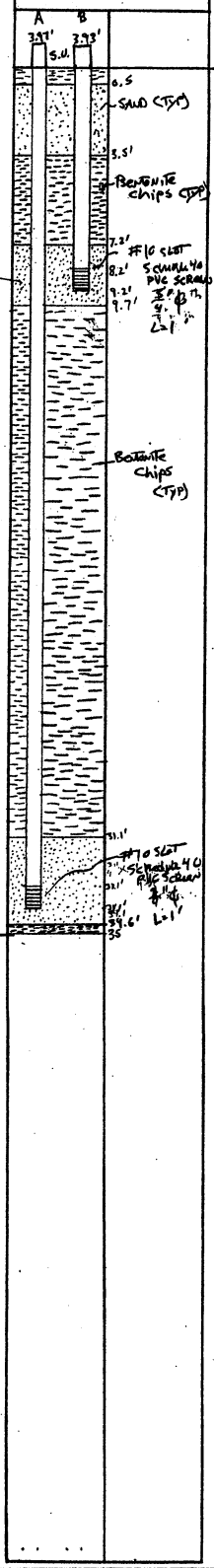
REMARKS:
Switched from HW casing to NW casing at 9.7';
Washed ahead from 5.0' to 7.0' and from 9.7' to 10.7';
Sample 3D was moist;
Water @ 5.9'

HOLE NO. P-04-10

PROJECT West Old Town Landfill Extension	JOB NO. 03076.09	BORING NO. P-04-10	
DATE COMPLETED 8/6/04	DATE WELLS INSTALLED 8/5/04	DRILLING METHOD WASH ROTARY	
GROUND SURFACE ELEVATION (FT) 166.0'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% PASSING #200 SCREEN	WATER CONTENT %	
0	1D	0-0.2' TOPSOIL 0.2-0.5' GRAY SILTY FINE SAND W/ GRAVEL 0.5-2' MOTTLED SILTY FINE SAND W/ LITTLE MEDIUM TO COURSE SAND AND GRAVEL 2'-9.7'	7				
	2D	VERY TO CLAYEY BROWN SILTY FINE SAND WITH LITTLE MEDIUM TO COURSE SAND AND GRAVEL WITH A TRACE OF COBBLES.	50/0.1'		57%	12.9%	
5	3D	NOTED MOIST SAMPLE AT 5.9'	68				KF: 5.1×10^{-5} cm/s
	4D						
	5D	9.7' (BASAL TILL)	118		42.3%	13.2%	
10	1R	INTERBEDDED PHYLLITE, SILTSTONE AND METAGRAYWACKE		80%			
15	2R	METAGRAYWACKE		94%			
20	3R			100%			
25	4R			94%			
30	5R			94%			KF: 1.4×10^{-3} cm/s
35		35' (Bedrock.) B.O.E					

INSTRUMENT LOG



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. P-04-11
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/08/04 7:15am Water @ 1.2', Hole Depth=10.9';
09/09/04 7:30am Water @ 3.8', Hole depth= 39.5'

	CASING	SAMPLER	CORE BARREL	DATE 09/07/04 Start	DATE 09/09/04 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING
Auger										
"	1D	2"	24"		2.0	1	3	2	2	
"										
"	2D	2"	17"		3.4	6	27	50		
62										
15	3D	2"	14"		5.2	28	70	50		
28										
34	4D	2"	17"		7.4	35	60	50		
25	5D	2"	2"		8.2	50				
52										
15	6D	2"	23"		10.9	38	40	52	50	
18										
23										
27	7D	2"	24"		14.0	20	45	45	52	
30	D	2"	0"	0"	14.0	25				
29	8D	2"	10"		15.8	38	50			
40										
31										
92	9D	2"	8"		18.7	30	50			
54										
25										
22	10D	2"	23"		21.9	24	47	58	50	
25										
25	11D	2"	24"		24.0	20	40	53	46	
18										
17	12D	2"	24"		26.0	20	35	35	40	
18										
29	13D	2"	22"		27.8	22	48	68	50	
78										
122	14D	2"	16"		29.3	38	42	50		
53										
45	15D	2"	12"		32.0	32	70			
48	D	2"	0"	0"	33.0	25				
105										
190	16D	2"	6"		34.5	75				
68										
45	17D	2"	6"		36.5	80				
165										
25										
58	18D	2"	6"		39.5	85				

DEPTH	STRATUM DESCRIPTION
0.2	Topsoil
2.0	Brown Fine Sandy Silt
5.2	Brown Silty F/M Sand, w/Little Coarse Sand, w/Trace of Gravel
14.0	Brown Silty F/M Sand, w/Some Coarse Sand & Gravel, w/Trace of Cobbles
20.5	Brown Silty F/M Sand, w/Some Coarse Sand, Gravel & Cobbles, w/Trace of Clay
22.0	Brown Silty F/M Sand, w/Little Coarse Sand, Gravel & Cobbles
28.0	Brown Silty Fine Sand, w/Fine Sandy Silt & F/M Sand Layers
29.0	Brown Silty Fine Sand w/Little Gravel
36.0	Brown Silty Gravelly Sand w/Some Cobbles
	Olive Silty Cobbley Gravelly Sand

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 5.0' to 28.0' and from 30.0' to 50.0'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. P-04-11
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/08/04 7:15am Water @ 1.2', Hole Depth=10.9';
09/09/04 7:30am Water @ 3.8', Hole depth= 39.5'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/07/04 Start
DATE 09/09/04 Finish
SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
35												
45	19D	2"	12"		41.5	40	78					
80												
60	20D	2"	6"		43.5	110						
80												
40	D	2"	24"	0"	45.2	100						Olive Silty Cobbley Gravelly Sand
58	22D	2"	7"		46.6	60	50					
80												
42	23D	2"	6"		48.5	85						
45												
	24D	2"	6"		50.5	90/					50.5	
												Bottom of Boring @ 50.5'
												Caved @ 50.0'
												Piezometer Installed @ 49.5'
												Piezometer Installed @ 10.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

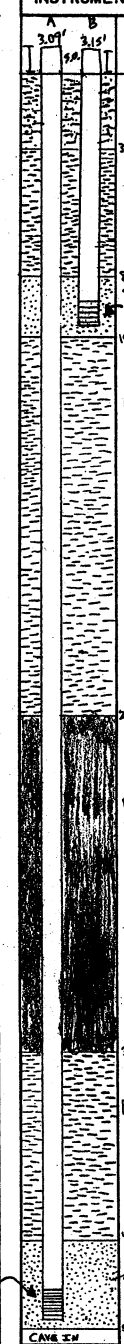
REMARKS:
Washed ahead from 5.0' to 28.0' and from 30.0' to 50.0'

HOLE NO. P-04-11

PROJECT West Oldtown Landfill Expansion	JOB NO. 0307609	BORING NO. P-04-11	Pezometers A+B
DATE COMPLETED 9/14/04	DATE WELLS INSTALLED 9/9/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 184.0'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% Passing #200 Screen	Water Content %		
0	1D	0-0.2' Topsoil; Brown Sandy Silt	4				
	2D	2' Brown Silt / Clay w/ Little Coarse Sand and a Trace of Gravel.	50/0.4'				
5	[illegible]		50/0.2'	55.1%	13.2%		
	4D		50/0.4'				
			50/0.2'				
10	6D		50/0.4'				
	7D		97				
15	8D		50/0.3'				
	9D	... Becoming Clayey	50/0.2'				
20	10D	22'	50/0.4'				
	11D	Brown Silt / Clay w/ Fine Sandy Silt and Fine to Medium Sand Layers.	99				
25	12D		75	50.3%	20.6%		
	13D		50/0.3'				
	14D	29'	50/0.3'				
30	15D	Brown Silt gravely Sand with some Cobbles	102				
	16D		75/0.5'				
35	17D	36'	80/0.5'				
	18D	Very to Clayey Olive Silty Cobbley Gravely Sand.	85/0.6'				
40	19D		118	32.9%	10.4%		
	20D		110/0.5'				
45	21D		100/0.2'				
	22D		50/0.1'				
	23D		85/0.5'				
50	24D	50.5' (Basal Till) B.O.E.	90/0.5'				
55							
60							

INSTRUMENT LOG



Bentonite Chips & Sand (Typ) 0-3'

Bentonite Chips (Typ) 3'-8'

Sand 8'-10.5'

#10 Slot Schedule 40 PVC Screen 3/4" Φ L=1'

Bentonite Chips (Typ)

Bentonite Grout (Typ)

Bentonite Chips (Typ)

Sand (Typ)

#10 Slot Schedule 40 PVC Screen 3/4" Φ L=1'

NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 4 HOLE NO. P-04-12
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/13/04 8:30am Water @ 0.9', Hole depth= 10.9'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/10/04 Start
DATE 09/21/04 Finish
SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	1	4	17	21			
"											2.5	Mottled Fine Sandy Silt
"	2D	2"	14"		3.2	18	28	50				
12*												Mottled Silty Sandy Silt
46	3D	2"	18"		6.0	8	16	25			6.0	w/Trace of Gravel & Clay
49												
65	4D	2"	16"		7.3	12	32	75				Brown Silty Fine Sand,
107												w/Little Coarse Sand & Gravel
160	5D	2"	14"		9.7	55	62	50			10.0	w/Trace of Cobbles
35	6D	2"	11"		10.9	32	75					
70												Olive Clayey Silty F/M Sand,
48											13.1	w/Little Coarse Sand & Gravel & Cobbles
75	7D	2"	13"		13.1	35	37	50			14.4	Boulder
Spun											14.7	Olive Clayey Gravelly Sand w/Some Cobbles
Casing	1R	3"	1.0'	0.7'	16.0	70%					15.7	Boulder
"	8D	2"	12"		17.0	35	80					
"											18.0	Olive Clayey Gravelly Sand w/Some Cobbles
"												
"												Gray Clayey Silty Fine Sand,
"	9D	2"	14"		20.2	29	47	50			20.2	w/Coarse Sand & Gravel, w/Trace of Cobbles
	2R	3"	1.8'	1.8'	22.8	100%						
	3R	3"	5.0'	5.0'	27.8	100%						
												Rock
	4R	3"	4.4'	3.1'	32.2	70.5%						
	5R	3"	4.3'	4.0'	37.0	93%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
12* for 6"
Washed ahead from 10.0' to 15.0'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 4 HOLE NO. P-04-12
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/13/04 8:30am Water @ 0.9', Hole depth= 10.9'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/10/04 Start | DATE 09/21/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	6R	3"	4.1'	4.5'	40.6	110%						
	7R	3"	5.0'	5.0'	45.6	100%						
	8R	3"	5.0'	5.3'	50.6	106%						
	9R	3"	5.0'	5.0'	55.6	100%						
	10R	3"	5.0'	5.0'	60.6	100%						Rock
	11R	3"	2.4'	2.3'	63.0	96%						
	12R	3"	1.0'	0.8'	64.0	80%						
	13R	3"	4.0'	4.2'	68.0	105%						
	14R	3"	5.0'	4.8'	73.0	96%						
	15R	3"	5.0'	5.2'	78.0	104%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
12" for 6"
Washed ahead from 10.0' to 15.0'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 3 OF 4 HOLE NO. P-04-12
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/13/04 8:30am Water @ 0.9', Hole depth= 10.9'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/10/04 Start
DATE 09/21/04 Finish
SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	16R	3"	5.0'	5.0'	83.0	100%						
	17R	3"	5.0'	5.0'	88.0	100%						
	18R	3"	5.0'	5.0'	93.0	100%						
	19R	3"	5.0'	5.0'	98.0	100%						Rock
	20R	3"	5.0'	5.0'	103.0	100%						
	21R	3"	5.0'	5.0'	108.0	100%						
	22R	3"	5.0'	5.0'	113.0	100%						
	23R	3"	5.0'	4.9'	118.0	98%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
12" for 6"
Washed ahead from 10.0' to 15.0'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 4 OF 4 HOLE NO. P-04-12
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
09/13/04 8:30am Water @ 0.9', Hole depth= 10.9'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/10/04 Start
DATE 09/21/04 Finish
SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	24R	3"	4.0'	4.0'	122.0	100%					122.0	Rock
												Bottom of Boring @ 122.0'
												Piezometer Installed @ 64.0'
												Piezometer Installed @ 39.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

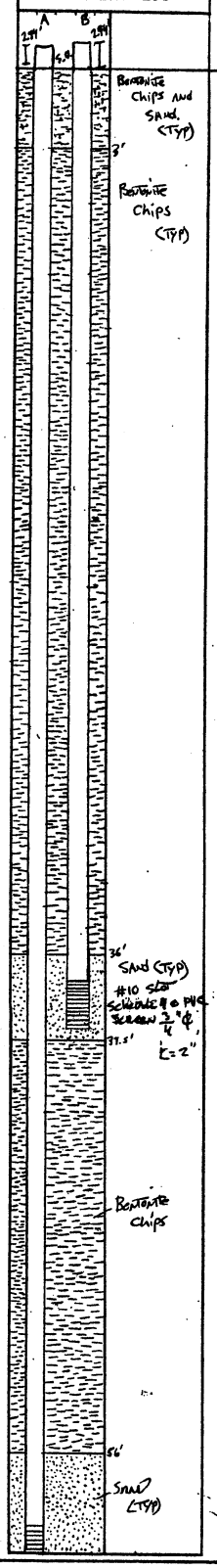
REMARKS:
12" for 6"
Washed ahead from 10.0' to 15.0'

HOLE NO. P-04-12

PROJECT West Old Town Landfill Expansion	JOB NO. 0307609	BORING NO. P-04-12	Piezometers A+B
DATE COMPLETED 9/22/04	DATE WELLS INSTALLED 9/21/04	DRILLING METHOD (WASH-ROTARY)	
GROUND SURFACE ELEVATION (FT) 166.33	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley / JTS	
BOREHOLE DIAMETER (IN) 4.5" / 3.5" in Rock (O.D.)	ROCK CORE DIAMETER (IN.) 2"	SHEET 1 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Screen	Water Content %
0	1D	0-0.2' TOP SOIL MOTTLED FINE SANDY SILT	38			
	2D	3'	50 for 0.2'			
	3D	(MARINE CLAY) 6' BECOMING CLAYEY	41			
5	4D	VERY BROWN SILTY FINE SAND WITH LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES.	75 for 0.3'		~~54.6%~~ 59.6%	~~13.3%~~ 13.3%
	5D		50 for 0.2'			
10	6D		75 for 0.4'			
	7D	11'	50 for 1'			
		Boulder 13.1' to 14.4'				
15	1R	15' Bedrock				
	8D	DARK CLAYEY GREENISH SAND WITH SOME COBBLES.	115		38.4% 53.5%	10.9% 10.3%
		18'				
	9D	GRAY CLAYEY SILTY FINE SAND W/ COARSE SAND, GRAVEL AND A TRACE OF COBBLES. (BASAL TILL)	50/0.2'			
20		20.2' Refusal - no sample.				
	2R	INTERBEDDED PHYLLITE, SILTSTONE		100%		
25	3R			96%		
30	4R			68%		
35	5R			73%		
	6R			93%		
40	7R			100%		
45	8R			72%		
50	9R			94%		
55	10R			82%		
60						

INSTRUMENT LOG



DEPTH (FT)

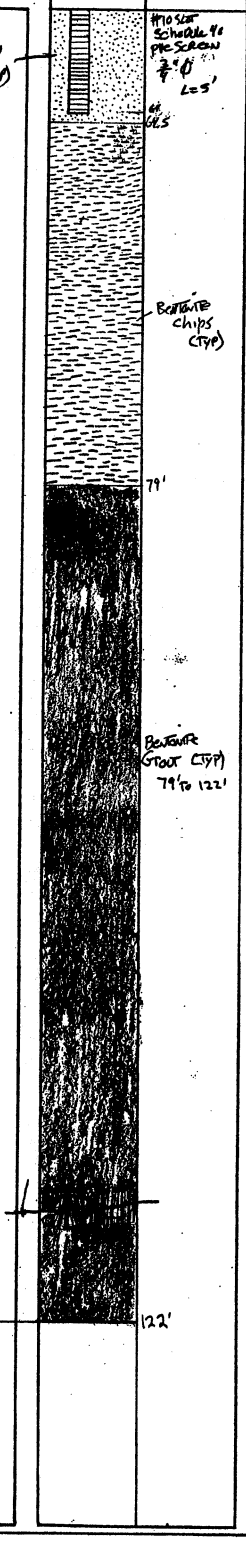
NOTES

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-12	
DATE COMPLETED 9/22/04	DATE WELLS INSTALLED 9/21/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 166.3'	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley	
BOREHOLE DIAMETER (IN) 4.5"/3.5" in Rock (O.D.)	ROCK CORE DIAMETER (IN.) 2"	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD
60			
65	10R ↑		
	11R	63' GOUGE, POSSIBLE FAULT ZONE	85%
	12R	SILTSTONE WITH	0%
	13R	PHYLLITE LAYERS	100%
70	14R		100%
75	15R		100%
80	16R		100%
85	17R		100%
90	18R		94%
95	19R		100%
100	20R		100%
105		21R - 103' To 108'	100%
		22R 108' To 113'	100%
120		23R 113 To 118'	100%
		24R 118 To 122'	100%
125		122' B.B.E (Bedrock)	

INSTRUMENT LOG



DEPTH (FT)
60
65
70
75
80
85
90
95
100

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. P-04-12-C
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/21/04 Start	DATE 09/21/04 Finish
TYPE	SSA				
SIZE I.D.					
HAMMER WT.				SURFACE ELEVATION	
HAMMER FALL					

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												Same as P-04-12
"												
											6.0	
												Bottom of Boring @ 6.0'
												Piezometer Installed @ 5.3'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

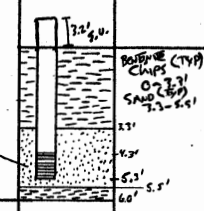
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
No Samples Taken

HOLE NO. P-04-12-C

PROJECT West Old Town Landfill Extension	JOB NO. 03076.09	BORING NO. P-04-12C Piezometer C.
DATE COMPLETED 9/22/04	DATE WELLS INSTALLED 9/21/04	DRILLING METHOD Auger
GROUND SURFACE ELEVATION (FT) 166.3	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JGS
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.)	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION						INSTRUMENT LOG	DEPTH (FT)
0									0
5		see P-04-12 for soil description (MARINE CLAY) 6' B.O.E.					#10 SLOT SCREEN 40 PVC SCREEN 3/4" ϕ L=1'		5
10									10



NOTES

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

Sevee & Maher Engineering, Inc.

SHEET 1 OF 4

HOLE NO. P-04-13

DRILLER: Tom Schaefer	PROJECT NAME: West Old Town Landfill, 03076.09	LINE & STATION:
M.T.B. JOB NUMBER: 04-095-B	LOCATION: Old Town, ME	OFFSET:

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/22/04 Start	DATE 09/27/04 Finish
TYPE	HW	SS	NQ2	SURFACE ELEVATION	
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	1	3	4	6		2.5	Mottled Fine Sandy Silt
"	2D	2"	24"		4.0	8	15	22	24		7.0	Mottled Clayey Sandy Silt
"	3D	2"	24"		6.0	9	11	15	16		10.0	Gray Clayey Silt
"	4D	2"	24"		8.0	6	8	8	8		12.4	Gray Silty Clay, w/Gray Fine Sandy Silt Layers
6	5D	2"	24"		10.0	3	3	3	4		14.0	Gray Silty Fine Sand, w/Little Coarse Sand, Gravel & Cobbles
9	6D	2"	24"		12.0	WOH	WOH	WOH	2			
19	7D	2"	24"		14.0	1	30	28	35			
12	8D	2"	24"		16.0	18	18	20	20			
45	9D	2"	24"		19.0	8	14	17	12			
37	10D	2"	24"		22.0	15	15	19	32			
68	11D	2"	24"		24.0	24	33	43	55			
27	12D	2"	24"		26.0	16	19	23	25			
27	13D	2"	13"		27.1	30	24	50			27.1	Gray Clayey Silty F/M Sand, w/Some Coarse Sand, Gravel & Cobbles
	1R	3"	4.3'	4.1'	31.5	95%						Rock
	2R	3"	5.0'	4.5'	36.5	90.%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3¼" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Sevee & Maher Engineering, Inc.

SHEET 2 OF 4

HOLE NO. P-04-13

DRILLER: Tom Schaefer	PROJECT NAME: West Old Town Landfill, 03076.09	LINE & STATION:
M.T.B. JOB NUMBER: 04-095-B	LOCATION: Old Town, ME	OFFSET:

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/22/04 Start	DATE 09/27/04 Finish
TYPE	HW	SS	NQ2		
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATIO	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	3R	3"	4.6'	4.5'	41.1	97.8%						
	4R	3"	4.3'	5.1'	45.4	118.6%						
	5R	3"	2.0'	2.0'	47.4	100%						
	6R	3"	5.0'	5.0'	52.4	100%						
	7R	3"	5.0'	5.0'	57.4	100%						Rock
	8R	3"	5.0'	4.2'	62.4	84.%						
	9R	3"	4.3'	5.1'	66.7	118.6%						
	10R	3"	5.0'	4.6'	71.7	92%						
	11R	3"	4.9'	5.0'	76.6	102%						

SAMPLES
D = SPLIT SPOON R = ROCK CORE
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE V = VANE TEST
U = 3/4" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. P-04-13

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	Sevee & Maher Engineering, Inc.	SHEET 3 OF 4 HOLE NO. P-04-13
DRILLER: Tom Schaefer	PROJECT NAME: West Old Town Landfill, 03076.09	LINE & STATION:
M.T.B. JOB NUMBER: 04-095-B	LOCATION: Old Town, ME	OFFSET:

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 09/22/04 Start; DATE 09/27/04 Finish

SURFACE ELEVATIOI

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	12R	3"	5.0'	5.0'	81.6	100%						
	13R	3"	5.0'	5.3'	87.0	106%						
	14R	3"	5.0'	4.1'	91.6	82.%						
	15R	3"	2.0'	1.9'	93.6	95%						
	16R	3"	4.7'	4.7'	98.3	100%						Rock
	17R	3"	5.0'	5.0'	103.3	100%						
	18R	3"	5.0'	5.0'	108.3	100%						
	19R	3"	5.0'	5.0'	113.3	100%						
	20R	3"	5.0'	5.0'	118.3	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Sevee & Maher Engineering, Inc.

SHEET 4 OF 4

HOLE NO. P-04-13

DRILLER: Tom Schaefer	PROJECT NAME: West Old Town Landfill, 03076.09	LINE & STATION:
M.T.B. JOB NUMBER: 04-095-B	LOCATION: Old Town, ME	OFFSET:

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/22/04 Start	DATE 09/27/04 Finish
TYPE	HW	SS	NQ2		
SIZE I.D.	4"	1 3/8"	2"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	PID READING	DEPTH	STRATUM DESCRIPTION
	21R	3"	5.0'	5.0'	123.3	100%						Rock
	22R	3"	5.0'	5.0'	128.3	100%					128.3	

Bottom of Boring @ 128.3'
Piezometer Installed @ 127.3'
Piezometer Installed @ 66.0'

SAMPLES
D = SPLIT SPOON R = ROCK CORE
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE V = VANE TEST
U = 3¼" SHELBY TUBE

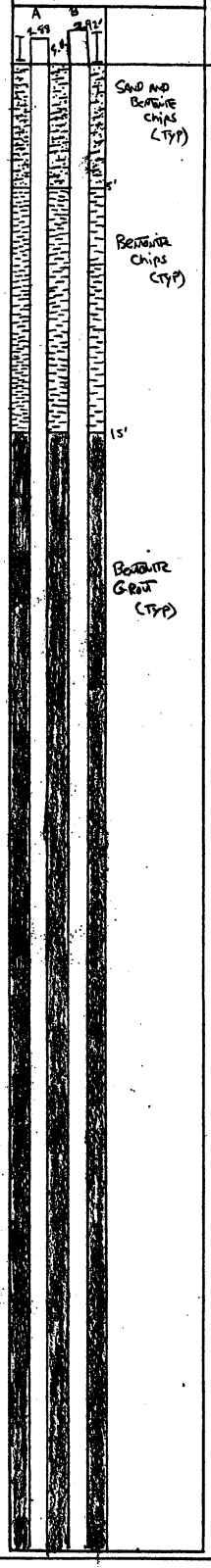
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-13	Piezometers A & B
DATE COMPLETED 9/29/04	DATE WELLS INSTALLED 9/29/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 144.4'	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D. / 3.5" O.D. in Rock.	ROCK CORE DIAMETER (IN.) 2"		SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% PASSING #200 SIEVE	RQD	WATER CONTENT %	
0	1D	0-2.5' Top Soil Mottled Fine Sandy Silt	10				
	2D	2' " Becoming clayey	46				
5	3D		31	99.8%		25.6%	LL = 30% PL = 20%
	4D		16				
	5D	10'	9				
10	6D	Gray Silty Clay w/ Gray Fine Sand Layers. (MARINE CLAY)	W.O.H.	99.3%		29.4%	
	7D	Gray Silty Fine Sand with Little Coarse Sand, Gravel and Cobbles.	63				
15	8D	14' V Gray Clayey	40				
	9D	Gray Clayey Silty Fine To Medium Sand w/ Some Coarse Sand, Gravel and Cobbles	29				
20	10D		51				
	11D		98				
25	12D		48	55%		10.4%	
	13D	27.1 (BASAL TILL)	50/0.1'				
30	1R	META GRAYWACKE			100%		
	2R				96%		
35	3R				100%		
40	4R				100%		
45	5R				100%		
	6R				100%		
60	7R				100%		
65	8R				93%		

INSTRUMENT LOG



DEPTH (FT)

NOTES

5/90

SEVEE & MAHER ENGINEERS

PROJECT	JOB NO.	BORING NO.	
West Old Town Landfill Expansion	03076.09	P-04-13	Piezometers A & B

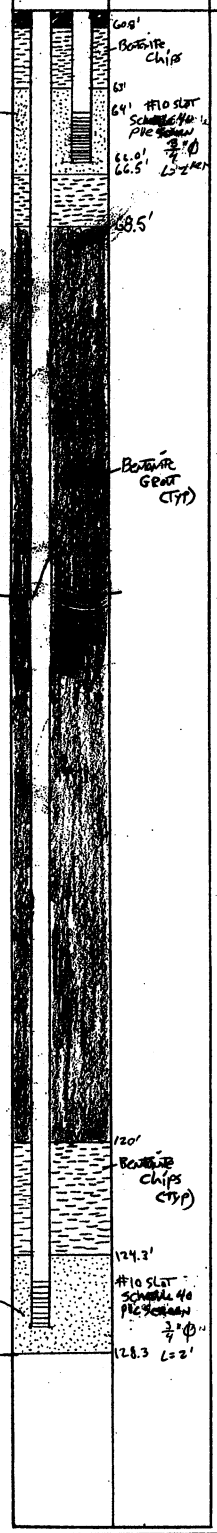
DATE COMPLETED	DATE WELLS INSTALLED	DRILLING METHOD
9/29/04	9/29/04	Wash-Rotary

GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR	LOGGED BY
144.4'		T. Riley / JES

BOREHOLE DIAMETER (IN)	ROCK CORE DIAMETER (IN.)	SHEET
4.5" O.D. / 3.5" O.D. in Rock	2"	2 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD
60		META GRAY WACKE	
65	9R		88%
70	10R		98%
75	11R		97%
80	12R		91%
	13R	81' To 86.4'	77%
	14R	86.4' To 91.3'	80%
	15R	91.3 To 93.1'	94%
	16R	93.1 To 98.1	82%
100	17R	98.1 To 103.1	50%
		... becoming shaley	
105	18R		100%
110	19R		100%
		... less Shaley	
115	20R		100%
120	21R		100%
125	22R		100%
		128.3' (Bedrock) B.O.E.	
130			

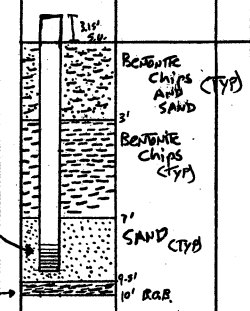
INSTRUMENT LOG



NOTES

PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-13C Piezometer C
DATE COMPLETED 11/29/04	DATE WELLS INSTALLED 11/29/04	DRILLING METHOD Wash-Rotary
GROUND SURFACE ELEVATION (FT) 144.8'	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley / JES
BOREHOLE DIAMETER (IN) 4.5' O.D.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION						INSTRUMENT LOG	DEPTH (FT)
0		See Log P-04-13 for stratigraphy							0
5									5
10		10' B.O.E. (MARINE CLAY)							10



NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 3 HOLE NO. P-04-14 A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET 6.0' Ahead

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/30/04 Start	DATE 10/06/04 Finish
TYPE	HW		NQ2		
SIZE I.D.	4"		2"		
HAMMER WT.	300#				
HAMMER FALL	16"				

SURFACE ELEVATIO

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Spun											0.2	Topsoil
Casing											0.6	Gray Silty Gravelly Sand
	1R	3"	5.0'	5.0'	6.8	100%						
	2R	3"	5.0'	5.0'	11.8	100%						
	3R	3"	5.0'	5.0'	16.8	100%						
	4R	3"	4.6'	4.4'	21.4	95.7%						Rock
	5R	3"	4.9'	4.9'	26.3	100%						
	6R	3"	5.0'	5.0'	31.3	100%						
	7R	3"	5.0'	5.0'	36.3	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 3 HOLE NO. P-04-14A
RILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET 6.0' Ahead

iROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 09/30/04 Start	DATE 10/06/04 Finish
TYPE	HW		NQ2		
SIZE I.D.	4"		2"		
HAMMER WT.	300#				
HAMMER FALL	16"			SURFACE ELEVATIO	

ASING LOWS PER OOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	8R	3"	5.0'	5.0'	41.3	100%						
	9R	3"	5.0'	5.0'	46.3	100%						
	10R	3"	5.0'	5.0'	51.3	100%						
	11R	3"	5.0'	5.0'	56.3	100%						
	12R	3"	4.7'	4.6'	61.0	98%						Rock
	13R	3"	3.0'	3.1'	64.0	103%						
	14R	3"	5.0"	4.6'	69.0	92%						
	15R	3"	4.8'	5.0'	73.8	104%						
	16R	3"	5.0'	5.2'	78.8	104%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
J = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. P-04-14

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 3 OF 3 HOLE NO. P-04-14A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill, 03076.09	LINE & STATION
M.T.B. JOB NUMBER 04-095-B	LOCATION Old Town, ME	OFFSET 6.0' Ahead

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW		NQ2
SIZE I.D.	4"		2"
HAMMER WT.	300#		
HAMMER FALL	16"		

DATE 09/30/04 Start — DATE 10/06/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	17R	3"	5.0'	4.9'	83.8	98%						
	18R	3"	5.0'	5.0'	88.8	100%						
	19R	3"	5.0'	5.0'	93.8	100%						Rock
	20R	3"	5.0'	5.0'	98.8	100%						
	21R	3"	5.0'	5.0'	103.8	100%					103.8	

Bottom of Boring @ 103.8'
Piezometer Installed @ 59.0'
Piezometer Installed @ 16.5'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
J = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

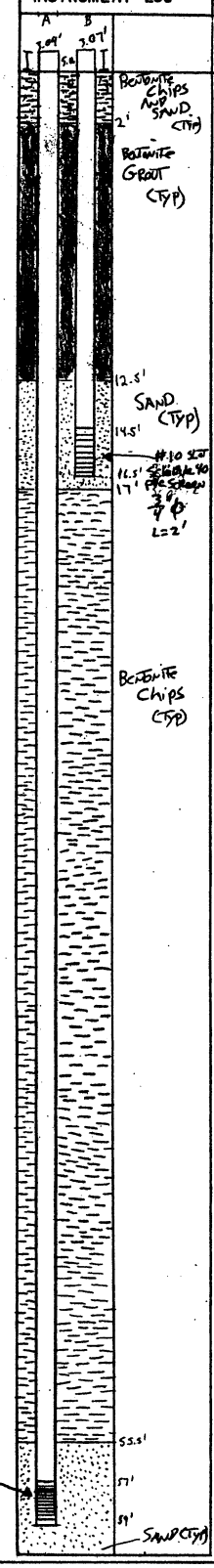
REMARKS:

HOLE NO. P-04-14

PROJECT West Old Town Land Fill Expansion	JOB NO. 03076.09	BORING NO. P-04-14
DATE COMPLETED 10/7/04	DATE WELLS INSTALLED 10/7/04	DRILLING METHOD Wash-Rotary
GROUND SURFACE ELEVATION (FT) 150.2'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JBS
BOREHOLE DIAMETER (IN) 3.5" O.D. in Rock	ROCK CORE DIAMETER (IN.) 2"	SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD			
0	1D	0-0.3' Topsoil; 0.3-5.0' Silt Gravel Sandy Sand; GRAY META GRAYWACKE	50/0.3'				
		← Rollercone. No Sample.					
5	1R			85%			
10	2R			70%			
15	3R			74%			
20	4R			80%			
25	5R			98%			
30	6R			100%			
35	7R			100%			
40	8R			100%			
45	9R			100%			
50	10R			96%			
55	11R			70%			
60	12R			83%			

INSTRUMENT LOG



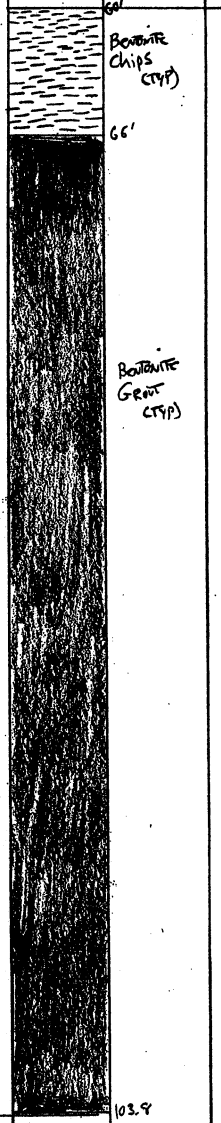
NOTES

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-14	
DATE COMPLETED 10/7/04	DATE WELLS INSTALLED 10/7/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 150.2'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 3.6" O.D. in Rock	ROCK CORE DIAMETER (IN.) 2"	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD
60			
	13R		90%
65	14R		94%
70	15R		100%
75	16R		98%
80	17R		100%
85	18R		100%
90	19R		98%
95	20R		80%
100	21R		100%?
		103.8' (Bedrock) B.O.E.	
105			

INSTRUMENT LOG



DEPTH (FT): 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

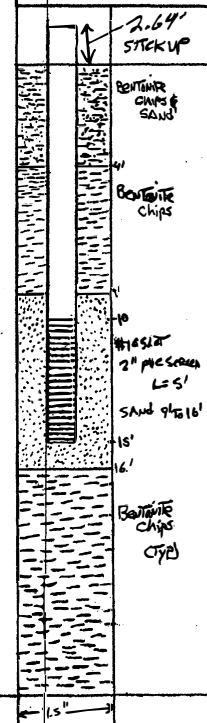
NOTES

SEVEE & MAHER ENGINEERS

PROJECT West old Town Landfill	JOB NO. 04119.00	BORING NO. B-04-102 MW-04-102
DATE COMPLETED 12/29/04	DATE WELLS INSTALLED 12/29/04	DRILLING METHOD Auger + Rotary Wash
GROUND SURFACE ELEVATION (FT) 167.68'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	DRIVER	DRILLING No.
0	0.5' 1D 2.5'	Brown silty fine sand w/ little coarse sand, gravel & cobbles	Auger	25
5	5' 2D 6.2'			57-50/0.2'
10	10' 3D 10.7'		Rotary wash	55-50/0.2'
	13'	Gray fine sandy silt w/ coarse sand & gravel trace of clay		
15	15 4D 16.2'			50-50/0.2'
	19'	Gray clayey sandy silt w/ coarse sand + gravel	Open hole	
20	20' 5D 22'			36
	22.5	Gray fine sandy silt w/ coarse sand + gravel trace of clay		
25	23' 6D 25			64
		BOE. 25'		

INSTRUMENT LOG



NOTES

PROJECT West Bethlehem Landfill | JOB NO. 04197.00 | BORING NO. B-04-105 MW-04-105

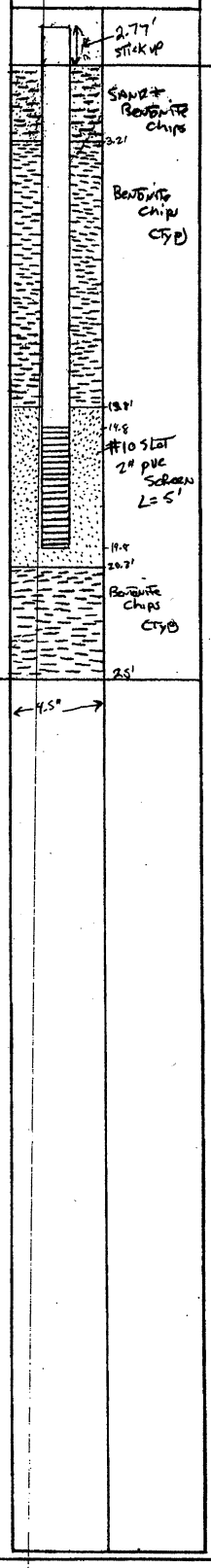
DATE COMPLETED 12/21/04 | DATE WELLS INSTALLED 12/21/04 | DRILLING METHOD Auger + Rotary wash

GROUND SURFACE ELEVATION (FT) 1628.86' | DRILLING CONTRACTOR M.T.B. | LOGGED BY T. Riley

BOREHOLE DIAMETER (IN) 4.5" | ROCK CORE DIAMETER (IN.) N/A | SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	Drilling Sequence
0	1D	Brown silty Fine To Medium sand w/ little Course Sand + gravel	5	Auger
4.5'				
5	2D	Mottled Clayie Sandy Silt	20	
8'				Rotary wash
10	3D	Brown Fine To Medium Sand w/ little silt, Course Sand, and gravel, Trace of Cobbles.	42	
13'				
15	4D	Becoming.. And a Trace of Silt.	90	
20	5D	20.3'	100/0.5'	
25	6D	Olive Clayie Silt w/ Fine To Medium Sand and some Course Sand, gravel and a Trace of Cobbles. 25' B.O.E	98	Open Hole

INSTRUMENT LOG



DEPTH (FT)

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-04-111 ~~MW 04 11~~
RILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE I.D.	4"	1 3/8"	
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 12/30/04 Start | DATE 12/30/04 Finish

SURFACE ELEVATION

ASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
35												
193												
210												
32												
60												Brown Silty Fine Sand,
Wash												w/Some Cobbles, Little Gravel
Ahead												
"												
"	1D	2"	17"		12.4	34	45	65				
"												
											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES

D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:

[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

Pound 4" to 9.0',
Went Open Hole to 15.5',
Flushed out 9.0' to 15.5',
Installed 2" PVC Well using 5' screen

HOLE NO. MW-04-111

PROJECT West Old Town Landfill	JOB NO. 04119.00	BORING NO. B-04-111 MW-04-111	
DATE COMPLETED 12/30/09	DATE WELLS INSTALLED 12/30/09	DRILLING METHOD Auger + Rotary Wash	
GROUND SURFACE ELEVATION (FT) 192.13	DRILLING CONTRACTOR M.T.R.	LOGGED BY T. Riley / JCS	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	Drilling Sequence	INSTRUMENT LOG	DEPTH (FT)
0				AUGER	STICKUP 2.81	0
5				ROTARY WASH	BENTONITE chips (TYP)	5
10	1D 11' 12.9'	BROWN SILTY FINE SAND w/ Some COBBLES & Gravel	45-60/0.4'	OPEN Hole	9.5' SAND 9.5-BOE #10 SLOT 2" PVC SCREEN L=6'	10
15		(BASALTIC) R.O.E 15.5'			4.5"	15
20						20

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-05-01
DRILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
I.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 01/03/05 Start	DATE 01/03/05 Finish
TYPE	HW	SS		SURFACE ELEVATION	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"											2.0	Brown Silty Fine Sand, w/Surface Boulders & Roots
"												
"												
"												
47												
92												
112												
98												
Open												Brown Silty Fine Sand, w/Coarse Sand & Gravel, w/Trace of Cobbles
Hole												
"												
"	1D	2"	18"		12.5	32	30	37				
"												
"												
"											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:

HOLE NO. MW-05-01

PROJECT West old Town Landfill	JOB NO. 030609	BORING NO. B-05-01 MW-05-01	
DATE COMPLETED 1/3/05	DATE WELLS INSTALLED 1/3/05	DRILLING METHOD Auger + Wash Rotary	
GROUND SURFACE ELEVATION (FT) 19677'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	DRILLING SEQUENCE	INSTRUMENT LOG	DEPTH (FT)
0		Brown silty fine sand w/ surface boulders + roots		Auger	Stick up 3.08'	0
5		Brown silty fine sand w/ coarse sand gravel + trace of cobbles.		Rotary wash	Bentonite chips	5
10	1D 11' 12.0'		67	Open hole	9.5 10' Filo slot 2" PVC screen LS 5' Sand 9.5'-15.5'	10
15		(Basal Till) 15.5' B.O.E			15' 16.5' 4.5"	15
20						20

NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-05-02
RILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
I.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 01/03/05 Start	DATE 01/03/05 Finish
TYPE	HW	SS		SURFACE ELEVATIOI	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"											2.0	Brown Silty Fine Sand
"												
"												
"												
39												
77												
170												
65												Brown Silty Fine Sand,
Open												w/Coarse Sand & Gravel,
Hole												w/Trace of Cobbles
"												
"												
"	1D	2"	18"		13.5	28	40	58				
"												
"											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

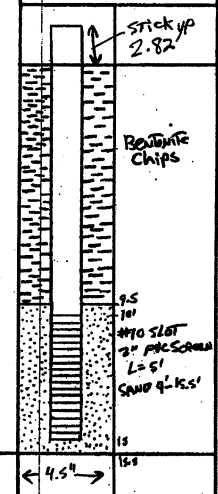
REMARKS:
Augered from surface to 5.0';
Washed ahead from 7.5' to 15.5'

HOLE NO. MW-05-02

PROJECT West old Town Landfill	JOB NO. 0307609	BORING NO. B-05-02 MW-05-02
DATE COMPLETED 1/3/05	DATE WELLS INSTALLED 1/3/05	DRILLING METHOD Auger + Wash Rotary
GROUND SURFACE ELEVATION (FT) 191.81'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JCS
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	DRILLING SEQUENCE			
0		Brown silty Fine Sand		Auger			
5		Brown silty Fine Sand w/ Coarse Sand, gravel and a trace of cobbles.		Rotary wash			
10	12 ID 13.5		98	Open Hole			
15		(BASAL TILL) 15.5'					
		B.O.E.					
20							

INSTRUMENT LOG



DEPTH (FT): 0, 5, 10, 15, 20

NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-05-03
DRILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
I.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE I.D.	4"	1 3/8"	
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 01/04/05 Start | DATE 01/04/05 Finish

SURFACE ELEVATIOI

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"											2.0	Brown Silty Fine Sand
"												
"												
"												
30												
69												
165												
210												Brown Silty Fine Sand,
Wash												w/Coarse Sand & Gravel,
Ahead												w/Trace of Cobbles
"												
"												
"	1D	2"	18"		13.5	26	38	40				
"												
"											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:

HOLE NO. MW-05-03

PROJECT West old Town Landfill	JOB NO. 030609	BORING NO. B-05-03	MW-05-03
DATE COMPLETED 1/4/05	DATE WELLS INSTALLED 1/4/05	DRILLING METHOD Auger + Wash Rotary	
GROUND SURFACE ELEVATION (FT) 192.21'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley / JES	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	DRILLING RESISTANCE				INSTRUMENT LOG	DEPTH (FT)
0								Stick Up 2.67'	0
		Brown silty Fine Sand		Auger				Bentonite Chips	
5		5' Brown silty Fine Sand w/ Coarse Sand, gravel and A Trace of Cobbles.		Rotary wash					5
10	1D		78	Open Hole				9.5 10' #10 SLOT 2" PVC Screen L=5' Sand 9'-15.5'	10
15		(BASAL TILL) 15.5' B.O.E.						15 15.5	15
20									20

NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-05-04
DRILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
I.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 01/04/05 Start	DATE 01/05/05 Finish
TYPE	HW	SS		SURFACE ELEVATIOI	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"											1.5	Brown Silty Fine Sand
"											2.5	Brown Silty Fine Sand w/Cobbles
"												
"												Brown Silty Fine Sand,
41												w/Coarse Sand & Gravel,
72											7.0	w/Trace of Cobbles
135												
180												
30												
22												Brown Silty Fine Sand
22												w/Coarse Sand, Gravel & Cobbles
25	1D	2"	18"		12.5	25	37	43				
42												
75												
											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES

D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:

XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:

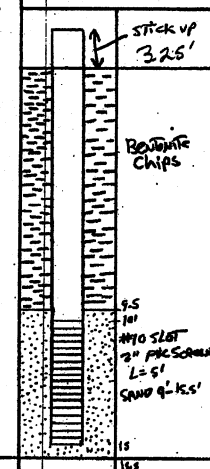
Augered from surface to 5.0';
Washed ahead from 8.0' to 15.5';
Casing @ 9.0', washed ahead to 15.5' Twice;
Hole caved @ 13.2'; Had to put casing down.

HOLE NO. MW-05-04

PROJECT West old Town Landfill	JOB NO. 03076.09	BORING NO. B-05-04 MW-05-04	
DATE COMPLETED 1/5/04	DATE WELLS INSTALLED 1/5/04	DRILLING METHOD Auger + Wash Rotary	
GROUND SURFACE ELEVATION (FT) 192.16'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T Riley / JES	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	Drilling Sequence			
0							
	1.5'	Brown silty fine sand		Auger			
	2.5'	Becoming... w/ cobbles					
		Brown silty fine sand w/ coarse sand, gravel and a trace of cobbles					
5							
	7'			Rotary wash			
10	11'	Brown silty fine sand w/ coarse sand gravel and cobbles.					
	ID 12.5'		80				
15		(BASAL TILL) 15.5'					
		B.O.E.					
20							

INSTRUMENT LOG



DEPTH (FT): 0, 5, 10, 15, 20

NOTES

Attempted to go open hole at 10' twice. Hole caved each time. Due to the use of casing to B.O.E., this borehole was flush three times. Once w/ each attempt to go open hole and then again at the install.

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-05-05
DRILLER Tom Schaefer.	PROJECT NAME West Old TownLandfill	LINE & STATION
M.T.B. JOB NUMBER 04-237	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 01/05/05 Start	DATE 01/05/05 Finish
TYPE	HW	SS		SURFACE ELEVATION	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"											1.5	Brown Silty Fine Sand w/Cobbles &Roots
"												
"												
12												
26												
62												
98												
190												
Open												
Hole												
"												
"	1D	2"	18"		12.5	42	58	60				Brown Silty Fine Sand, w/Coarse Sand & Gravel, w/Trace of Cobbles
"												
"	2D	2"	18"		14.5	36	60	60				
"											15.5	
												Bottom of Boring @ 15.5'
												2" PVC Well Installed @ 15.0'

SAMPLES

D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:

XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:

Augered from surface to 5.0';
Washed ahead from 9.0' to 15.5'

HOLE NO. MW-05-05

MW-05-05

PROJECT West old Town Landfill	JOB NO. 03076.09	BORING NO. B-05-05 MW-05-05	
DATE COMPLETED 1/5/05	DATE WELLS INSTALLED 1/5/05	DRILLING METHOD AUGER + WASH ROTARY	
GROUND SURFACE ELEVATION (FT) 191.95'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T.Riley / JBS	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	DRILLING METHOD	INSTRUMENT LOG	DEPTH (FT)
0		BROWN SILTY FINE SAND W/ COBBLES AND BOULDERS — — — 1.5'		AUGER	STICK UP 2.91'	0
5		BROWN SILTY FINE SAND W/ COARSE SAND + GRAVEL W/ TRACE COBBLES.		ROTARY WASH	BENTONITE CHIPS	5
10	1D 11' 13.5' 15'		118	OPEN HOLE	9.5 10' #10 SLOT 2" PVC SCREEN L=5' SAND 9'-15.5'	10
	2D 15.5'	(BASAL TILL) 15.5' B.O.E.	120		15 15.5	15
20					4.5"	20

NOTES

R/00

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW06-01
DRILLER Darrel McKeen	PROJECT NAME Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 2/28/06 Start	DATE 2/28/06 Finish
TYPE	HW	SS		SURFACE ELEVATIC	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.3	Topsoil
"											2.0	Brown Silty Sand w/Trace of Cobbles
"												
"	1D	2"	24"		4.0	4	5	8	18			Gray Brown Sandy Clayey Silt w/Trace of Gravel
"												
"	2D	2"	12"		6.0	45	50				6.0	
"											6.5	Cobble
"												
"												
"												
30												Gray Brown Sandy Clayey Silt w/Trace of Gravel
100	3D	2"	24"		12.0	24	27	63	30			
95											13.0	
80												
85												
90												
90	4D	2"	24"		17.0	13	11	11	12			Brown Gravelly Sand w/Trace of Silt
85												
80												
80												
	5D	2"	24"		22.0	19	17	16	17		22.0	
												Bottom of Boring @ 22.0'
												2" PVC Well Installed @ 20.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

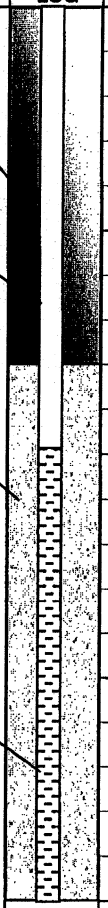
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 10.0' to 15.0'

HOLE NO. MW06-01

PROJECT: WOTL Expansion		**JOB NO.:** 05055.00	**BORING NO.:** MW06-01A
DATE STARTED: 2-28-06	**DATE FINISHED:** 3-1-06	**DRILLING METHOD:** Auger (0-5 ft) Drive & Wash (5-20 ft)	
GROUND SURFACE ELEVATION (FT): 163.3	**DRILLING CONTRACTOR:** Maine Test Borings		**LOGGED BY:** JAB JBS
BOREHOLE DIA. (IN): 4	**ROCK CORE DIA. (IN):** NA		**SHEET 1 OF 1**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows/ .5'	Recovery (%)
		0.3 ft Topsoil		
	D-1	(BASAL TILL)	4-5-8-18	100
5				
	D-2		45-50	100
10				
	D-3		24-27-63-30	10
		Brown gravelly silt transitioning to silty gravel transitioning to silty sand with trace of cobble		
15				
	D-4		13-11-11-12	12
20				
	D-5	22 ft BOE (COBBLE ZONE)	15-11-16-17	90



WELL LOG	DEPTH (FT)
	5
	10
	15
	20

NOTES:

Artesian flow through casing @ 15'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. MW06-02
DRILLER Darrel McKeen	PROJECT NAME Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 02/22/06 Start	DATE 02/24/06 Finish
TYPE	SW	SS	HQ	SURFACE ELEVATIC	
SIZE I.D.	6"	1 3/8"	2.5"		
HAMMER WT.		140#			
HAMMER FALL		30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.5	Topsoil
"											3.0	Brown Silty Sandy Gravel
"												
"												
"												
"	1D	2"	24"		7.0	20	23	31	32			Olive Gravelly Sandy Silt
"												
"												
"											10.0	
"												
"	2D	2"	24"		12.0	35	34	30	36			Olive Gravelly Sandy Clayey Silt
"												
"											13.5	
Wash											14.0	Cobble
Ahead												
"												
"	3D	2"	24"		18.0	10	12	14	21			Olive Gravelly Sandy Clayey Silt
"												
"												
"	4D	2"	8"		20.7	20	50				20.7	
"												
"												
"												
"												
"												
"	1R	3.78"	4.5'	1.5'	26.8	33.3%						
"												
"												
"	2R	3.78"	2.4'	1.8'	29.2	75%						
"												Rock
"	3R	3.78"	2.7'	3.0'	31.9	111%						
"												
"												
"												
"	4R	3.78"	3.2'	2.8"	35.1	88%						
"												
"												
"	5R	3.78"	3.4'	3.5'	38.5	102.9%						
"												

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Reamed HQ hole to 6"
Rollerconed from 22.3' to 42.1'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. MW06-02
DRILLER Darrel McKeen	PROJECT NAME Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 02/22/06 Start	DATE 02/24/06 Finish
TYPE	SW	SS	HQ	SURFACE ELEVATIC	
SIZE I.D.	6"	1 3/8"	2.5"		
HAMMER WT.		140#			
HAMMER FALL		30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
"												
"	6R	3.78"	3.0'	3.0'	41.5	100%						Rock
"											42.1	
												Bottom of Boring @ 42.1'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Reamed HQ hole to 6"
Rollerconed from 22.3' to 42.1'

HOLE NO. MW06-02

PROJECT: WOTL Expansion		**JOB NO.:** 05055.00	**BORING NO.:** MW-0602
DATE STARTED: 4-3-06	**DATE FINISHED:** 4-3-06	**DRILLING METHOD:** Auger (0-14 ft) Drive & Wash (14-42 ft)	
GROUND SURFACE ELEVATION (FT): 188.8	**DRILLING CONTRACTOR:** Maine Test Borings		**LOGGED BY:** JAB / JCB
BOREHOLE DIA. (IN): 6	**ROCK CORE DIA. (IN):** 2.5" ID (H)		**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows/ .5'	Recovery (%)	WELL LOG	DEPTH (FT)
		0.5 ft Topsoil				
5						5
	D-1		20-23-31-32	100		
10						10
	D-2		35-34-30-36	100	2" Schedule 40 PVC Riser	
		Olive gravelly sandy silt, traces of clay and cobble				
15						15
	D-3		10-12-14-21	100	Bentonite Chips (typ)	
20		(BASAL TILL)				20
	D-4	20.7ft	20-50/.2'	36		
25						25
	R-1			33	Sand (typ)	
	R-2			75		
30						30
	R-3			90		
35	R-4	meta Gray siltstone with quartz seams		111	2" Schedule 40 PVC Screen No. 10 Slot L=10'	35
	R-5			100	Bentonite Chips (typ)	
40						40
	R-6	41.5 ft BOE (Bedrock)		100		

NOTES:

Auger refusal @ 14 feet due to cobble, switch to roller cone.
Begin bedrock core @ 22.3 ft
Bedrock highly fractured to a depth of 35 feet
TOPVC Elevation = 191.71
Original boring done on 2-22-06. Well installed on 4-3-06

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. OW-06-05
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BARREL	DATE 3/27/06 Start	DATE 3/27/06 Finish
	TYPE	HW		HQ	SURFACE ELEVATION	
	SIZE I.D.	4"		2.5"		
	HAMMER WT.	300#				
	HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.4	Topsoil
"												
"												
"												
"												Brown Gravelly Silty Sand w/Trace of Cobbles
"												
"												
"												
"											10.0	
"												
"												
"												
"												
"												
"												
"												
"												
"												
												Gray Brown Gravelly Sandy Clayey Silt w/Trace of Cobbles
											23.2	
	1R	3.78"	5.2'	5.2'	28.4	100%						Rock
	2R	3.78"	5.0'	5.0'	33.4	100%						
	3R	3.78"	3.4'	3.4'	36.8	100%					36.8	
												Bottom of Boring @ 36.8'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
2" PVC Well Installed @ 36.3'
Using 10.0' screen
No spoon samples taken

HOLE NO. OW-06-05

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0605
DATE STARTED: 3-27-06	**DATE FINISHED:** 3-27-06	**GROUND SURFACE ELEVATION (FT):** 187.6
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-20 ft) Drive & Wash (20-23.2 ft)	
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB **SHEET** 1 OF 1

JCS

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description	Well Log	Depth (ft)
				.2 ft Topsoil		
5				Gravelly Sandy Clayey Silt	2" Schedule 40 PVC Riser	5
10						10
15					Bentonite Chips (typ)	15
20						20
				23.2 ft (BASAL TILL)		
25	R-1	100	94	GRAY SILTSTONE	Sand (typ)	25
30	R-2	98	88		2" Schedule 40 PVC Screen No. 10 Slot L=10'	30
35	R-3	100	10			35
				36.8 ft (Bedrock)		
				BOE		

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock fractures with staining observed in cores at approximately 29.5' and 33.0'.

TOPVC Elevation = 190.53

Sand Pack: 36.8' - 25.2'

MAINE TEST BORINGS, INC. **BREWER, MAINE 04412**	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. OW-06-06
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/28/06 Start	DATE 3/28/06 Finish
TYPE	HW		HQ	SURFACE ELEVATIO	
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
"												
"												Same As OW-06-05
"												
"												
"												
"												
"												
"												
"												
"												
											20.0	
	1R	3.78"	3.7'	3.7'	23.8	100%						
	2R	3.78"	5.1'	5.1'	28.9	100%						
												Rock
	3R	3.78"	4.0'	4.0'	32.9	100%						
	4R	3.78"	5.2'	5.2'	38.1	100%					38.1	

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Bottom of Boring @ 38.1'
2" PVC Well Installed @ 37.9'
Using 10.0' screen.
No spoon samples taken.

HOLE NO. OW-06-06

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0606
DATE STARTED: 3-28-06	**DATE FINISHED:** 3-28-06	**GROUND SURFACE ELEVATION (FT):** 187.3
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-20 ft) Drive & Wash (20-20.1 ft)	
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB/JES **SHEET** 1 OF 1

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description	Well Log	Depth (ft)
				.2 ft Topsoil		
5				Gravelly Sandy Clayey Silt	2" Schedule 40 PVC Riser	5
10					Bentonite Chips (typ)	10
15						15
20				20.1 ft (BASAL TILL) GRAY SILTSTONE		20
	R-1	100	100% 95			
25	R-2	100	100% 95		Sand (typ)	25
30	R-3	96	100% 75		2" Schedule 40 PVC Screen No. 10 Slot L=10'	30
35	R-4	100	27% 23	38.1 (Bedrock)		35
				BOE		

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock fractures with staining observed in cores at approximately 26.5', 34.5', 35.1', and 37.2'.

TOPVC Elevation = 190.12

Sand Pack: 25.5' - 38.1'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. OW-06-07
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/28/06 Start	DATE 3/28/06 Finish
TYPE	HW		HQ		
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"			SURFACE ELEVATIO	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
"												Same As OW-06-05
"												
"												
"												
"												
"												
"												
"												
"												
											18.3	
	1R	3.78"	4.9'	4.9'	23.2	100%						
	2R	3.78"	5.0'	5.0'	28.2	100%						Rock
	3R	3.78"	5.0'	5.0'	33.2	100%						
	4R	3.78"	5.1'	5.1'	38.3	100%					38.3	

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

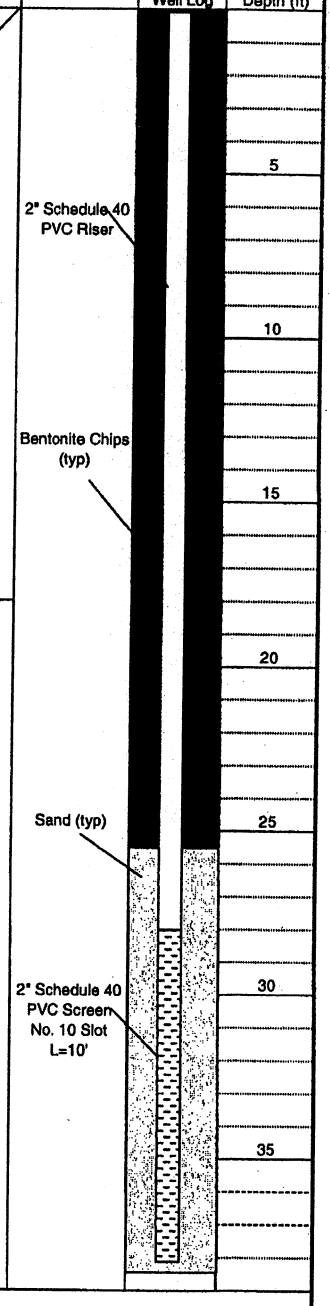
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Bottom of Boring @ 38.3'.
2" PVC Well Installed @ 38.0'.
Using 10.0' screen. No spoon samples taken .
Augered from surface to 18.3'.

HOLE NO. OW-06-07

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0607
DATE STARTED: 3-29-06	**DATE FINISHED:** 3-29-06	**GROUND SURFACE ELEVATION (FT):** 186.6
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-18.3 ft)	
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB **SHEET** 1 OF 1

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description
				.2 ft Topsoil
5				Gravelly Sandy Clayey Silt
10				
15				
				18.3 ft (BASAL TILL)
20	R-1	100	100	GRAY SILTSTONE
25	R-2	100	100	
30	R-3	100	100	
35	R-4	94	68	38.5' (Bedrock)



BOE

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock fractures with staining observed in cores at approximately 18.8', 19.6', 20.5', 21.2', 36.0', 36.8' and 37.8'

TOPVC Elevation = 189.16

Sand Pack: 25.5'-38.5'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. OW-06-08
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/29/06 Start	DATE 3/30/06 Finish
TYPE	HW		HQ	SURFACE ELEVATIO	
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
"												
"												Same As OW-06-05
"												
"												
"												
"												
"												
"												
"												
"												
"												
											20.5	
	1R	3.78"	3.4'	3.0'	24.0	88%						
	2R	3.78"	2.0'	2.0'	26.0	100%						
												Rock
	3R	3.78"	3.0'	3.4'	29.0	113%						
	4R	3.78"	1.7'	1.4'	30.7	82.4%						
	5R	3.78"	3.5'	3.5'	34.2	100%					34.2	
												Bottom of Boring @ 34.2'
												2" PVC Well Installed @ 33.8'
												Using 10.0' screen

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. OW-06-08

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0608
DATE STARTED: 3-29-06	**DATE FINISHED:** 3-30-06	**GROUND SURFACE ELEVATION (FT):** 187.1
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-20 ft), Drive and Wash (20.0-20.6 ft)	
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB/JES **SHEET** 1 OF 1

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description	Well Log	Depth (ft)
				.2 ft Topsoil	2" Schedule 40 PVC Riser	
5						5
10				Gravelly Sandy Clayey Silt		10
15					Bentonite Chips (typ)	15
20				20.6 ft (BASAL TILL)		20
	R-1	88	62	GRAY SILTSTONE		
25	R-2	100	50 ?		Sand (typ)	25
	R-3	113	93			
30	R-4	76	100		2" Schedule 40 PVC Screen No. 10 Slot L=10'	30
	R-5	106	100	34.0 (Bedrock)		
				BOE		

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock cores highly fractured from 20.6' to 25.0'.

Fracture in bedrock core observed at 26.5'.

TOPVC Elevation = 189.72

Seam of brown clay encountered between approxiamately 30' and 32'.

Sand Pack: 21.5'-34.0'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. OW-06-09
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/30/06 Start	DATE 3/31/06 Finish
TYPE	HW		HQ	SURFACE ELEVATIO	
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												OW-06-05
"												
"												
"												
"												
"												
Wash												
Ahead												
"												
"												
"												
"												
"												
"											27.2	
	1R	3.78"	3.0'	3.0'	30.4	100%						
	2R	3.78"	2.5'	2.5'	32.9	100%						Rock
	3R	3.78"	0.8'	0.7'	33.7	88%						
	4R	3.78"	1.4'	1.2'	35.1	86%						
	5R	3.78"	1.4'	1.3'	36.5	93%						
	6R	3.78"	1.0'	0.9'	37.5	100%						
	7R	3.78"	1.9'	1.9'	39.4	100%					39.4	

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Bottom of Boring @ 39.4'. 2" PVC Well Installed @ 39.0'.
Using 10.0' screen. No spoon samples taken.
Augered from surface to 20.0'.
Washed ahead from 20.0' to 27.4'

HOLE NO. OW-06-09

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0609	
DATE STARTED: 3-30-06	**DATE FINISHED:** 3-31-06	**GROUND SURFACE ELEVATION (FT):** 187.2	
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-20 ft), Drive and Wash (20.0-20.6 ft)		
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB	**SHEET** 1 OF 1

/JBS

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description	Well Log	Depth (ft)
				.2 ft Topsoil		
5					2" Schedule 40 PVC Riser	5
10				Gravelly Sandy Clayey Silt		10
15					Bentonite Chips (typ)	15
20						20
25				27.4 ft (BASAL TILL)	Sand (typ)	25
30	R-1	100	63?	GRAY SILTSTONE ... WX	2" Schedule 40 PVC Screen No. 10 Slot L=10'	30
	R-2	100	0	... clay seam		
	R-3	75	0			
35	R-4	93	0			35
	R-5	107	0			
	R-6	100	0			
40	R-7	100	53	39.4 ft (Bedrock)		40
				BOE		

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock cores highly fractured with brown mud from 27.4' to 37.0'.

Brown clay seam encountered between approximately 33.0' and 34.0'.

Bedrock cores become less fractured and less muddy between 37.0' and 39.4'.

TOPVC Elevation = 190.10

Sand Pack: 27.5' - 39.4'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 2 HOLE NO. OW-06-10
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/31/06 Start	DATE 4/3/06 Finish
TYPE	HW		HQ	SURFACE ELEVATIO	
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"												Same As OW-06-05
"												
"												
"												
"												
"												
Wash												
Ahead												
"												
"												
"												
"												
"												
"												
"												
"												
"												
"											30.5	
	1R	3.78"	1.5'	1.5'	32.1	100%						Rock
	2R	3.78"	5.3'	5.3'	37.4	100%						
	3R	3.78"	1.3'	1.3'	38.7	100%						
	4R	3.78"	1.2'	1.2'	39.9	100%						

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
No spoon samples taken
Augered from surface to 20.0'
Washed ahead from 20.0' to 30.5'

HOLE NO. OW-06-10

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 2 HOLE NO. OW-06-10
DRILLER Darrel McKeen	PROJECT NAME Juniper Ridge Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044A	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/31/06 Start	DATE 4/3/06 Finish
TYPE	HW		HQ		
SIZE I.D.	4"		2.5"		
HAMMER WT.	300#				
HAMMER FALL	16"				

SURFACE ELEVATIO

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	5R	3.78"	1.2'	1.2'	41.1	100%						Rock
	6R	3.78"	1.5'	1.5'	42.6	100%						
	7R	3.78"	1.0'	1.0'	43.6	100%					43.6	
												Bottom of Boring @ 43.6'
												2" PVC Well Installed @ 43.4'
												Using 10.0' screen

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:
No spoon samples taken
Augered from surface to 20.0'
Washed ahead from 20.0' to 30.5'

HOLE NO. OW-06-10

PROJECT: WOTL Expansion	**JOB NO.:** 05055.00	**BORING NO.:** OW-0610	
DATE STARTED: 3-31-06	**DATE FINISHED:** 4-3-06	**GROUND SURFACE ELEVATION (FT):** 188.4	
DRILLING CONTRACTOR: Maine Test Borings	**DRILLING METHOD:** Auger (0-20 ft), Drive and Wash (20-30.6 ft)		
BOREHOLE DIA. (IN): 4 inch	**ROCK CORE DIA. (IN):** 2.5" ID (H)	**LOGGED BY:** JAB	**SHEET** 1 OF 1

Depth (ft)	Sample No.	Recovery (%)	RQD (%)	Material Description	Well Log	Depth (ft)
				.2 ft Topsoil		
5					2" Schedule 40 PVC Riser	5
10						10
					Bentonite Chips (typ)	
15				Gravelly Sandy Clayey Silt		15
20						20
25						25
30						30
				30.6 ft (BASAL TILL)	Sand (typ)	
	R-1	100	0	GRAY SILTSTONE		
35	R-2	100	87	... wx	2" Schedule 40 PVC Screen No. 10 Slot L=10'	35
	R-3	100	0			
40	R-4	100	0	... clay seam		40
	R-5	100	0			
	R-6	100	67			
	R-7	100	100	43.6 ft (Bedrock)		
				BOE		

Notes:

No soil samples taken. Description of till is based on observations of cuttings.

Bedrock cores highly fractured from approximately 30.6' to 32.0' and 37.0' to 41.0'.

Quartz seams observed in bedrock cores between approximately 32.0' and 37.0'.

Fractures observed in bedrock cores at approximately 32.7', 35.7' and 37.0'.

TOPVC Elevation = 191.07

Sand Pack: 30.5' - 43.6'

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. ~~P06-01~~ P-06-03
DRILLER Darrel McKeen	PROJECT NAME Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 3/1/06 Start	DATE 3/1/06 Finish
TYPE	NW	SS		SURFACE ELEVATIC	
SIZE I.D.	3"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.3	Topsoil
"												
"												
"	1D	2"	24"		4.0	15	26	45	40			
"												
Wash Ahead												
"	2D	2"	17"		6.4	23	50	100				
"												
"												Brown Gravelly Silty Sand w/Trace of Cobbles
"												
"	3D	2"	24"		12.0	27	30	40	64			
"												
"												
"												
	4D	2"	24"		17.0	19	30	33	55		17.0	
												Bottom of Boring @ 17.0'
												3/4" PVC Well Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
XX DRILLER-VISUALLY
SOIL TECHNICIAN-VISUALLY
LABORATORY TESTS

REMARKS:

HOLE NO. P06-03

PROJECT: WOTL Expansion		**JOB NO.:** 05055.00	**BORING NO.:** P-06-03
DATE STARTED: 2-27-06	**DATE FINISHED:** 2-28-06	**DRILLING METHOD:** Auger (0-5 ft) Drive & Wash (5-15 ft)	
GROUND SURFACE ELEVATION (FT): 198.9	**DRILLING CONTRACTOR:** Maine Test Borings		**LOGGED BY:** JAB / JCS
BOREHOLE DIA. (IN): 3	**ROCK CORE DIA. (IN):** NA		**SHEET 1 OF 1**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows/ .5'	Recovery (%)	WELL LOG	DEPTH (FT)
		0.3 ft Topsoil			Bentonite Chips (typ)	
	D-1		15-26-45-40	100		
5					3/4" schedule 40 pvc pipe	5
	D-2		23-50-100/.4'	79		
		Brown sandy gravelly silt, transitioning to gravelly v, silty sand @ 12'			Sand (typ)	
10						10
	D-3		27-30-40-64	100		
		(BASAL TILL)			3/4" sched. 40 PVC screen No. 10 slot (L=5')	
15						15
		** SANDY ZONE				
	D-4	17 ft BOE	19-30-33-55	85		

NOTES:

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. ~~P06-02~~ P-06-04
DRILLER Darrel McKeen	PROJECT NAME Landfill	LINE & STATION
M.T.B. JOB NUMBER 06-044	LOCATION Old Town, ME.	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 2/27/06 Start	DATE 2/28/06 Finish
TYPE	HW	SS		SURFACE ELEVATIC	
SIZE I.D.	4"	1 3/8"			
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"												
"												
"	1D	2"	14"		3.2	20	40	50				Brown Silty Sandy Gravel w/Trace of Cobbles
"												
16												
35	2D	2"	24"		7.0	70	78	60	80			
185											8.0	
90												
100												
70												
94	3D	2"	24"		12.0	42	60	47	35			Brown Sandy Gravel w/Trace of Silt
160												
167												
125											15.0	
95												
65	4D	2"	24"		17.0	53	33	21	19			
63												Brown Sandy Silt w/Trace of Clay
70												
70												
150	5D	2"	12"		21.0	20	150				21.0	
64											21.5	Cobble
43												
60												Brown Sandy Clayey Silt w/Shale
80												
	6D	2"	24"		27.0	100	35	26	60		27.0	
												Weathered Rock
	D	2"	2"	0"	30.2	100					30.2	
												Refusal @ 30.2'
												3/4" PVC Well Installed @ 30.0'
												3/4" PVC Well Installed @ 15.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Washed ahead from 5.0' to 10.0' and from 20.0' to 30.0'.

HOLE NO. P06-04

PROJECT: WOTL Expansion		JOB NO.: 05055.00	BORING NO.: P-06-04
DATE STARTED: 2-27-06	DATE FINISHED: 2-28-06	DRILLING METHOD: Auger (0-5 ft) Drive & Wash (5-30 ft)	
GROUND SURFACE ELEVATION (FT): 186.2	DRILLING CONTRACTOR: Maine Test Borings		LOGGED BY: JAB / JCS
BOREHOLE DIA. (IN): 4	ROCK CORE DIA. (IN): NA		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Blows/ .5'	Recovery (%)	WELL LOG	DEPTH (FT)
		0.2 ft Topsoil			Bentonite Chips (Typ)	
	D-1		20-40-50/.2'	67	3/4" schedule 40 pvc pipe	
5						5
	D-2	Brown sandy gravelly silt	70-78-60-80	100	Sand (Typ)	
10						10
	D-3		42-60-47-35	55		
15		Silty sandy gravel layer @ 12'-15'			3/4" sched. 40 PVC screen No. 10 slot (L=5')	15
	D-4		53-33-21-19	70		
20					3/4" sched. 40 PVC pipe	20
	D-5		20-100-50/0'	100		
25		(BASAL TILL)			Bentonite Chips (Typ)	25
	D-6	Color change to mottled gray-brown w/ trace of weathered shale @ 26'	100-35-26-60	90	Sand (Typ)	
30	D-7	30.2 ft Refusal WX ROCK PHYLLITE (BEDROCK)	100/.2'	100	3/4" sched. 40 PVC screen No. 10 slot (L=2')	30

NOTES:

Cobble @ 21' stopped spoon
04A P-0602A is deep and has a short pipe (relative to ground surface)
04B P-0602B is shallow and has a tall pipe (relative to ground surface)

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-01

Start	Finish
6/30/2008	6/30/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Augers											1.0	Brown Silty Fine to Coarse Sand w/Organics
"												
"												
"												Brown Fine to Coarse Sand,
"												w/Silt, Some Gravel & Cobbles
36											5.5	
54	1D	2"	24"		7.0	11	21	24	28			
141												
121												
30												
Wash												
Ahead	2D	2"	24"		12.0	22	28	40	60			
"												
"												
"												
"												Brown Silty Fine to Coarse Sandy Gravel
"	3D	2"	24"		17.0	25	24	36	47			w/Some Cobbles
"												
"												
"												
"												
"	4D	2"	24"		22.0	20	24	32	26			
"											22.4	
												Refusal @ 22.4'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Augered from surface to 5.0';
Washed ahead from 9.0' to 22.4'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-01	
DATE COMPLETED 6/30/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 177	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JBS	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	INSTRUMENT LOG
5	1D	BROWN SANDY SILT WITH TRACE GRAVEL, POCKETS OF FINE SAND	46	
10	2D		68	BENTONITE CHIPS
15	3D	OLIVE TO GRAY SANDY CLAYEY SILT WITH LITTLE GRAVEL	60	
20	4D	(BASAL TILL)	56	
25		22.4' REFUSAL BOE @ 22.4		BOE

NOTES DRILLED B-08-01 TO REFUSAL. BACKFILLED TO GROUND SURFACE WITH BENTONITE CHIPS

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-1A

Start	Finish
6/30/2008	6/30/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	Shelby	
Size I.D.	4"		
Hammer Wt.	300#		
Hammer Fall	16"		

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Augers											1.0	Brown Silty Fine to Coarse Sand w/Organics
"												
"												
"												Brown Silty Fine to Coarse Sandy Gravel
"												
67											6.0	
79												
Wash												
Ahead												
"												
"												
"												
"												
"												Brown Silty Fine to Coarse Sandy Gravel
"												w/Cobbles & Trace of Clay
"												
"												
'	1S	3"	14"	14"	17.8	Hydr.	Push	&	Spin			
"												
"	2S	3"	12"	12"	19.3	Hydr.	Push				19.3	
												Bottom of Boring @ 19.3'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Augered from surface to 5.0';
Washed ahead from 8.0' to 19.3'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 18097.01	BORING NO. B-08-01A	
DATE COMPLETED 7/1/08	DATE WELLS INSTALLED 7/1/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 177.2	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	REC (FT)	WC (%)	>200 (%)	K_V (CM/S)
		SEE B-08-01 FOR MATERIAL DESCRIPTION				
15	15	GRAY SANDY CLAYEY SILT WITH LITTLE GRAVEL (BASAL (TILL)	0.7	11.9	52	1.6×10^{-7}
20	25		0.4	11.9	57	1.1×10^{-7}
		19.3' BOE @ 19.3'				

INSTRUMENT LOG: BENTONITE CHIPS; BOE

NOTES: OFF-SET ± 5' FROM B-08-01. COLLECTED TUBE SAMPLES OF TILL. BACKFILLED BORING TO GROUND SURFACE WITH BENTONITE CHIPS.

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-02

Start	Finish
7/1/2008	7/1/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr												Brown Silty Fine to Coarse Sand,
Push											1.0	w/Organics, Some Cobbles
20												
97												
104												
Wash												
Ahead	1D	2"	18"		6.5	26	54	39				
"												
"												Brown Silty Fine to Coarse Sandy Gravel,
"												w/Some Cobbles
"	2D	2"	18"		10.6	15	25	23				
"												
"	1S	3"	17"	17"	12.4	Hydr.	Push				12.4	
												Bottom of Boring @ 12.4'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Hydr. Push to 2.0'
Washed ahead from 6.0' to 12.4'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-02	
DATE COMPLETED 7/1/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 176.6	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	K v-l (CM/SEC)	INSTRUMENT LOG	DEPTH (FT)
								08-02	
5	1D	BROWN SANDY SILT WITH LITTLE CLAY	93					BENTONITE CHIPS	5
10	2D	OLIVE CLAYEY SILT WITH LITTLE FINE SAND AND TRACE GRAVEL (BASAL TILL)	48						10
	1S			1.2	3.6	84	7×10^{-8}		
15		BOE @ 12.4 FT						BOE 12.4	15

NOTES COLLECTED TUBE SAMPLE OF TILL. BACKFILL BORING WITH BENTONITE CHIPS

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-03

Start	Finish
7/1/2008	7/1/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

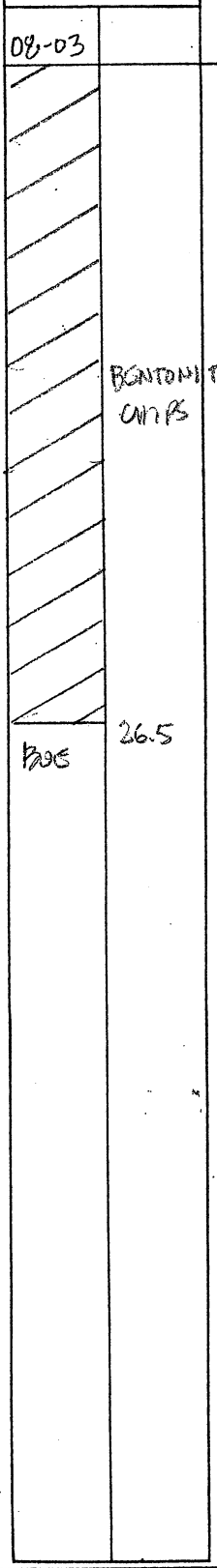
	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr .												Brown Silty Fine to Coarse Sand,
Push											1.5	w/Organics, Some Cobbles
12												
41												
34												
10												
20	1D	2"	18"		6.5	39	30	22				Brown Fine to Coarse Sandy Gravel,
22												w/Cobbles & Trace of Silt
79											9.0	
Wash												
Ahead	2D	2"	18"		10.5	25	41	44				
"												
"												
"	3D	2"	18"		14.0	18	14	21				
"												
"												
"												
"												
"	4D	2"	18"		18.5	23	29	35				Brown Coarse to Fine Sand,
"												w/Some Gravel & Cobbles
"												
"												
"	5D	2"	8"		22.2	70	50					
"												
"												
"												
"												

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-03	
DATE COMPLETED 7/1/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 172.6	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JGS	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)
5	1D	BROWN SANDY SILT WITH TRACE GRAVEL AND COBBLES	52
10	2D	BROWN FINE SAND OVER FINE SANDY SILT WITH TRACE GRAVEL	85
	3D		35
15	4D	BROWN TO OLIVE WITH DEPTH FINE SANDY SILT WITH TRACE CLAY AND LITTLE GRAVEL	64
20	5D	(BASAL TILL)	120/0.7'
25		25.2' (BEDROCK)	
		26.5' REFUSAL	
30		BOE @ 26.5'	

INSTRUMENT LOG



NOTES

BACKFILLED BORING TO GROUND SURFACE WITH BENTONITE CHIPS AFTER DRILLING 1.3' INTO ROCK WITH ROLLER CONE

REFERENCE: FIELD BOOK # 508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-03A

Start	Finish
7/2/2008	7/2/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.											1.0	Brown Silty Fine to Medium Sand w/Organics
Push												Brown Silty Coarse to Fine Sand,
"											3.0	w/Some Organics & Gravel
"												
												Brown Silty Coarse to Fine Sand,
												w/Gravel, Some Cobbles & Boulders
49												
28												
37											10.0	
1												
8	1D	2"	18"		11.5	20	12	22				
40												Brown Silty Coarse to Fine Sandy Gravel,
42											14.0	w/Cobbles
73												
78												
133	2D	2"	18"		16.5	32	47	43				Brown Fine to Coarse Sandy Gravel,
Wash	1S	3"	5"	5"	17.5	30						w/Some Silt & Cobbles
Ahead	3D	2"	6"		18.5	100					18.5	
												Refusal @ 18.5'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 11.0' to 18.5'
Took sample out of tube & reused tube on B08-03B

PROJECT CASELLA-JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-03A	
DATE COMPLETED 7/2/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) ± 169	DRILLING CONTRACTOR MTB	LOGGED BY WCM/JES	
BOREHOLE DIAMETER (IN) 4.5" (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	Kv-L (CM/S)	INSTRUMENT LOG	DEPTH (FT)
								08-03A	
5		BROWN SANDY SILT, TRACE CLAY AND GRAVEL							5
		... COLOR CHANGES TO OLIVE GRAY (BASAL TILL)						BENTONITE CHIPS	
10	1D	TRACE COBBLES WITH INCREASING SAND	34						10
15	2D		90						15
	1S	(WASHED TILL)		0.2	7.9	30	1.1×10^{-5}	18.5	
20	3D	18.5' REFUSAL	100/0.5					BOE	20
		BOE @ 18.5'							

NOTES OFF-SET ± 12.5' DOWNSLOPE FROM B-08-03. BACKFILL TO GROUND SURFACE WITH BENTONITE CHIPS.

REFERENCE: FIELD BOOK # 508

MAINE TEST BORINGS INC.
BREWER, ME

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-03B

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Start	Finish
7/2/2008	7/2/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	Shelby	
Size I.D.	4"		
Hammer Wt.	300#		
Hammer Fall	16"		

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.												
Push												
"												
31												
62												
28												
36												
74												Same as B08-03A
36												
38												
12												
43	1S	3"	6"	6"	11.7	Hydr.						
116												
Wash	S	3"	12"	24"	13.2	15	25					
Ahead												
"												
"	2S	3"	18"	18"	16.3	37	34	45			16.3	
												Bottom of Boring @ 16.3'
												1" PVC Well Installed @ 15.5'
												Using 2.0' Screen
												1" PVC Well Installed @ 5.3'
												Using 2.0' Screen

SAMPLES
D = Split Spoon
C = 2" Shelby Tube
S = 3" Shelby Tube
R = Rock Core
V = Vane Test

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Drilled to 4.8', hit boulder;
Moved, Drilled to 4.8', hit boulder;
Moved to this hole.
Took sample 1S out of tube & reused tube on 2S
Washed ahead from 11.0' to 13.0'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-03B	
DATE COMPLETED 7/2/08	DATE WELLS INSTALLED 7/2/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 168.9	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	REC (FT)	WC (%)	>200 (%)	K (cm/s)	
		SEE B-08-03A FOR MATERIAL DESCRIPTION				$K_F = 1.1 \times 10^{-6}$	P-08-3B
10	1S		0.4'			BASAL TILL → $K_V = 6.2 \times 10^{-7}$	
	MS		0				
		(BASAL TILL)					
15	2S	15.5 WASHED TILL ZONE	1.2'	9.8	45	$K_F = 8.3 \times 10^{-4}$	
		BOE @ 16.3'					
20							

INSTRUMENT LOG

B | A

3.0
3.3
5.3
5.5
1" ϕ RISER PVC
BENTONITE CHIPS
P-08-3A
13.1
13.5
15.5
15.7
16.0
16.3
1" ϕ SLOTTED (0.01) PVC
CAVE

NOTES

OFF-SET FROM B-08-03A AND DRILLED BORING B-08-03B. COLLECTED TUBE SAMPLES AND INSTALLED TWO 1-INCH DIA. SCH 40 PVC PIEZOMETERS P-08-03A & 03B IN BORING.

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-04

Start	Finish
7/2/2008	7/2/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW		
Size I.D.	4"		
Hammer Wt.	300#		
Hammer Fall	16"		

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading
Hydr.										
Push										
"										
72										
57										
65										
82										
89										
105										

Depth	STRATUM DESCRIPTION
1.0	Brown Silty Fine to Coarse Sand, w/Organics, Some Gravel
6.0	Brown Silty Fine to Coarse Sand, w/Gravel, Some Cobbles
9.0	Brown Silty Fine to Coarse Sand, w/Gravel, Some Clay
10.6	Rock
	Refusal @ 10.6'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

No spoon samples taken

PROJECT CASELLA-JRLF-OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-04
DATE COMPLETED 7/2/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH
GROUND SURFACE ELEVATION (FT) 193	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	INSTRUMENT LOG	DEPTH (FT)
5		OLIVE BROWN CLAYEY SILT WITH TRACE SAND AND GRAVEL (BASAL TILL)	BENTONITE CHIPS	5
10		9' (BEDROCK?)		10
		10.6' REFUSAL	10.6'	
		BOE @ 10.6'	BOE	

NOTES: REFUSAL WITH HW CASING AT 9 FEET. ROLLER CONE 1.6' INTO ROCK. BACKFILLED WITH BENTONITE CHIPS. NO SPLIT SPOON SAMPLES COLLECTED

REFERENCE: FIELD BOOK # 503

MAINE TEST BORINGS INC.
BREWER, ME

Driller: Gerard Rudnicki

MTB Job#: 2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-04A

Start	Finish
7/3/2008	7/3/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading
Hydr.										
Push										
"										
71										
78										
73										
Wash	1D	2"	12"		7.0	27	31			
Ahead	1S	3"	8"	8"	8.0	Hydr.	25			
	S	3"	0"	0"	9.0	50				

Depth	STRATUM DESCRIPTION
0.8	Brown Silty F/C Sand w/Organics & Some Gravel
5.5	Brown Silty Fine to Coarse Sandy Gravel, w/Some Cobbles
7.7	Brown Silty Fine-Coarse Sand, w/Gravel & Trace of Clay
8.0	Rock

Refusal @ 8.0'
1" PVC Well Installed @ 7.7'
Using 2.0' screen

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Hydr. Push to 3.0'
Washed ahead from 7.0' to 8.0'

PROJECT CASELLA-JRLF- OLD TOWN	JOB NO. 03097.01	BORING NO. B-08-04A P-08-04	
DATE COMPLETED 7/3/08	DATE WELLS INSTALLED 7/3/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 192.7	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	K (cm/s)
0							
5	1D	OLIVE BROWN SANDY CLAYEY SILT WITH TRACE GRAVEL	58				
	1S	7.7' (BASAL FILL)		0.9	14.2	54	
	2D	8.0' (BEDROCK?)	50/0				
10		REFUSAL					
		BOE @ 8 FEET					

SAND PACK

1" Ø SLOTTED (0.01")

K_V = 1.8×10^{-6}

K_F = 5.4×10^{-6}

INSTRUMENT LOG

BENTONITE CHIPS

4.5

5.2

7.2

7.5

BOE 8.0

NOTES

OFF-SET FROM BORING B-08-04 AND DRILLED B-08-04A. COLLECTED TUBE SAMPLE OF FILL AND INSTALLED 1-INCH DIA. SCH 40 PVC PIEZOMETER P-08-04 IN BORING.

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
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Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-04B

Start	Finish
7/3/2008	7/3/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.											1.0	Brown Silty F/C Sand w/Some Organics
Push												
36												
31												Brown Silty F/C Sandy Gravel w/Some Cobbles
43												
92											5.5	
126												
Wash												
Ahead												
"												
"												
"	1D	2"	24"		12.0	17	20	22	29			Brown Silty F/C Sand, w/Gravel, Some Cobbles & Trace of Clay
"												
"	S	3"	1"	0"	13.6	Hydr.	Push				14.0	
"											15.0	Rock
												Refusal @ 15.0'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Hydr. Push to 2.0'
Washed ahead from 8.0' to 15.0'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-04B	
DATE COMPLETED 7/3/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) ±193	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	INSTRUMENT LOG	DEPTH (FT)
5		OLIVE BROWN CLAYEY SILT WITH TRACE SAND AND GRAVEL		BENTONITE CHIPS	5
10	1D	(BASAL TILL)	42		10
	MS				
15	14' 15'	(BED ROCK?) REFUSAL		BOE 15'	15

BOE @ 15'

NOTES: OFF-SET ± 48 FEET FROM B-08-04A AND DRILLED B-08-04B. COULD ONLY PUSH/DRIVE TUBE 0.1 FOOT IN TILL. ROLLER CONE 1 FOOT INTO ROCK. BACKFILL TO GROUND SURFACE WITH BENTONITE CHIPS.

REFERENCE: FIELD BOOK #509

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Groundwater Observations:

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Sheet 1 of 1

Hole No. B08-05

Start	Finish
7/3/2008	7/3/2008

Line and Station:

Offset:

Surface Elevation

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.												Brown Silty Fine-Coarse Sand,
Push											1.0	w/Organics, Some Gravel and Cobble
"												
42												Brown Silty F/C Sandy Gravel w/Cobbles
38											4.5	
Wash	1D	2"	12"		6.0	11	17					
Ahead												
"												
"	1S	3"	18"	18"	9.0	10	21	32				Brown Silty Fine-Coarse Sand,
"												w/Gravel, Some Clay & Cobbles
"	2D	2"	24"		11.0	16	34	32	31			
"											11.5	
											12.0	Rock
												Refusal @ 12.0'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Hydr. Push to 3.0'
Washed ahead from 5.0' to 12.0'

PROJECT CASELLA-JRLF-OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-05	
DATE COMPLETED 7/3/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 199.1	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JCS	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	K_V (CM/S)	INSTRUMENT LOG	DEPTH (FT)
5	1D	OLIVE BROWN SANDY CLAYEY SILT WITH TRACE GRAVEL	28					BENTONITE CHIPS	5
	1S	(BASAL TILL)		1.37	12.4	53	5.2×10^{-7}		
10	2D	... COBBLE	66						10
		11.5' (BEDROCK?) REFUSAL						12 BOG	
15		BOE @ 12'							15

NOTES: COLLECT TUBE SAMPLE OF TILL. ROLLER CONE 0.5' INTO ROCK. BACKFILL TO GROUND SURFACE WITH BENTONITE CHIPS

REFERENCE: FIELD BOOK # 509

MAINE TEST BORINGS INC.
BREWER, ME

Sevee & Maher Engineers, Inc.
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P.O. Box 85A
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Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-06

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Start	Finish
7/7/2008	7/7/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Augers												
"												Brown Silty F/C Sand w/Some Organics
"											3.0	& Trace of Gravel
"												
"												Gray Silty F/C Sand w/Gravel
64											5.5	Some Clay & Trace of Wood
62	1D	2"	24"		7.0	18	20	18	23			
112												Gray Silty Fine-Coarse Sand
111											9.0	w/Gravel & Some Clay
100												
62												
51	2D	2"	18"		11.5	15	20	20				
40												
37												Brown Silty F/C Sand,
36												w/Gravel & Some Clay & Cobbles
52												
81	3D	2"	24"		17.0	16	40	34	35			
54												
40											19.0	
55												
28												Brown Silty Fine Sand,
24	4D	2"	24"		22.0	13	17	18	19			w/some Medium to Coarse Sand & Some Gravel
19											22.5	
15												
55												
Wash	S	3"	7"	0"	25.6	7	10					Brown F/C Sandy Gravel,
Ahead	5D	2"	24"		27.0	5	27	33	27			w/Trace of Silt & Cobbles
"												
"	6D	2"	12"		29.0	23	27				29.0	
												Bottom of Boring @ 29.0'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 11.0' to 29.0'

PROJECT CASELLA-JRLF- OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-06	
DATE COMPLETED 7/7/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 182	DRILLING CONTRACTOR MTB	LOGGED BY WGM / JGS	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	TUBE REC (FT)	INSTRUMENT LOG	DEPTH (FT)
		OLIVE GRAY CLAYEY SILT WITH FINE SAND				
5	1D	(FILL?)	38			5
		OLIVE BROWN CLAYEY SILT WITH SAND AND TRACE GRAVEL				
10	2D		90			10
15	3D		74			15
		... DECREASING CLAY				
20	4D		35			20
		OLIVE BROWN TO BROWN SAND, TRACE SILT AND GRAVEL				
25	MS/5D		60	0		25
	6D	(BASAL TILL)	50			
30		BOE @ 29'				30

NOTES BACKFILL BORING TO GROUND SURFACE WITH BENTONITE CHIPS

REFERENCE: FIELD BOOK WE 508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-06A

Start	Finish
7/7/2008	7/7/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	Shelby	
Size I.D.	4"		
Hammer Wt.	300#		
Hammer Fall	16"		

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.												
Push												
"												
"												
"												
Wash												
Ahead												Same as B08-06
"												
"												
"												
"												
"												
"												
"	1S	3"	12"		14.0	16	51				14.0	
												Bottom of Boring @ 14.0'
												1" PVC Well Installed @ 13.2'
												Using 2.0' Screen

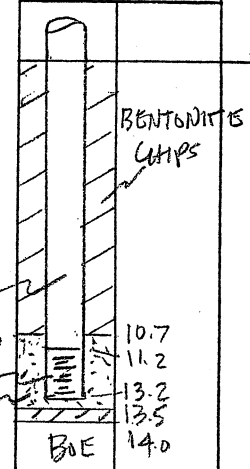
SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
[XX] Driller Visually
[ ] Soil Tech Visually
[ ] Lab Tests

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-6A P-08-6	
DATE COMPLETED 7/7/08	DATE WELLS INSTALLED 7/7/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 182.2	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	REC (FT)	WC (%)	>200 (%)	K (CM/S)	
		SEE B-08-6 FOR MATERIAL DESCRIPTION					
5							
10						K_{HF} = 1.6×10^{-6}	1" Ø SCH 40 PVC RISER
	MS	(BASAL TILL)	0				SLOTTED (0.01")
	1S		0.65	11	42	K_V = 6.6×10^{-8}	SAND PACK
15		BOE @ 14'					

INSTRUMENT LOG



NOTES OFF-SET 3 FEET FROM B-08-06 AND DRILLED B-08-06A. COLLECTED TUBE SAMPLE OF TILL AND INSTALLED 1-INCH DIA. SCH 40 PVC PIEZOMETER P-08-06 IN BORING

REFERENCE: FIELD BOOK # 508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-07

Start	Finish
7/7/2008	7/7/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.											1.0	Brown Silty F/C Sand w/Organics
Push												
"											3.0	Brown Silty F/C Sand w/Gravel
59												
61												
Wash												
Ahead	1D	2"	24"		7.0	13	20	18	26			
"												
"												
"												Brown Silty F/C Sand w/Gravel Some Clay
"												
"	1S	3"	16"		11.3	18	39	50				
"												
"												
"												
"	D	3"	2"		15.2	150					15.2	
											15.6	Rock
												Refusal @ 15.6'
												1" PVC Well Installed @ 12.0'
												Using 2.0' Screen

PROJECT CASELLA JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-07	
DATE COMPLETED 7/8/08	DATE WELLS INSTALLED 7/8/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 211.7	DRILLING CONTRACTOR MTB	LOGGED BY WCM / JES	
BOREHOLE DIAMETER (IN) 4.5" (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	K (CM/S)
5	1D	OLIVE BROWN CLAYEY SILT WITH TRACE SAND AND GRAVEL (BASAL TILL)	38				
10	1S			1.3	11	55	
15		15.2'					
	2D	(BEDROCK?) 15.6 REFUSAL	150/0.2				
20		BOE @ 15.6					

INSTRUMENT LOG

1" Ø SCH 40 PVC RISER

BENTONITE CHIPS

SAND PACK

2' LONG Y 1" Ø SLOTTED (0.01") PVC

9.6
10.0
12.0
12.4
15.6

BOE

1S: $K_V = 2.9 \times 10^{-8}$

$K_F = 1.4 \times 10^{-6}$

NOTES

COLLECTED TUBE SAMPLE OF TILL. ROLLER CONE 0.4' INTO ROCK. INSTALLED 1-INCH DIAMETER SCH 40 PVC PIEZOMETER P-08-07 IN BORING.

REFERENCE: FIELD BOOK # 508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-107

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Landfill
Old Town , ME

Sheet 1 of 1

Hole No. B08-08

Start	Finish
7/8/2008	7/8/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Hydr.											0.8	Brown Silty F/C Sand w/Some Organics
Push												
"											3.0	Brown Silty F/C Sandy Gravel w/Cobbles
26												
54												
Wash												
Ahead	1D	2"	24"		7.0	15	23	24	30			Brown Silty F/C Sand,
"												w/Gravel Some Clay & Cobble
"												
"												
"												
"	1S	3"	12"		12.0	Hydr.	22					
"											13.0	
"	2D	2"	24"		13.2	22	25	31	56			Brown Silty F/C Sand w/Gravel & Some Cobbles
"												
"												
"												
"												
"	3D	3"	12"		19.0	33	58					
"												
"												
"												
"											22.1	
"												
"	4D	2"	24"		25.0	34	36	44	41			Brown Silty C-F Sand w/Some Gravel
"												
"											26.4	
"	5D	2"	12"		28.0	51	72					Brown Silty F/C Sandy Gravel w/Some Cobbles
"												
"											29.3	
											30.0	Rock
												Refusal @ 30.0'

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 6.0' to 30.0'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.01	BORING NO. B-08-08	
DATE COMPLETED 7/8/08	DATE WELLS INSTALLED NA	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 207.8	DRILLING CONTRACTOR MTB	LOGGED BY WLM / JES	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	TUBE REC (FT)	INSTRUMENT LOG	DEPTH (FT)
5	1D	OLIVE BROWN CLAYEY SILT / SILTY CLAY WITH SOME SAND AND TRACE GRAVEL	47			5
10	1S			0.9		10
	2D		56		BENTONITE CHIPS	
15	3D	ooo INCREASING SAND	91			15
20						20
25	4D	ooo SILTY ZONE	80			25
	5D	CLAYEY SILT AND SAND (BASAL TILL)	123			
30		29.3' (BEDROCK?) 30			30' BOE	30
		REFUSAL				
		BOE @ 30'				

NOTES

COLLECTED TUBE SAMPLE OF TILL. ROLLER CONE 0-7' INTO ROCK. BACKFILL TO GROUND SURFACE WITH BENTONITE CHIPS.

REFERENCE = FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-119

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Job 2
Old Town , ME

Sheet 1 of 2

Hole No. B08-09

Start	Finish
7/8/2008	7/8/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	NQ2
Size I.D.	4"	1-3/8"	2"
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Augers											1.0	Brown Silty F/C Sand w/Organics & Cobbles
"											2.0	Brown Silty F/C Sand w/Trace of Organics
"												
"												
"												Brown Silty F/C Sand w/Gravel & Cobbles
"											6.0	
14												
9	1D	2"	24"		8.0	24	18	25	31			
16												
19												
33												Brown Silty F/C Sand w/Gravel &Trace of Cobbles
79	1S	3"	7"		11.4	Hydr.	12					
108												
99											14.0	
130												
37	2D	2"	11"		15.9	29	50					
82												Brown Fine to Coarse Sandy Gravel
110												w/Cobbles & Trace of Silt
159	3D	2"	24"		19.0	29	27	55	61		19.0	
51												
29	4D	2"	24"		21.0	21	21	21	46		21.0	Brown M/C Sand w/Fine Sand Layers
84												
112	5D	2"	24"		23.0	38	31	36	36			
58	6D	2"	12"		24.0	28	97					Brown Silty F/C Sandy Gravel
158											25.0	w/Fine-Medium Sand Layers
51												
110	7D	2"	24"		27.0	44	37	64	64			
146												Brown Silty F/C Sandy Gravel
148	8D	2"	24"		29.0	30	53	39	45			w/Trace of Cobbles
155											30.0	
30	9D	2"	24"		31.0	82	37	40	43			
21												Brown Silt w/Fine Sand Layers
28	10D	2"	24"		33.0	23	24	23	28		33.0	
52												
92	11D	2"	24"		35.0	13	19	19	23			
34												Brown Fine Sand w/Silt Layers
26	12D	2"	24"		37.0	15	21	25	31			
175	13D	2"	12"		38.0	26	126				37.9	
92												Weathered Rock
110												

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 7.0' to 42.6'

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-119

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Job 2
Old Town , ME

Sheet 2 of 2

Hole No. B08-09

Start	Finish
7/8/2008	7/8/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

	Casing	Sampler	Core Barrel
Type	HW	SS	NQ2
Size I.D.	4"	1-3/8"	2"
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
	14D	2"	12"		41.5	28	104					Weathered Rock
											42.6	
	1R	3"	3.0'	2.5'	45.6	83.3%						Refusal @ 42.6 1" PVC Well Installed @ 37.3' Using 2.0' Screen 1" PVC Well Installed @ 20.2' Using 5.0' Screen 1" PVC Well Installed @ 9.8' Using 3.0' Screen

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

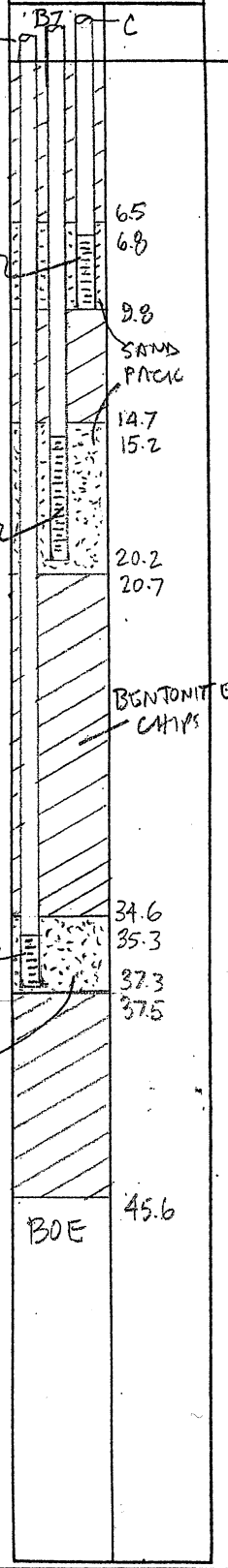
Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 7.0' to 42.6'

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.03	BORING NO. B-08-09	
DATE COMPLETED 7/9/08	DATE WELLS INSTALLED 7/9/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 198.2	DRILLING CONTRACTOR MTB	LOGGED BY WCM/JGS	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) 2 (NQ-2)	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)
		BROWN SILTY SAND AND COBBLES				
	1D	OLIVE BROWN CLAYEY SILT WITH SOME SAND AND TRACE GRAVEL (BROWN TILL)	43			
	1S			0.35	12.8	45
	2D	LAYERED OLIVE BROWN SILTY SAND / FINE TO MEDIUM SAND, LITTLE GRAVEL, TRACE COBBLES (WASHED TILL)	29/50-0.4'			
	3D		82			
	4D		42			
	5D		67			
25'	6D		125			
	7D	... ZONE OF SANDY GRAVEL WITH LITTLE SILT	101			
	8D		92			
	9D	LAYERED OLIVE BROWN SILTY SAND / FINE SAND (SANDY ~~ZONE~~)	77			
	10D		47			
	11D		38			
	12D		46			
	13D		>126			
38'		OLIVE BROWN SILTY CLAY WITH PIECES OF WEATHERED ROCK (TILL?)				
	14D		132	RQD (%)		
	1R	(WEATHERED BEDROCK)		30		
42.6		(BEDROCK)				
		BOE @ 45.6				

INSTRUMENT LOG



1S: K_v = 3 x 10^{-7} cm/s

NOTES

COLLECTED TUBE SAMPLE OF TILL. INSTALLED THREE 1-INCH DIA. SCH 40 PVC PIEZOMETERS P-08-09A, 09B & 09C IN BORING

REFERENCE: FIELD BOOK #508

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-119

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Job 2
Old Town , ME

Sheet 1 of 3

Hole No. B08-10

Start	Finish
7/9/2008	7/9/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

7/11/08 7:00AM Water @ 14.0' w/ 60.0' Casing, Hole depth= 65.0'

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
Augers											0.8	Brown Silty F/C Sand w/Some Organics & Gravel
"												
"												Brown Silty F/C Sandy Gravel w/Some Cobbles
"											3.5	
"												
39												
49	1D	2"	24"		7.0	9	9	12	20			
62												
81												Brown Silty F/C Sand, w/Gravel Some Clay & Cobbles
89												
40	2D	2"	12"		11.0	12	17					
30												
22	1S	3"	18"		12.5	Hydr.	Push					
28											13.5	
83	2S	3"	5"		14.5	Hydr.	Push					
67												
58	3S	3"	18"		17.0	Hydr.	Push					
44												
47												
42												Gray Silty F/C Sand w/Gravel & Some Clay
50												
38												
54												
38												
37												
53	3D	2"	18"		26.5	19	32	69				
28	4D	2"	24"		27.0	25	26	21	26		27.0	
33												
86	S	3"	14"	0"	28.7	Hydr.	Push					Brown Coarse to Fine Sandy Gravel
110	5D	3"	18"		29.0	17	22	66			29.5	
78												
79	6D	2"	24"		32.0	21	22	23	29			
52												
76												
90	7D	2"	30"		34.5	21	24	24	23	26		Brown F/M Sand w/Trace of Gravel
38												
31												
47	8D	2"	30"		37.5	19	21	24	24	25		
71												
84	9D	2"	30"		40.0	11	18	26	24	27		

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 11.0' to 95.0'

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-119

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Job 2
Old Town , ME

Sheet 2 of 3

Hole No. B08-10

Start	Finish
7/9/2008	7/9/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

7/11/08 7:00AM Water @ 14.0' w/ 60.0' Casing, Hole depth= 65.0'

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading	Depth	STRATUM DESCRIPTION
36												
28												
44	10D	2"	30"		42.5	13	20	20	24	22		
62												Brown F/M Sand w/Trace of Gravel
76	11D	2"	30"		45.0	12	18	20	21	26		
40											45.5	
30												
102	12D	2"	30"		47.5	14	24	35	46	34		Brown F/C Sand w/Gravel & Trace of Silt
71											49.0	
53	13D	2"	30"		50.0	33	34	19	24	30		
47												Brown F/M Sand w/Trace of Silt & Coarse Sand
52												
76	14D	2"	30"		52.5	18	18	21	22	24	53.0	
83												
89	15D	2"	30"		55.0	19	26	26	24	35		
33												
46												Brown F/M Sand w/Gravel
71	16D	2"	24"		57.5	23	26	26	28			Trace of Silt & Cobbles
95												
125	17D	2"	30"		60.0	22	22	24	22	40	59.8	
79	18D	2"	6"		60.5	79						
58												
118												
152												Brown F/M Sand w/Gravel, Some Cobbles
168	19D	2"	30"		65.0	39	32	42	49	40		& Trace of Silt
47												
45												
82	20D	2"	30"		67.5	29	28	40	69	61	68.0	
149												
197	21D	2"	24"		69.5	48	61	62	87			
61												Brown Silty F/C Sandy Gravel
41	22D	2"	18"		71.5	44	61	129				
43												
66											74.0	
84												
65												
46												
73	23D	2"	30"		77.5	35	46	48	48	43		
76												Brown F/M Sand
129	24D	2"	30"		80.0	16	32	33	33	48		

SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 11.0' to 95.0'

MAINE TEST BORINGS INC.
BREWER, ME

Driller:	Gerard Rudnicki
MTB Job#:	2008-119

Sevee & Maher Engineers, Inc.
Steve Patch
P.O. Box 85A
Cumberland Center ME
Ref No: PO No:
Juniper Ridge Job 2
Old Town , ME

Sheet 3 of 3

Hole No. B08-10

Start	Finish
7/9/2008	7/9/2008

Line and Station:

Offset:

Surface Elevation

Groundwater Observations:

7/11/08 7:00AM Water @ 14.0' w/ 60.0' Casing, Hole depth= 65.0'

	Casing	Sampler	Core Barrel
Type	HW	SS	
Size I.D.	4"	1-3/8"	
Hammer Wt.	300#	140#	
Hammer Fall	16"	30"	

Casing blows per ft.	SAMPLE INFORMATION No.	O.D.	Pen.	Rec.	Bottom depth	BLOWS PER 6" on Sampler 0-6	6-12	12-18	18-24	Vane Reading
68										
52										
46										
48										
48										
56										
40	25D	2"	24"		87.0	20	31	53	44	
50										
88										
116										
Wash	26D	2"	7"		90.6	35	100			
Ahead										
"										
"										
"										

Depth	STRATUM DESCRIPTION
	Brown F/M Sand
84.0	
	Brown F/M Sand w/Some Silt Layers
87.0	
	Brown F/C Sandy Gravel
91.5	
	Weathered Rock
95.0	
	Refusal @ 95.0'
	1" PVC Well Installed @ 89.0'
	Using 2.0' Screen
	1" PVC Well Installed @ 58.0'
	Using 2.0' Screen
	1" PVC Well Installed @ 17.9'
	Using 5.5' Screen

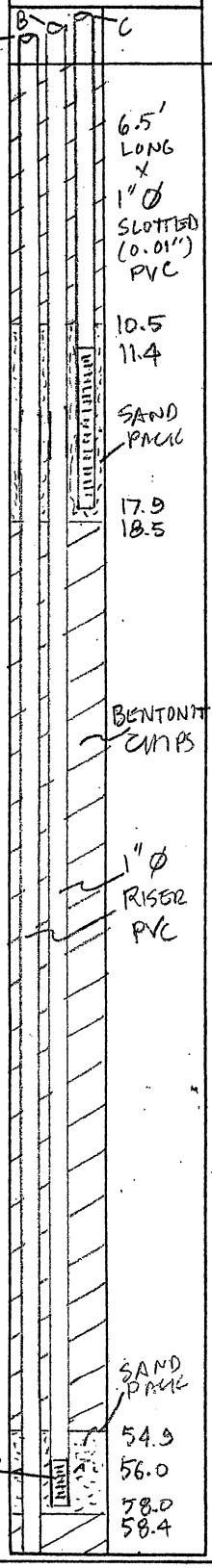
SAMPLES
D = Split Spoon R = Rock Core
C = 2" Shelby Tube V = Vane Test
S = 3" Shelby Tube

Soil Classified by:
XX Driller Visually
Soil Tech Visually
Lab Tests

Washed ahead from 11.0' to 95.0'

PROJECT	CASELLA-JRLF-OLD TOWN	JOB NO.	08097.03	BORING NO.	B-08-10
DATE COMPLETED	7/11/08	DATE WELLS INSTALLED	7/11/08	DRILLING METHOD	DRIVE & WASH
GROUND SURFACE ELEVATION (FT)	202.2	DRILLING CONTRACTOR	MTB	LOGGED BY	WCM / [illegible]
BOREHOLE DIAMETER (IN)	4.5 (HW)	ROCK CORE DIAMETER (IN.)	NA	SHEET	1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N (BPF)	REC (FT)	WC (%)	>200 (%)	Ky-L (CM/S)
		BROWN SILTY SANDY GRAVEL WITH COBBLES					
5	1D	OLIVE BROWN CLAYEY SILT WITH SOME SAND AND TRACE GRAVEL	21				
10	2D		29				
	1S	... CHANGE IN COLOR TO GRAY WITH DEPTH		1.35	13.7	62	2.4 X 10^-8
15	2S			0.3			
	3S			1.5	12.9	59	4.1 X 10^-8
20	3D	... SOME COBBLES BETWEEN 19 & 24 FEET	47				
25	4D	(BASAL TILL) 27.0'	101				
	MS						
30	5D		88				
	6D	BROWN FINE TO MEDIUM SAND WITH TRACE TO LITTLE SILT AND GRAVEL	45				
	7D		48				
35	8D		45				
	9D		44				
40	10D		40				
	11D		38				
45	12D	... GRAVELLY SAND LAYER BETWEEN 46 TO 48 FEET	59				
	13D		53				
50	14D		39				
	15D		52				
55	16D		52				
60	17D	(SANDY ZONE)	46				



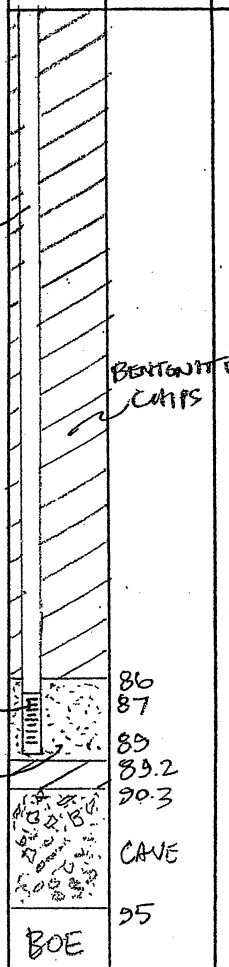
NOTES

COLLECTED TUBE SAMPLES OF TILL. INSTALLED THREE 1-INCH DIAMETER SCH 40 PVC PIEZOMETERS P-08-10A, 10B & 10C IN BORING.

REFERENCE: FIELD BOOK # 508

PROJECT CASELLA - JRLF - OLD TOWN	JOB NO. 08097.03	BORING NO. B-08-10	
DATE COMPLETED 7/11/08	DATE WELLS INSTALLED 7/11/08	DRILLING METHOD DRIVE & WASH	
GROUND SURFACE ELEVATION (FT) 202.2	DRILLING CONTRACTOR MTR	LOGGED BY WCM	
BOREHOLE DIAMETER (IN) 4.5 (HW)	ROCK CORE DIAMETER (IN.) NA	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N
65	18D	BROWN FINE TO MEDIUM SAND WITH TRACE TO LITTLE SILT AND GRAVEL	29/50-0
	19D		74
	20D		68
70	21D	... SANDY GRAVEL LAYER	130
	22D		100
75	23D	LAYERED BROWN SILTY SAND/ FINE-MEDIUM SAND	94
	24D		65
80			
85	25D		84
		(SANDY ZONE)	
90	26D		35/100-0.1'
		91.5' (WEATHERED BED ROCK)	
95		95' REFUSAL	
		BOE @ 95'	



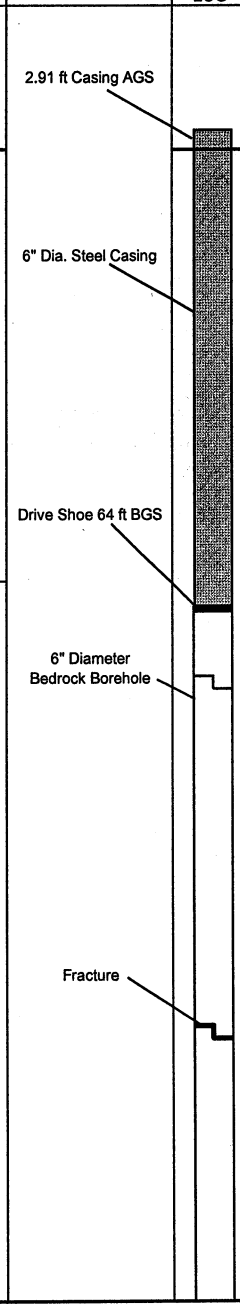
NOTES

COLLECTED TUBE SAMPLES OF TILL. ROLLER CONE 4.5' INTO ROCK. INSTALLED THREE 1-INCH DIAMETER SCH 40 PIEZOMETERS P-08-10A, 10B & 10C IN BORING

REFERENCE: FIELD BOOK # 508

PROJECT: Juniper Ridge Landfill		**JOB NO.:** 08097.03	**BORING NO.:** PW-08-01
DATE STARTED: 12/29/2008	**DATE FINISHED:** 12/30/2008	**DRILLING METHOD:** Mud Rotary (0 to 64 ft), Air Rotary (64 to 260 ft)	
GROUND SURFACE ELEVATION (FT): 173.10	**DRILLING CONTRACTOR:** Goodwin Well & Water Inc.		**LOGGED BY:** APG
CASING BOREHOLE DIA.: 8&3/4"	**OPEN BEDROCK BOREHOLE DIA.:** 6"		**SHEET 1 OF 2**

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)
0			
20	Glacial Till Overburden - Not sampled - Loose to compact and poorly sorted to weakly stratified clay, silt, sand, gravel. (Maine Geological Survey, Surficial Geology, Old Town Quadrangle, Maine. Open File No. 08-47 2008)		
40			
60	Top of Bedrock at 59 feet BGS		
	- 59 ft to 129 ft BGS - Dark gray to gray slate to phyllite - Mineral foliation includes parallel alignment of minerals and distribution of mineral types (compositional layering)	59 ft to 64 ft	
80	- Very fine grained with high degree of foliation at this depth range - High in sulfide minerals (i.e. pyrite) - Calcite seams present and calcite veins have formed in water bearing fractures	64 ft to 78 ft	73 ft to 75 ft
100	- Sulfide minerals oxidized at water bearing features	78 ft to 98 ft	
120		98 ft to 118 ft	
		122 ft to 125 ft	122 ft
140	- 129 ft to 260 ft BGS - Gray meta-graywacke (low grade metamorphism) - Signinficant decrease in planar texture and compositional layering of minerals - Very fine to fine grained with low degree to absence of schistosity - High in sulfide minerals (i.e. pyrite)		
160	- Calcite seams abundant and calcite veins have formed in water bearing fractures - Sulfide minerals oxidized at water bearing features	148 ft to 149 ft	



NOTES:

Top of bedrock 59 ft below ground surface (BGS)

Bottom of permanent casing 64 ft BGS

Top of permanent casing 2.91 ft above ground surface (AGS)

MP Elevation = 176.01 ft (top of permanent casing)

PROJECT: Juniper Ridge Landfill		JOB NO.: 08097.03	BORING NO.: PW-08-01
DATE STARTED: 12/29/2008	DATE FINISHED: 12/30/2008	DRILLING METHOD: Mud Rotary (0 to 59 ft), Air Rotary (59 to 260 ft)	
GROUND SURFACE ELEVATION (FT): NA	DRILLING CONTRACTOR: Goodwin Well & Water Inc.		LOGGED BY: APG
CASING BOREHOLE DIA.: 8&3/4"	OPEN BEDROCK BOREHOLE DIA.: 6"		SHEET 2 OF 2

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)		WELL LOG	DEPTH (FT)
	see above	167 ft to 168 ft				
180						
		188 ft to 189 ft				
			195 ft	6" Diameter Bedrock Borehole		
200						200
		208 ft to 210 ft	208 ft			
220						220
		221 ft	221 ft			
			225 ft			
			229 ft			
240						240
		240 ft				
260		258 ft				260
	Bottom of Exploration at 260 ft BGS					
280						280
300						300
320						320
340						340

NOTES:

GOODWIN WELL & WATER, INC.

DRILLERS LOG

CUSTOMER: SEVEE & MAHER

OWNER: JUNIPER RIDGE LANDFILL

TOWN: OLD TOWN, MAINE

DATE STARTED: 12/29/08

DATE FINISHED: 12/30/08

JOB #: 2008-443 HOLE: PW-08-01

DRILLER: BOB CUSHMAN

HELPER: RALPH RIDER III

LOCATION

TAKE I 95 NORTH TO SECOND OLD TOWN EXIT, EXIT 199. TURN LEFT ONTO RT. 16 TOWARDS LAGRANGE. ACCESS RD TO LANDFILL IS ON LEFT ABOUT 500' FROM INTERSECTION. TAKE ACCESS RD. ABOUT TWO MILES TO SITE.

PW-08-01

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
12/29/2008			
10:50-12:10			SETTING UP THE RIG
12:10			DRILLING A 8 3/4" BOREHOLE DOWN TO 64'
	0'	12'	BOULDERS
	12'	30'	GRAVEL
	30'	59'	BOULDERS
	59'	64'	BEDROCK, SET 67' OF 6" STEEL CASING WITH A SHOE
	64'	73'	BLACK SHALEY ROCK
	73'	75'	SOFT SPOT - NO WATER
4:50	75'	120'	SOFT BLACK SHALEY ROCK, BLEW ON THE WELL
12/30/2008			
10:00	120'	122'	CHECKED STATIC - CONTINUED TO DRILL
	122'	123'	FRACTURE - THE FRACTURE MOVING A LOT OF MATERIAL
			CLEANED OUT THE BEST WE COULD AND THE FRACTURE WAS DIRTY BUT
			CLEARED UP BY BLOWING ON IT
	123'	130'	SOFT BLACK IRON ROCK
	130'	165'	BLACK SHALEY ROCK WITH WHITE QUARTZ

GOODWIN WELL & WATER, INC.
DRILLERS LOG

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
12/30/2008	165'	166'	SOFT SPOT
	166'	180'	BLACK SHALEY ROCK WITH WHITE QUARTZ
	180'	194'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
	194'	196'	FRACTURE
	196'	200'	BROWN AND BLACK SHALEY ROCK
	200'	210'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
	210'	215'	SOFT SPOT
	215'	227'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
	227'	228'	FRACTURE
	228'	235'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
	235'	237'	SOFT SPOT
	237'	260'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
			TOTAL DEPTH - 260'
			INSTALLED 6" LOCKING WELL CAP WITH PADLOCK
			TORE DOWN AND PULLED OFF HOLE

PROJECT: Juniper Ridge Landfill		**JOB NO.:** 08097.03	**BORING NO.:** PW-08-02
DATE STARTED: 1/2/2009	**DATE FINISHED:** 1/5/2009	**DRILLING METHOD:** Mud Rotary (0 to 38 ft), Air Rotary (38 to 235 ft)	
GROUND SURFACE ELEVATION (FT): 203.98	**DRILLING CONTRACTOR:** Goodwin Well & Water Inc.		**LOGGED BY:** APG
CASING BOREHOLE DIA.: 8&3/4"	**OPEN BEDROCK BOREHOLE DIA.:** 6"		**SHEET 1 OF 2**

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)	WELL LOG	DEPTH (FT)
0				2.49 ft Casing AGS	0
20	Glacial Till Overburden - Not sampled - Loose to compact and poorly sorted to weakly stratified clay, silt, sand, gravel. (Maine Geological Survey, Surficial Geology, Old Town Quadrangle, Maine. Open File No. 08-47 2008)			6" Dia. Steel Casing	20
40	Top of Bedrock at 35 feet BGS - 35 ft to 61 ft BGS			Drive Shoe 38 ft BGS	40
60	- Highly weathered, very fine to fine grained sedimentary rock with low grade metamorphism, light gray - Very high calcite concentration - Calcite veins abundant from 46 ft to 61 ft BGS, however, calcite has dissolved from fractures from 46 ft to 35 ft BGS (near bedrock surface)	49 ft	55 ft to 56 ft	6" Diameter Bedrock Borehole	60
80	- 61 ft to 235 ft BGS - Gray meta-graywacke (low grade metamorphism) - Little to no planar mineral texture and compositional layering of minerals - Fine to medium grained with low degree to absence of schistosity - High in sulfide minerals (i.e. pyrite)	69 ft		Fracture	80
100	- Calcite seams abundant and calcite veins have formed in water bearing fractures - Sulfide minerals oxidized at water bearing features	85 ft	85 ft 94 ft to 97 ft		100
120		109 ft			120
140		129 ft			140
160					160

NOTES:

Top of bedrock 35 ft below ground surface (BGS)

Bottom of permanent casing 38 ft BGS

Top of permanent casing 2.49 ft above ground surface (AGS)

MP Elevation = 206.47 ft (top of permanent casing)

PROJECT: Juniper Ridge Landfill		JOB NO.: 08097.03	BORING NO.: PW-08-02
DATE STARTED: 1/2/2009	DATE FINISHED: 1/5/2009	DRILLING METHOD: Mud Rotary (0 to 38 ft), Air Rotary (38 to 235 ft)	
GROUND SURFACE ELEVATION (FT): NA	DRILLING CONTRACTOR: Goodwin Well & Water Inc.		LOGGED BY: APG
CASING BOREHOLE DIA.: 8&3/4"	OPEN BEDROCK BOREHOLE DIA.: 6"		SHEET 2 OF 2

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)		WELL LOG	DEPTH (FT)
	see above	189 ft		Bedrock Borehole		
180						
200						200
		209 ft				
220						220
		229 ft				
240	Bottom of Exploration at 235 ft BGS					240
260						260
280						280
300						300
320						320
340						340

NOTES:

GOODWIN WELL & WATER, INC.

DRILLERS LOG

CUSTOMER: SEVEE & MAHER ENGINEERING

OWNER: JUNIPER RIDGE LANDFILL

TOWN: OLD TOWN, ME

DATE STARTED: 12/30/08

DATE FINISHED: 1/5/09

JOB #: 2008-444 HOLE: PW-08-02

DRILLER: BOB CUSHMAN

HELPER: RALPH RYDER III

LOCATION

TAKE I 95 NORTH TO SECOND OLD TOWN EXIT, EXIT 199. TURN LEFT ONTO RT. 16 TOWARDS LAGRANGE. ACCESS RD TO LANDFILL IS ON LEFT ABOUT 500' FROM INTERSECTION. TAKE ACCESS RD. ABOUT TWO MILES TO SITE.

PW-08-02

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
12/30/2008			DRILLED A 8 3/4" BOREHOLE DOWN TO 38'
	0'	10'	BOULDERS
	10'	20'	GRAVEL
	20'	35'	CLAY
	35'	38'	BUSTED UP LEDGE - SET 40' OF CASING ANYWAY BECAUSE SME GEOLOGIST
			WANTED TO TEST THE TOP FRACTURES.
	38'	55'	SOFT AND BUSTED UP BLACK SHALEY WITH IRON ROCK
	55'	56'	FRACTURE
	56'	60'	BLACK SHALEY ROCK
	60'	85'	BLACK SHALEY ROCK
	85'	86'	FRACTURE
	86'	94'	BLACK SHALEY ROCK
	94'	97'	BIG FRACTURE. BIG PIECES OF BEDROCK, CAVING IN, SPENT 45 MINS. CLEANING
			IT OUT. IT WAS STILL STRIPPING THE HOLE VERY LITTLE AS WE CONTINUED TO
			DRILL. NOT ENOUGH TO CAUSE ANY PROBLEMS.
	97'	180'	BLACK SHALEY ROCK - PULLED HAMMER UP BEYOND THE TWO FRACTURES

GOODWIN WELL & WATER, INC.
DRILLERS LOG

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
12/30/2008			TO SEE HOW MUCH THE HOLE CAVES IN OVER THE WEEKEND.
1/5/2009			CHECKED STATIC - WENT BACK TO THE BOTTOM OF THE HOLE WITH THE
			HAMMER. AFTER THE WEEKEND THERE WAS ONLY 6" OF MATERIAL IN THE
			BOTTOM FROM THE 94' TO 97' FRACTURE. CONTINUED TO DRILL
	180'	228'	BLACK SHALEY ROCK WITH WHITE QUARTZ. NO SOFT SPOT
	228'	230'	SOFT SPOT
	230'	235'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
			TOTAL DEPTH - 235'
			INSTALLED A 6" LOCKING WELL CAP WITH PADLOCK
			TORE DOWN AND PULLED OFF THE HOLE

PROJECT: Juniper Ridge Landfill		**JOB NO.:** 08097.03	**BORING NO.:** PW-08-03
DATE STARTED: 1/5/2009	**DATE FINISHED:** 1/6/2009	**DRILLING METHOD:** Mud Rotary (0 to 38 ft), Air Rotary (38 to 235 ft)	
GROUND SURFACE ELEVATION (FT): 169.40	**DRILLING CONTRACTOR:** Goodwin Well & Water Inc.		**LOGGED BY:** APG
CASING BOREHOLE DIA.: 8&3/4"	**OPEN BEDROCK BOREHOLE DIA.:** 6"		**SHEET 1 OF 2**

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)		WELL LOG	DEPTH (FT)
				1.72 ft Casing AGS		
0						0
	Glacial Till Overburden - Not sampled - Loose to compact and poorly sorted to weakly stratified clay, silt, sand, gravel. (Maine Geological Survey, Surficial Geology, Old Town Quadrangle, Maine. Open File No. 08-47 2008)			6" Dia. Steel Casing		
20						20
				Drive Shoe 38 ft BGS		
	Top of Bedrock at 35 feet BGS					
40	- 35 ft to 60 ft BGS	39 ft				40
	- Gray meta-graywacke (low grade metamorphism)					
	- Little to no planar mineral texture and compositional layering of minerals			Fracture		
	- Very fine grained with low degree to absence of schistosity	50 ft	52 ft			
	- High in sulfide minerals (i.e. pyrite), oxidized in fractures					
60	- Calcite seams abundant		57 ft			60
	- 60 ft to 100 ft BGS					
	- Dark gray to gray slate to phyllite					
	- Mineral foliation includes parallel alignment of minerals and	70 ft		6" Diameter Bedrock Borehole		
	distribution of mineral types (compositional layering)					
80	- Very fine grained with high degree of foliation at this depth range					80
	- High in sulfide minerals (i.e. pyrite)		83 ft			
	- Calcite seams present	94 ft				
	- Sulfide minerals oxidized at water bearing features					
100						100
	- 100 ft to 235 ft BGS					
	- Gray meta-graywacke (low grade metamorphism)					
	- Little to no planar mineral texture and compositional layering of minerals	111 ft				
	- Very fine grained with low degree to absence of schistosity					
120	- High in sulfide minerals (i.e. pyrite), oxidized in fractures					120
	- Calcite seams abundant and calcite veins present (especially at					
	193 ft to 200 ft BGS)					
		129 ft				
			133 ft			
140						140
		148 ft	145 ft			
160			160	Soft Zone		160

NOTES:

Top of bedrock 35 ft below ground surface (BGS)

Bottom of permanent casing 38 ft BGS

Top of permanent casing 1.72 ft above ground surface (AGS)

MP Elevation = 171.12 ft (top of permanent casing)

PROJECT: Juniper Ridge Landfill		JOB NO.: 08097.03	BORING NO.: PW-08-03
DATE STARTED: 1/5/2009	DATE FINISHED: 1/6/2009	DRILLING METHOD: Mud Rotary (0 to 38 ft), Air Rotary (38 to 235 ft)	
GROUND SURFACE ELEVATION (FT): NA	DRILLING CONTRACTOR: Goodwin Well & Water Inc.		LOGGED BY: APG
CASING BOREHOLE DIA.: 8&3/4"	OPEN BEDROCK BOREHOLE DIA.: 6"		SHEET 2 OF 2

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)		WELL LOG	DEPTH (FT)
	see above		192	Bedrock Borehole		
180						
200						200
220		219 ft				220
		230 ft				
240	Bottom of Exploration at 235 ft BGS					240
260						260
280						280
300						300
320						320
340						340

NOTES:

GOODWIN WELL & WATER, INC.
DRILLERS LOG

CUSTOMER: SEVEE & MAHER ENGINEERING

OWNER: JUNIPER RIDGE LANDFILL

TOWN: OLD TOWN, ME

DATE STARTED: **1/5/09**

DATE FINISHED: **1/6/09**

JOB #: 2008-445 **HOLE:** **PW-08-03**

DRILLER: BOB CUSHMAN

HELPER: RALPH RYDER III

LOCATION

TAKE I 95 NORTH TO SECOND OLD TOWN EXIT, EXIT 199. TURN LEFT ONTO RT. 16 TOWARDS LAGRANGE. ACCESS RD TO LANDFILL IS ON LEFT ABOUT 500' FROM INTERSECTION. TAKE ACCESS RD. ABOUT TWO MILES TO SITE.

PW-08-03

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
1/5/2009			
2:00-4:40	0'	38'	DRILLED A 8 3/4" BOREHOLE DOWN TO 38'
	0'	10'	BOULDERS
	10'	35'	CLAY
	35'	38'	BEDROCK, SET 40' OF 6" STEEL CASING WITH A DRIVE SHOE.
1/6/2009			
10:00	40'	60'	BLACK SHALEY ROCK, TWO SOFT SPOTS, 52' & 57'
	60'	83'	BLACK SHALEY ROCK, ONE SOFT SPOT, 67'
	83'	83.5'	FRACTURE
	83.5'	98'	BLACK SHALEY ROCK
	98'	100'	SOFT SPOT
	100'	127'	BLACK SHALEY ROCK
	127'	128'	SOFT SPOT
	128'	133'	BLACK SHALEY ROCK
	133'	134'	FRACTURE
	134'	140'	BLACK SHALEY ROCK
	140'	145'	BLACK SHALEY ROCK

GOODWIN WELL & WATER, INC.
DRILLERS LOG

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
1/6/2009	145'	146'	SOFT SPOT
	146'	160'	BLACK SHALEY ROCK
	160'	175'	BLACK SHALEY ROCK, NO SOFT SPOTS
	175'	192'	BLACK SHALEY ROCK WITH WHITE QUARTZ.
	192'	193'	FRACTURE
	193'	200'	SOFT BLACK SHALEY ROCK
	200'	219'	SOFT BLACK SHALEY ROCK
	219'	220'	FRACTURE
	220'	235'	BLACK SHALEY ROCK, NO SOFT SPOTS
			SPENT ONE EXTRA HOUR WASHING AND SURGING HOLE OUT
			THEY WANTED TO MAKE SURE WE GOT ALL THE MATERIAL OUT OF THE HOLE.
			TOTAL DEPTH - 235'
			INSTALLED A 6" LOCKING WELL CAP WITH PADLOCK
			TORE DOWN

PROJECT: Juniper Ridge Landfill		**JOB NO.:** 08097.03	**BORING NO.:** PW-08-04
DATE STARTED: 1/8/2009	**DATE FINISHED:** 1/9/2009	**DRILLING METHOD:** Mud Rotary (0 to 18 ft), Air Rotary (18 to 215 ft)	
GROUND SURFACE ELEVATION (FT): 172.52	**DRILLING CONTRACTOR:** Goodwin Well & Water Inc.		**LOGGED BY:** APG
CASING BOREHOLE DIA.: 8&3/4"	**OPEN BEDROCK BOREHOLE DIA.:** 6"		**SHEET 1 OF 2**

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)	WELL LOG	DEPTH (FT)
0				1.92 ft Casing AGS	0
	Glacial Till Overburden - Not sampled - Loose to compact and poorly sorted to weakly stratified clay, silt, sand, gravel. (Maine Geological Survey, Surficial Geology, Old Town Quadrangle, Maine. Open File No. 08-47 2008) Top of Bedrock at 15 feet BGS			6" Dia. Steel Casing	
20	- 15 ft to 215 ft BGS - Dark gray to gray phyllite to very fine grained meta-graywacke - Mineral foliation in phyllites includes parallel alignment of minerals and distribution of mineral types (compositional layering) - Mineral foliation is weak to absent in the very fine grained meta-graywacke - High in sulfide minerals (i.e. pyrite) - Calcite seams present and calcite veins have formed in water bearing fractures - Sulfide minerals oxidized at water bearing features	30 ft 50 ft	50 ft 63 ft 68 ft	Drive Shoe 18 ft BGS	20
40					40
60					60
		70 ft		6" Diameter Bedrock Borehole	
80					80
		90 ft	95 ft	Fracture	
100					100
		110 ft			
120					120
		130 ft	130 ft 135 ft 139 ft		
140					140
		150 ft	150 ft		
160					160

NOTES:

Top of bedrock 15 ft below ground surface (BGS)

Bottom of permanent casing 18 ft BGS

Top of permanent casing 1.92 ft above ground surface (AGS)

MP Elevation = 174.44 ft (top of permanent casing)

PROJECT: Juniper Ridge Landfill		JOB NO.: 08097.03	BORING NO.: PW-08-04
DATE STARTED: 1/8/2009	DATE FINISHED: 1/9/2009	DRILLING METHOD: Mud Rotary (0 to 18 ft), Air Rotary (18 to 215 ft)	
GROUND SURFACE ELEVATION (FT): NA	DRILLING CONTRACTOR: Goodwin Well & Water Inc.		LOGGED BY: APG
CASING BOREHOLE DIA.: 8&3/4"	OPEN BEDROCK BOREHOLE DIA.: 6"		SHEET 2 OF 2

DEPTH (FT)	MATERIAL DESCRIPTION	CUTTING SAMPLE DEPTH	FRACTURE DEPTH (FT)		WELL LOG	DEPTH (FT)
	see above	175 ft				
180						
		190 ft				
200				Bedrock Borehole		200
		210 ft				
220	Bottom of Exploration at 215 ft BGS					220
240						240
260						260
280						280
300						300
320						320
340						340

NOTES:

GOODWIN WELL & WATER, INC.

DRILLERS LOG

CUSTOMER: SEVEE & MAHER ENGINEERS

OWNER: JUNIPER RIDGE LANDFILL

TOWN: OLD TOWN, ME

DATE STARTED: 1/6/09

DATE FINISHED: 1/9/09

JOB #: 2008-446 **HOLE:** **PW-08-04**

DRILLER: BOB CUSHMAN

HELPER: RALPH RYDER III, DANNY CAMIRE

LOCATION

TAKE I 95 NORTH TO SECOND OLD TOWN EXIT, EXIT 199. TURN LEFT ONTO RT. 16 TOWARDS LAGRANGE. ACCESS RD TO LANDFILL IS ON LEFT ABOUT 500' FROM INTERSECTION. TAKE ACCESS RD. ABOUT TWO MILES TO SITE.

PW-08-04

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
1/8/2009	0'	18'	8 3/4" BOREHOLE
1:00-3:10	0'	3'	GRAVEL
	3'	15'	CLAY
	15'	18'	BEDROCK, SET 20' OF 6" STEEL CASING WITH DRIVE SHOE
3:10	18'	40'	BLACK SHALEY ROCK
	40'	50'	BLACK SHALEY ROCK
	50'	51'	SOFT SPOT
	51'	63'	BLACK SHALEY ROCK
	63'	64'	SOFT SPOT
	64'	68'	BLACK SHALEY ROCK
	68'	69'	SOFT SPOT
4:20	69'	80'	BLACK SHALEY ROCK
1/9/2009		80'	CHECKED STATIC
			CONTINUED TO DRILL
	80'	95'	BLACK SHALEY ROCK
	95'	96'	FRACTURE

GOODWIN WELL & WATER, INC.
DRILLERS LOG

DATE & TIME	INTERVAL FROM	INTERVAL TO	DESCRIPTION
1/9/2009	96'	100'	BLACK SHALEY ROCK
	100'	120'	SOFT BLACK SHALEY ROCK WITH WHITE QUARTZ
	120'	139'	BLACK SHALEY ROCK WITH WHITE QUARTZ, TWO SOFT SPOTS, 130' - 135'
	139'	140'	FRACTURE
	140'	150'	SOFT BLACK SHALEY ROCK WITH WHITE QUARTZ
	150'	151'	FRACTURE
	151'	160'	SOFT BLACK SHALEY ROCK WITH WHITE QUARTZ
			ONE SOFT SPOT AT 157'
	160'	215'	SOFT BLACK SHALEY ROCK WITH WHITE QUARTZ
			NO FRACTURES
			TOTAL DEPTH - 215'
			SPENT 1 HR EXTRA BLOWING AND SURGING TO MAKE SURE EVERYTHING IS
			CLEANED OUT GOOD.
			INSTALLED LOCKING WELL CAP WITH PADLOCK

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 2

HOLE NO. 201-B

DRILLER: CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

S.T.B. NUMBER: 90

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2/BQ
SIZE I.D.	4"	1 3/8"	2/1 7/16
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 07/09/90

DATE FINISH: 07/11/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER										1.5	PEAT, ORGANIC SILT
"											
"											
"											
"											
"											
"											
"											GRAY SILTY CLAY
"											
4											
7											
[illegible]										14.1	
68											
41											
70											
43											
45											
57											BROWN SILTY SAND W/COARSE SANDY GRAVEL, LITTLE COBBLES
96											
88											
135											
132											
115											
65										26.0	
110											
95											
115											
95											
65											
68											
40											GRAY SILTY FINE SAND W/GRAVEL AND COBBLES
70											
48											
30											
98											
200											
[illegible]											

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. 201-B

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 2 OF 2

HOLE NO. 201-B

DR: CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

M.T.: UMBER

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2/BQ
SIZE I.D.	4"	1 3/8"	2/1 7/16
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 07/09/90

DATE FINISH: 07/11/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
40											
45											
70											
35											
55											
28											GRAY SILTY SAND W/GRAVEL AND COBBLES
38											
70											
64											
33											
37											
45										52.5	
15											BROWN SILTY SAND W/GRAVEL AND COBBLES AND BOULDERS
34											
7											
9	1R	3"	4.3'	1.0'	58.6	23%					
38										59.0	
48											GRAY/BROWN SILTY FINE SAND W/LITTLE GRAVEL, TRACE
13	1D	2"	18"		61.5	34	78	122		61.7	OF COBBLES
42											
75											
											ROCK
	2R	2 3/8"	4.7'	4.7'	66.8	100%					
	3R	2 3/8"	3.3'	3.3'	70.1	100%				70.1	
											BOTTOM OF BORING @ 70.1'
											INSTALL WELL @ 69.7' & 39.9'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO.

PROJECT: WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B201B
DATE COMPLETED 07.11.90	WELLS INSTALLED P-201A, P201D	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 148.2	DRILLER MAINE TEST BORINGS	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 0 - 54.3 4.5 O.D. 54.3 - 61.7 3.5 O.D.	ROCK CORE DIAMETER (IN.) 1.615	SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
		PEAT & ORGANIC SILT 1.5					
5		GRAY SILTY CLAY (MARINE CLAY)					
10							
15		14.1					
20		BROWN SILTY SAND w/ BROWN GRAVELLY SAND LAYERS AND COBBLES (BASAL TILL)					
25		26.0					
30							
35		GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)					K_F=0.031
40							
45							
50							
55		52.5 BROWN SILTY GRAVELLY SAND TRACE OF COBBLES AND RARE BOULDERS BECOMING STRATIFIED JUST ABOVE BEDROCK (BASAL TILL)					
60	1D	61.7 GRAY METAGRAYWACKE					

INSTRUMENT LOG



WATER LEVEL

5.03 AG P201D

6.37 AG P201A

3.0

SAND BENTONITE MIXTURE

9.0

GROUT (TYP)

33.0

5' SCREEN (3/4" Φ) P201D

41.0

BENTONITE (TYP)

43.8

SAND (TYP)

57.0

53.2

BENTONITE/CAVE

58.4

CAVED (TYP)

59.7

DEPTH (FT): 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

NOTES

WEST OLD TOWN LANDFILL | 5006 | B 201 B

DATE COMPLETED 07.11.90	WELLS INSTALLED P-201A, P-201D	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 148.2	DRILLER MAYNE TEST BORINGS	LOGGED BY KPN
BOREHOLE DIAMETER (IN)	ROCK CORE DIAMETER (IN.)	SHEET 2 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC(%)	% PASS #200	ATTER-BERG LIMIT	PERME-ABILITY (FT/DAY)	INSTRUMENT LOG	WATER LEVEL	DEPTH (FT)
		BASAL TILL 61.7								
65	2R	GRAY METAGRAYWACKE (BEDROCK) RQD=0%					K_F = 1.3		66.0'	65
	3R	RQD: 0%						2' SCREEN (3/4" Ø) P201A		
70		70.1 B.O.E.							69.7 70.1	70
75										75

NOTES

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 90016	BORING NO PZ02
DATE COMPLETED 07 OCT 90	WELLS INSTALLED PZ02 A & B	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 1462	DRILLER MAINE TEST BORINGS	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 4.5 OD	ROCK CORE DIAMETER (IN.) 2.0	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	NATURAL WATER CONTENT	PERMEABILITY (FT/DAY)
	1D	0.1 TOPSOIL	1				
	2D	GRAY SILTY CLAY (MARINE CLAY)	11				
5	3D		3	28		LL=32 PI=13	
	1C						
	4D	22	14				
10	5D	BROWN SILTY GRAVELLY SAND TO SANDY SILT-CLAY W/OCCASIONAL SANDY LAYERS (BASAL TILL)	35	12			
	6D		55		44		
15	7D		113	10	35		K_F=0.75
	8D	18.0	79	14	54		
	9D	GRAY GRAVELLY SANDY SILT-CLAY W/COBBLES (BASAL TILL)	82		47		
20	10D	22.2	82	12	52		
25	1R	GRAY INTERBEDDED METAGRAYWACKE AND PHYLLITE (BEDROCK) RQD=17%					
	2R	RQD=91%					K_F=1.5
30	3R	RQD=86%					
	4R	RQD=55%					
35	5R	RQD=100%					
		37.9					
		BOE					

INSTRUMENT LOG / WATER LEVEL



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 2

HOLE NO. B-204

BY: CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

M.T.B. NUMBER: 9

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	
SIZE I.D.	3"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/14/90

DATE FINISH: 05/15/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	WATER READING	DEPTH	STRATUM DESCRIPTION
AUGER										0.5	TOPSOIL
"	10	2"	24"		2.0	1	3	5	7		MOTTLED SILTY FINE SAND W/TRACE OF GRAVEL
"											
"	20	2"	24"		4.0	5	12	24	32	4.5	
8											
AUGER	30	2"	24"		6.0	7	12	12	15	6.0	MOTT SILTY FINE SAND W/MOTTLED CLAYEY SILT LAYERS
"										7.5	BROWN SILTY FINE SAND W/LITTLE GRAVEL
"	40	2"	24"		8.0	41	32	40	37	8.0	BROWN FINE SAND W/GRAY SILTY FINE SAND LAYERS
"											
"	50	2"	24"		10.0	8	18	25	27		BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
8											
40	60	2"	24"		12.0	20	30	32	61	12.0	
—	70	2"	6"		12.5	110				13.5	GRAY/BROWN SANDY GRAVEL, TRACE OF COBBLES
—	80	2"	10"		14.3	80	100				
76											
190	90	2"	11"		16.9	58	100				GRAY/BROWN SILTY FINE SAND W/SOME COARSE SAND AND GRAVEL, LITTLE COBBLES
55											
60										18.5	
112	100	2"	12"		19.0	40	110				
90										20.0	GRAY FINE SANDY SILT
150											
23	110	2"	18"		22.0	29	45	38			
26											
28	120	2"	18"		24.5	23	22	25			
40											
62											
36	130	2"	18"		27.5	28	36	30			
40											
95											
225	140	2"	18"		30.3	26	27	30			GRAY SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
95											
62											
30	150	2"	18"		33.5	27	19	21			
36											
50	160	2"	18"		35.5	45	72	43			
67											
23	170	2"	18"		37.8	38	38	55			
—	180	2"	6"		38.9	140					
—											
	190	2"	2"		40.9	100					

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-204

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 2 OF 2

HOLE NO. B-204

DRI[illegible] CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

M.T.B. [illegible]UMBER 9[illegible]

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	
SIZE I.D.	3"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/14/90

DATE FINISH: 05/15/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
29											
82	20D	2"	6"		42.0	150					GRAY SILTY FINE SAND W/LITTLE COARSE SAND & GRAVEL TRACE OF COBBLES
	21D	2"	12"		44.0	82	125				
										45.0	

BOTTOM OF BORING @ 45.0'
HOLE CAVED @ 35.0'
INSTALL WELLS @ 34.0' & 18.8'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-204

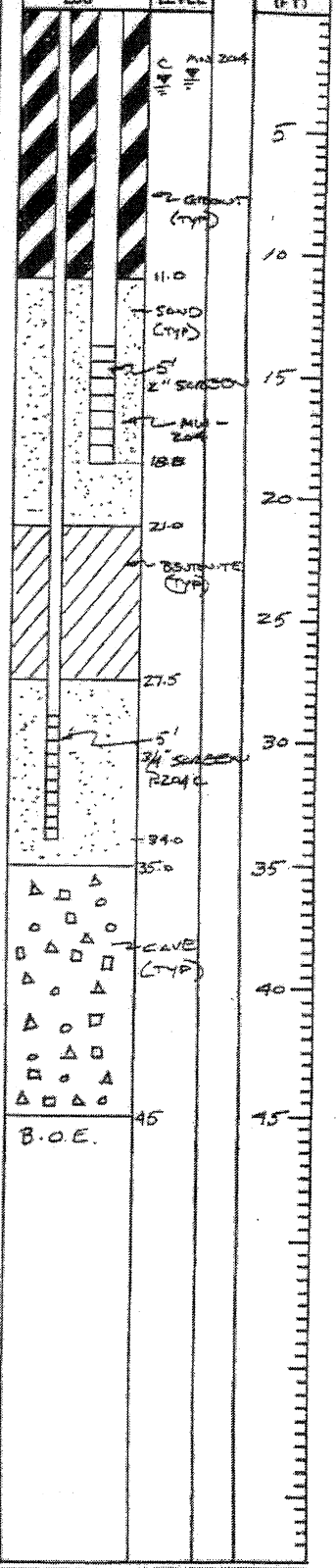
MW-204
P-204c

GROUND SURFACE ELEVATION (FT) 158.5 | DRILLER MAINE TEST BORINGS | LOGGED BY MWM

BOREHOLE DIAMETER (IN) 3.5 O.D. | ROCK CORE DIAMETER (IN) —— | SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMITS	PERMEABILITY (FT/DAY)
		TOPSOIL					
	1D		8				
	2D		36				
5	3D	BROWN SANDY GRAVELLY SILT TO SILTY SAND W/ TRACE OF COBBLES (BASAL TILL)	24				
	4D		72				
	5D		43	14			
10	6D		62				
	7D		—				
	8D		—				
		15.0		6	43		
15	9D		116				K_p = 0.029
	10D		80				
20							
	11D		74	10			
	12D	GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	45				
25							
	13D		64	11			
	14D		55				
30							K_p = 0.025
	15D		46	10			
	16D		117				
35	17D		76	9	59		
	18D		—				
		19D	—				
40	20D		—				
	21D		164	9			
		45.0					
45		B.O.E.*					

INSTRUMENT LOG / WATER LEVEL



NOTES * Bottom of Boring 45.0'; Drive shoe broke off

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CORPORATION

SHEET 1 OF 1

HOLE NO. P-205B

OF [redacted] SCHAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

M.[redacted] NUMBER

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	
SIZE I.D.	3"	1 3/8"	
HAMMER WT.	300	140	
		30"	

DATE START 12/07/90 DATE FINIS 12/07/90

SURFACE ELEVATION

BLOWS PER 6"	VANE READINGS	DEPTH	STRATUM DESCRIPTION
AUGER			
12 8		14.0	
			BOTTOM OF BORING @ 14.0'
			INSTALL PIEZOMETER @ 10.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. P-205B

PROJECT	WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B205A
DATE COMPLETED	04·26·90	WELLS INSTALLED R205A	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT)	204.2	DRILLER MAINE TEST BORINGS	LOGGED BY KAN
BOREHOLE DIAMETER (IN)	3.5 O.D	ROCK CORE DIAMETER (IN.)	1.615

SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASSING #200	ATTER-BERG LIMIT	PERMEABILITY (FT/DAY)
0	205-1D		3				
	205-2D		122				
5	205-3D	BROWN, SANDY GRAVELLY SILT-CLAY W/ COBBLES & BOULDERS	245				K_U= 0.0019
	205-4D		—				
	205-5D		205				
10	205-6D	(BASAL TILL)	160				
	205-7D	... BECOMING BROWNISH GRAY WITH DEPTH	180	10	54		K_U= 1.3×10^{-4}
15	205-8D		225				
		17.2					
	205A-1D	BROWNISH GRAY SANDY GRAVELLY SILT-CLAY TRACE COBBLES (BASAL TILL)	190	10	64	LL=23 PI=7	
20	205A-2D		170				
	205A-3D	22.2	320				
	205A-4D	BROWN VERY SILTY GRAVELLY SAND TRACE OF COBBLES W/ WASHED SILTY GRAVELLY SAND LAYERS (WASHED TILL)	235				
25	205A-5D		390				
	205A-6D		390	8	10		
	205A-7D	30.5	200 (0.5)				
30	205A-8D	GRAY GRAVELLY SANDY SILT-CLAY (BASAL TILL)	105 (0.5)				
	205A-9D	33.0	200 (0.25)	7	12		
		GRAY SILTY GRAVELLY SAND (WASHED TILL) 34.7					
35	1R	RQD=0% INTERBEDDED METAGRAYWACKE AND PHYLLITE RQD=0% (BEDROCK)					
	2R						
40	3R	RQD=54%					
	4R	45.0					
45		B.O.E.					

INSTRUMENT LOG

WATER LEVEL: 3.0; 07·16·90; SAND (TYP); 29.2; 26.2; R205A 4.5' 3/4" SCREEN; 32.2; 32.7; BENTONITE (TYP); 45.0

NOTES

B205 0-17' B205A 17-45'. THE CASING WAS BENT IN B205. B205A WAS DRILLED APPROXIMATELY 5' SOUTHERLY.

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B-205B
DATE COMPLETED 12-07-90	WELLS INSTALLED P-205B	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 209.7	DRILLING CONTRACTOR MAINE TEST BORING INC.	LOGGED BY RBC
BOREHOLE DIAMETER (IN) 4.5" OD.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC(%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)	INSTRUMENT LOG	DEPTH (FT)
								2.7 TOP OF PVC	
5		BROWN SANDY GRAVELLY SILT - CLAY TRACE OF COBBLES (BASAL TILL)						BENTONITE (TYP) 3.2 P-205B 5' SCREEN (3/4" Ø) SAND (TYP) 10.7 12.0	5
10									10
14.0		B.O.E.						14.0	
15									15

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 3

HOLE NO. B-206

DRI[illegible] SCHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION

W.T. [illegible] UMBER

LOCATION: OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW/NW	SS	NQ2
SIZE I.D.	4"/3"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/02/90

DATE FINIS: 05/09/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER										0.5	TOPSOIL
"	1D	2"	24"		2.0	1	2	9	5	2.0	MOTTLED SILTY FINE-MED SAND, LITTLE GRAVEL
"											
"	2D	2"	24"		4.0	7	17	52	75		MOTTLED SILTY FINE SAND W/LITTLE COARSE SAND,
"	3D	2"	18"		5.5	65	54	68		5.2	TRACE OF GRAVEL
38										6.0	BROWN SILTY FINE SAND W/LITTLE COARSE SAND, TRACE
70	4D	2"	18"		7.0	20	55	90			OF GRAVEL
8	5D	2"	18"		8.9	25	47	53			
7											BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND
36	6D	2"	18"		10.8	42	65	115			GRAVEL
15	D	2"	4"		11.6	100				11.6	
104											
[illegible]	7D	2"	18"		13.5	41	70	97			GRAY/BROWN SILTY FINE SAND W/LITTLE COARSE SAND
											AND GRAVEL, TRACE OF COBBLES
75	8D	2"	18"		15.3	27	59	80		15.6	
20											
17	9D	2"	18"		17.1	24	41	65			GRAY/BROWN SILTY FINE SAND W/LITTLE COARSE SAND
15	10D	2"	18"		18.8	28	49	65			AND GRAVEL, TRACE OF COBBLES AND CLAY
18										19.0	
93	11D	2"	12"		20.2	42	112				GRAY/BROWN SILTY FINE SAND W/LITTLE COARSE SAND
1											SAND AND GRAVEL, TRACE OF COBBLES
WOH	12D	2"	18"		22.1	50	97	100		22.5	
17											
48	13D	2"	18"		24.2	58	80	132			GRAY SILTY FINE SAND W/LITTLE COARSE SAND AND
150	14D	2"	7"		25.9	53	50				GRAVEL, TRACE OF COBBLES
57										26.4	
78	15D	2"	6"		27.4	110					
40	D	2"	0"		28.5	25				28.5	BROWN SILTY FINE-MED SAND W/SOME COARSE SAND,
62											LITTLE GRAVEL AND COBBLES
152	16D	2"	1"		30.3	75				30.2	BROWN SILTY FINE-MED SAND W/SOME COARSE SAND AND
70											GRAVEL, LITTLE COBBLES
48										32.6	GRAY/BROWN SILTY FINE SAND W/SOME COARSE SAND,
67	17D	2"	18"		33.1	65	65	65			LITTLE GRAVEL AND COBBLES
134										33.5	BROWN MED-FINE SAND W/SOME COARSE SAND, LITTLE
168	18D	2"	18"		35.5	45	85	105			GRAVEL AND SILT
32										36.0	BROWN MED-FINE SAND
35	19D	2"	18"		37.5	55	95	100			
											BROWN MED-FINE SAND W/SILTY FINE SAND LAYERS
[illegible]	20D	2"	18"		39.5	38	52	67		39.8	
[illegible]											

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-206

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 2 OF 3

HOLE NO. B-206

DR: SCHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

M.T. NUMBER:

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW/NW	SS	NQ2
SIZE I.D.	4"/3"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/02/90 DATE FINIS: 05/09/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	WATER READING	DEPTH	STRATUM DESCRIPTION
12	210	2"	18"		41.3	46	62	60		41.5	BROWN MED-FINE SAND W/TRACE OF COARSE SAND AND SILTY FINE SAND LAYERS
19											
30	220	2"	18"		43.0	32	49	50			BROWN MED-FINE SAND W/SOME COARSE SAND, LITTLE GRAVEL AND SILT
80	230	2"	18"		44.6	37	47	64			
110										46.8	
22	240	2"	18"		46.5	41	50	56			
40										48.0	BROWN SILTY GRAVELY SAND W/TRACE OF COBBLES
135	250	2"	18"		48.7	50	48	48			
102											BROWN MED-FINE SAND W/SOME SILT
26											
25	260	2"	18"		51.5	32	52	58			
26											
	270	2"	18"		53.5	35	50	60		54.0	
	280	2"	7"		54.6	97	100			55.2	BROWN FINE SILTY SAND
108	290	2"	11"		55.9	130	100				
56											
42											
95	300	2"	12"		58.5	68	150				BROWN SILTY GRAVELY SAND W/TRACE OF COBBLES
102											
170											
28	310	2"	12"		61.2	112	125				
32											
50	320	2"	18"		63.5	67	90	92			
79	0	2"	0"		64.0	50				64.0	
172											
31	330	2"	18"		66.5	57	58	60			BROWN SILTY GRAVELY SAND W/SOME COBBLES
45											
50											
105										69.9	
215											
75											
	1R	3"	4.0'	4.0'	74.5	100%					ROCK
	2R	3"	5.0'	5.0'	79.5	100%					

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-206

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 3 OF 3

HOLE NO. B-206

DRI[illegible] SCHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

M.T.[illegible] NUMBER

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW/NW	SS	NQ2
SIZE I.D.	4"/3"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/02/90

DATE FINISH: 05/09/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE SHEAR READING	DEPTH	STRATUM DESCRIPTION
	3R	3"	5.0'	4.9'	84.5	98%					ROCK
	4R	3"	5.0'	5.0'	89.5	100%					
	5R	3"	1.0'	1.0'	90.5	100%				90.5	
											BOTTOM OF BORING @ 90.5'
											INSTALL WELL @ 90.5'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

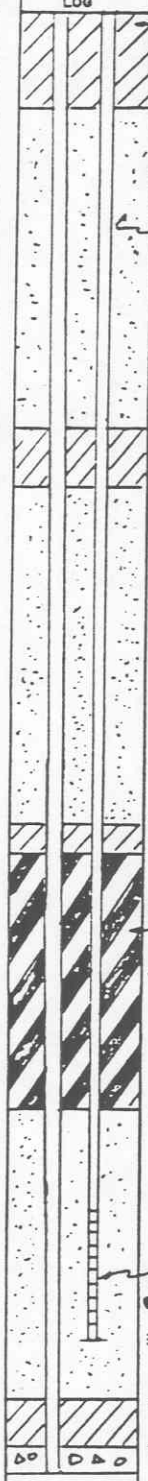
REMARKS:

HOLE NO. B-206

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B206
DATE COMPLETED 05 08 90	WELLS INSTALLED B206 A & B	DRILLING METHOD Washed Boring
GROUND SURFACE ELEVATION (FT) 201.5	DRILLER Maing Test Borings	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 0-13' 4.5" O.D. 13-70.5 3.5" O.D.	ROCK CORE DIAMETER (IN.) 2.0 I.D.	SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASSING #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
		0.5 TOPSOIL					
	1D	Brown Sandy Gravelly Silt-Clay w/ Cobbles (Basal Till)	11				
	2D		69				
5	3D		122				
	4D		145				
	5D		100				
10	6D		180	10			K_U = 0.00074
	D	11.6		11		LL=22 PI=6	K_U = 0.00028
	7D	Brownish Gray Sandy Gravelly Silt-Clay Trace of Cobbles (Basal Till)	167				
15	8D		133				
	9D		106				
	10D		114	11	60		
20	11D		—	11	57		
	12D	22.5 [illegible]	197		36		
	13D	Gray Sandy Gravelly Silt-Clay w/ Cobbles (Basal Till)	212		62		
25	14D		100	8	59		
	15D				50		
		Brown Silty Gravelly Sand Trace of Cobbles (Washed Till)					
30	16D		—				
	17D	32.6	130				
35	18D	Brown Gravelly Sand Some Silt Trace of Cobbles w/ Silty Sand Layers	190		12		
	19D		195		23		
	20D		119	22	10		K_R = 0.59
40	21D	41.5	122		10		
	22D	Brown Very Silty Gravelly Sand Has Till-Like Appearance	99	17	10		
	23D		111	17	9		
45	24D		106	18	10		
	25D	49.0	96		8		
50	26D	Black to Gray Silty Sand	110		12		$K_F \geq 7.0$
	27D	54.0	110	21	14		
	28D	Brown Silt			67		
55	29D	Brown Silty Gravelly Sand	— 200		24		
	30D		136	8	9		
60	31D	(Washed Till)	237		11		

INSTRUMENT LOG



WATER LEVEL: 2 Bentonite Pellets (Typ); 4.0; Sand (Typ); A B; 17.5; 20.0; 34.0; 35.0; Grout (Typ); 40.5; 5' 3/4" Screen B206B; 54.7; 55; 57

CONTINUED FROM PG 2

NOTES

Revised as per Inter correspond

5/90

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B206	
DATE COMPLETED 05.08.90	WELLS INSTALLED P-206 A & B	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 201.5	DRILLER Maine Test Borings	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 0-19' 4.5" O.D. 19-70.5' 3.5" O.D.	ROCK CORE DIAMETER (IN.) 2.0 I.D.	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	M(%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
	32D	Brown Gravelly Sand some silt trace of cobbles w/ silty sand layers (washed till)	182	9	10		
65	33D		118		11		
70		69.9					
	1-R	RQD=100% Interbedded metagraywacke and phyllite (bedrock)					
75	2-R	RQD: 96%					
80	3-R	RQD: 28%					
85	4-R	RQD=68% ... many pegmatite veins					K_F = 0.027
90	5-R	90.5					
		B.O.E.					
95							

INSTRUMENT LOG



WATER LEVEL

DEPTH (FT): 65, 70, 75, 80, 85, 90, 95

NOTES

MAINE TEST BORINGS, INC
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-206A

DR: SCHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION

M.T. NUMBER

LOCATION: OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2 1/2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 05/10/90

DATE FINIS: 05/10/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	SAND HOLDING	DEPTH	STRATUM DESCRIPTION
AUGER											
"											
"											
"											
"											
"											
"											
"											
3											
30											
17										11.1	
260	1R	(+)	1.0'	0.4'	12.5	40%				11.9	COBBLES
78											
12											
31											
40											
38											
41											
										22.0	

BOTTOM OF BORING @ 22.0'
INSTALL WELLS @ 20.0' & 11.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

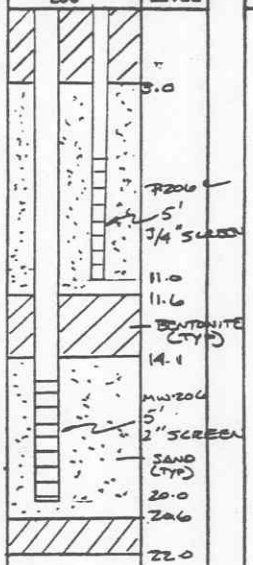
REMARKS:
HQ - 3 25/32"

HOLE NO. B-206A

PROJECT West Old Town Landfill	JOB NO. 2006	BORING NO. B206A	
DATE COMPLETED 05.10.90	WELLS INSTALLED MW206 PZ06C	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 201.2	DRILLER MANG TEST BORINGS	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 4.5 O.D.	ROCK CORE DIAMETER (IN.) —	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC(%)	% PASS #200	ATTER-BERG LIMIT	PERME-ABILITY (FT/DAY)
		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)					K_E = 0.03
		11.9					
		BROWNISH-GRAY SANDY GRAVELLY SILT-CLAY W/ COBBLES (BASAL TILL)					K_P = 0.00096
		22.0 B.O.E					

INSTRUMENT LOG / WATER LEVEL



NOTES

SEVEE & MAHER ENGINEERS

5/90

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-207

DR: [redacted] SCHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

W.T. [redacted] UMBER 9[redacted]

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	NQ2
SIZE I.D.	3"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 04/30/90 DATE FINISH: 05/02/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	DEPTH OF SAMPLE / BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER										0.3	TOPSOIL
*	1D	2"	24"		2.0	1	1	7	8.		
*	2D	2"	18"		3.5	20	48	115		4.0	MOTTLED SILTY FINE SAND W/LITTLE GRAVEL
*											
32	3D	2"	18"		5.5	30	47	72			
4											
8	4D	2"	18"		7.5	19	28	41			BROWN SILTY FINE SAND W/LITTLE COARSE SAND, TRACE OF GRAVEL (TILL)
9											
31	5D	2"	18"		9.5	30	40	72		10.0	
48											
16	6D	2"	14"		11.2	50	62	100		11.2	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
4'											
	1R	3"	1.4'	0.4'	13.0	29%					
	7D	2"	4"		13.3	50					
117	2R	3"	1.6'	0.4'	15.0	25%					BROWN SILTY FINE SAND W/LITTLE COARSE SANDY GRAVEL SOME COBBLES
56	8D	2"	11"		16.4	85	100				
51	9D	2"	5"		17.6	100					
56										18.2	
58	10D	2"	12"		19.6	32	112				
80											
42	11D	2"	6"		21.5	100				21.5	GRAY/BROWN SILTY FINE SAND W/SOME GRAVEL, LITTLE COARSE SAND AND COBBLES
100											
	1R	3"	3.5'	2.8'	25.1	80%					ROCK
	2R	3"	4.6'	3.8'	29.7	83%					
	3R	3"	2.0'		31.7					31.7	
											BOTTOM OF BORING @ 31.7' HOLE CAVED @ 30.0' INSTALL WELL @ 30.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

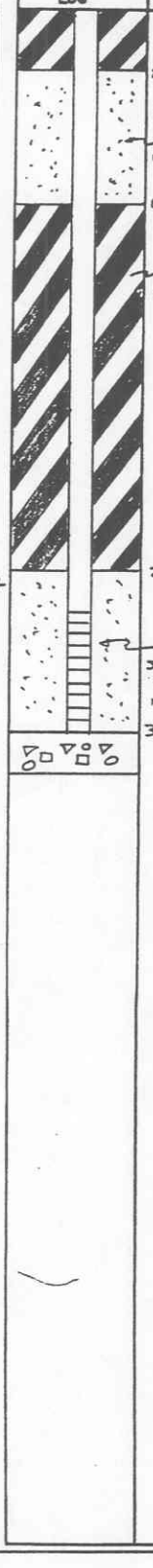
SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-207

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B207	
DATE COMPLETED 05-02-90	WELLS INSTALLED MW 207	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 214.7	DRILLER Mains Test Borings	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 3.5 O.D.	ROCK CORE DIAMETER (IN) 2.0 I.D.	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% Passing # 200	Atterberg Limit	Permeability (ft/day)	INSTRUMENT LOG	WATER LEVEL
0		0.3 TOPSOIL							
	1D	BROWN GRAVELLY VERY SILTY SAND (BASAL TILL)	8						
	2D		96						
5	3D	5.5	119						
	4D	BROWNISH GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	69						
	5D		112				K_U = 0.00039		
10	6D		124	12	60				
	CLEAN OUT	~7D	—						
	CLEAN OUT								
15	8D	16.5	130	13	66				
	9D	GRAY GRAVELLY SANDY 18.2 SILT (BASAL TILL)	—						
	10D	G... BECOMING STRATIFIED WITH GRAVELLY	—	8	21				
20	11D	21.5 SILTY SAND (WASHED TILL)							
	1-R	RQD=69% INTERBEDDED METAGRAYWACKE AND PHYLLITE (BGO ROCK)					K_F = 0.047		
25	2-R	RQD=83%							
30	3-R	31.7 RQD=100%							
		B.O.E.							
35									



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sargent Corp. Doug Barnes PO BOX 435 STILLWATER ME 04489-0435	SHEET 1 OF 2 HOLE NO. MW11-207-R
DRILLER Thomas Schaefer	PROJECT NAME Juniper Ridge Landfill, Cell 7, Ph 2	LINE & STATION
T.B. JOB NUMBER 2011-069	LOCATION Old Town , ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE	DATE
TYPE	HW	SS	HQ	5/11/2011 Start	5/12/2011 Finish
SIZE I.D.	4"	1-3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATIC	
				212.5 (H.E.S.)	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												Brown Sandy Silt
"											4.0	
"												
38												
52	1D	2"	24"		7.0	10	14	15	20			Olive Sandy Silt,
152											7.4	w/Some Gravel & Trace of Cobbles
65											8.6	Boulder
32												
30												
32	2D	2"	24"		12.0	12	28	39	35			Olive Sandy Silt w/Some Gravel
120											12.7	
32											13.1	Boulder
28												
32												
26	3D	2"	8"		16.2	38	50					Olive Sandy Silt w/Some Gravel
43												
50												
70											20.0	
38												
52	4D	2"	24"		22.0	21	31	23	32			Black Silty Fine Sand w/Clayey Silt Layers
37												
37												
48											26.0	
38												
42	5D	2"	24"		27.0	11	15	18	38			Brown Fine Sandy Silt w/Trace of Gravel
70												
Spun												
NW												
Casing											30.4	
"	1R	3.78"	3.8'	2.4'	31.8	63.2%						
"												
"												
"												
"												Rock
"	2R	3"	5.0'	3.8'	36.8	76.%						
"												
"												
"												

SAMPLES
D = SPLIT SPOON R = ROCK
C = 2" SHELBY TUBE CORE
S = 3" SHELBY TUBE V = VANE
U = 3½" SHELBY TUBE TEST

SOIL CLASSIFIED BY:
[X] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Note: 2R & 3R were NQ2 core size
HW to 28' HQ Core to 31.8', Caved @ 29'
Spun NW Casing to 31.8', NQ Core to 41.8', Caved @ 32.6'
Spun NW Casing to 36.5', Washed out to 41.8',
Flushed Clean and Installed Well.

HOLE NO. MW11-207-R

MAINE TEST BORINGS, INC. **BREWER, MAINE 04412**	CLIENT Sargent Corp. Doug Barnes PO BOX 435 STILLWATER ME 04489-0435	SHEET 2 OF 2 HOLE NO. MW11-207-R
DRILLER Thomas Schaefer	PROJECT NAME Juniper Ridge Landfill, Cell 7, Ph 2	LINE & STATION
T.B. JOB NUMBER 2011-069	LOCATION Old Town , ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 5/11/2011 Start	DATE 5/12/2011 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1-3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATIC	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
"												
"	3R	3"	5.0'	4.8'	41.8	96%					41.8	Rock

Bottom of Boring @ 41.8'
2" PVC Well Installed @ 41.8'
Using 5.0' Screen

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[X] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

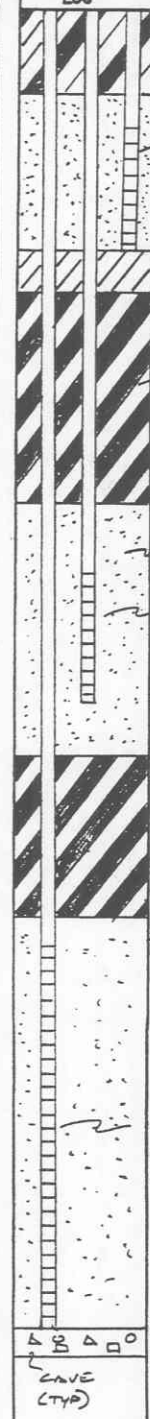
REMARKS:
Note: 2R & 3R were NQ2 core size
HW to 28' HQ Core to 31.8', Caved @ 29'
Spun NW Casing to 31.8', NQ Core to 41.8', Caved @ 32.6'
Spun NW Casing to 36.5', Washed out to 41.8'.
Flushed Clean and Installed Well.

HOLE NO. MW11-207-R

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B209
DATE COMPLETED 06.06.90	WELLS INSTALLED P209 A, B, C	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 175.4	DRILLER MAINE TEST BORINGS	LOGGED BY MR / KPN
BOREHOLE DIAMETER (IN) 4.5 O.D	ROCK CORE DIAMETER (IN.) 2.0 I.D.	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	M(%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
	1D	0.3 TOPSOIL	8				
		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)					
5	2D		93	11			
		9.8					
10	R-1	RQD = 94%					
15	R-2	RQD = 70%					
20	R-3	INTERBEDDED PHYLLITE AND METAGRAYWACKE (BED ROCK) RQD = 100%					K_F = 0.0037
25	R-4	RQD = 100%					
30	R-5	RQD = 100%					
35	R-6	RQD = 100%					
40	R-7	RQD = 88%					
45	R-8	RQD = 100%					K_F = 3A
50	R-9	RQD = 100%					
	R-10	RQD = 100%					
		53.6 B.O.E.					
55							

INSTRUMENT LOG



WATER LEVEL

- 0.94 AG
- P209 B
- 3.5
- P209 C
- 5' 3/4" SCREEN P209 C
- 9.8
- 11.5
- GROUT (TYP)
- 20.0
- SAND (TYP)
- 5' 3/4" SCREEN P209 B
- 27.8
- 30.0
- 36.5
- 37.5
- 15' 3/4" SCREEN P209 A
- 52.5
- 53.6

DEPTH (FT): P209 A, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CORP

SHEET 1 OF 1

HOLE NO. B-211

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 06/07/90 DATE FINISH: 06/08/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER										0.5	TOPSOIL
"	1D	2"	24"		2.0	1	1	1	5		
"	2D	2"	7"		2.6	21	50				BROWN SILTY GRAVELY SAND W/TRACE OF COBBLES
"										4.8	
14											
35	3D	2"	18"		6.5	20	22	27			
57											BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, COBBLES
6											
15	4D	2"	18"		9.0	22	31	52		9.5	
17											
15										11.6	COBBLES AND BOULDERS
41	5D	2"	8"		12.3	37	50			12.3	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, COBBLES
										//	
	1R	3"	3.4'	3.4'	16.0	100%					ROCK
	2R	3"	5.0'	5.0'	21.0	100%					
	3R	3"	1.6'	1.6'	22.6	100%				22.6	
											BOTTOM OF BORING @ 22.6'
											INSTALL WELL @ 22.6' & 10.0'

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-211

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B211	
DATE COMPLETED 06.07.30	WELLS INSTALLED P211 A and B	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 180.6	DRILLER MAINE TEST BORINGS	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 4.5 O.D.	ROCK CORE DIAMETER (IN.) 2.0 I.D.	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% -#200	ATTER-BERG LIMIT	PERME-ABILITY (FT/DAY)	INSTRUMENT LOG	WATER LEVEL	DEPTH (FT)
		0-3 TOPSOIL								
	1D		2						P211A 07.20 P211B 07.10	
	2D		42							
5		BROWN VERY SILTY GRAVELLY SAND							3.5	5
	3D	TRACE OF COBBLES (BASAL TILL)	49				K_F = 0.099			
	4D		83	9	48				5' 3/4" SCREEN P-211B	
10									10 10.5	10
	5D	12.3	74						GROUT (TYP)	
	1R	INTERBEDDED PHYLLITE AND META-GRAYWACKE (BEDROCK) RQD: 88%								
15									15.6	15
							K_F = 1.2		SAND (TYP)	
	2R	RQD: 82%							5' 3/4" SCREEN P211A	
20									21.6	20
	3R	22.6								
		B.O.E.								
25										25

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-212

DR
T CHAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

M.T.
90 UMBER

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW/NW	SS	NQ2
SIZE I.D.	4"/3"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 06/08/90

DATE FINISH 06/11/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	CANE READING	DEPTH	STRATUM DESCRIPTION
AUGER										1.5	BROWN SILTY FINE SAND
"	1D	2"	24"		2.0	1	1	2	28		
"	2D	2"	2"		3.2	100					BROWN SILTY FINE-MED SAND W/LITTLE GRAVEL AND COBBLES
"	3D	2"	6"		4.7	115				5.0	
"	4D	2"	4"		5.8	100					
"											
"											
"	5D	2"	18"		8.3	29	45	110			BROWN SILTY FINE SAND W/LITTLE GRAVEL, COBBLES AND BOULDERS
"										9.1	
"											
52											COBBLES AND BOULDERS
54	1R	3"	2.0'	1.6'	12.0	80%				12.0	
	6D	2"	18"		13.5	21	39	38			BROWN SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES AND BOULDERS
9										15.0	
70	7D	2"	18"		15.5	23	39	68			BROWN SILTY FINE-MED SAND
17										17.5	
23	8D	2"	18"		17.5	25	26	30			BOULDERS
40										19.7	
NW											BROWN SILTY FINE SAND
NW	2R	3"	2.0'	1.7'	20.0	85%				22.2	
36	9D	2"	18"		21.5	21	33	65			BROWN SILTY FINE SAND W/TRACE OF GRAVEL
66										24.0	
12	10D	2"	18"		23.5	22	22	28			BROWN SILTY FINE SAND W/TRACE OF GRAVEL AND COBBLE
14										26.3	
16	11D	2"	6"		25.5						
22											
50											
	3R	3"	5.0'	5.0'	31.3	100%					ROCK
										36.3	
	4R	3"	5.0'	5.0'	36.3	100%					
											BOTTOM OF BORING @ 36.3'
											INSTALL WELL @ 36.3' & 17.0'

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

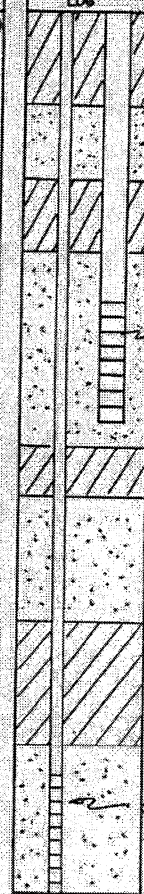
REMARKS:

HOLE NO. B-212

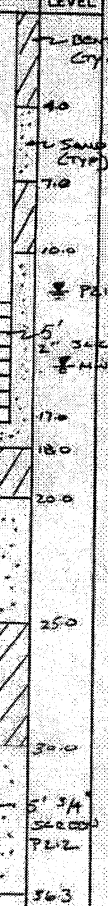
PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B212	
DATE COMPLETED 06.12.90	WELLS INSTALLED MW212, P212	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 217.4	DRILLER Maine Test Borings	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 45 O.D.	ROCK CORE DIAMETER (IN) 2.0 I.D.	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC(%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
	1D	0.5 TOPSOIL	3				
	2D		—				
5	3D	Brown Sandy Gravelly Silt-Clay with Cobbles (Basal Till)					
	4D		—				
	5D		155				
10		... Becoming Brownish Gray with Depth					
	6D		77	11	53		
15	7D	15.0	107				
	8D	... Becoming Boulderly and Gray	86				
20	9D	21.5	98	16			
	10D	Brown Silty Gravelly Sand Trace of Cobbles (Basal Till)	50				
25	11D	26.3	—	11			
30	3R	Interbedded Phylite and Metagraywacke (Bedrock) RQD=76%					K_F = 0.022
35	4R	RQD=66%					
		36.3					
40							

INSTRUMENT LOG



WATER LEVEL



DEPTH (FT)

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 2

HOLE NO. B-213

F. [redacted] HARPER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION

T.F. [redacted] UMBER

LOCATION: OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2/SQ
SIZE I.D.	4"	1 3/8"2"	"/1 7/16
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 06/12/90

DATE FINISH: 06/14/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC	DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	PANETRONIC	DEPTH	STRATUM DESCRIPTION
AUGER	1D	2"	18"		1.5	1	2	5		0.5	TOPSOIL
										1.3	BROWN FINE-COARSE SAND
"	2D	2"	18"		3.0	5	3	20			
"	3D	2"	18"		5.3	26	27	20		6.5	MOTTLED SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES
34											
75	4D	2"	18"		7.0	18	25	52			
16	5D	2"	12"		8.2	42	100				
24											
24											
16	6D	2"	12"		11.2	19	70				GRAY/BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
[redacted]	7D	2"	18"		13.5	32	38	43			
17	8D	2"	18"		15.5	26	29	38			
15											
13	9D	2"	18"		17.0	35	35	35		17.0	
23											
20	10D	2"	18"		19.1	18	17	23		20.6	GRAY/BROWN SILTY FINE SAND W/SOME GRAVEL, TRACE OF CLAY AND COBBLES
24											
17	11D	2"	18"		21.6	9	14	15			
34										23.8	BROWN SILTY FINE SAND W/LITTLE GRAVEL
45	12D	2"	18"		23.7	25	54	102			
(DO(NW)											
WOH											
6	1R	3"	2.0'	2.0'	26.2	100%					GRAY/BROWN SANDY GRAVEL W/COBBLES AND BOULDERS
106											
148											
89	2R	3"	2.7'	1.4'	29.1	52%					
153	13D	2"	6"		30.5	75					
40	14D	2"	6"		31.7	110				31.2	
700										32.4	BROWN SILTY GRAVEL W/COBBLES AND BOULDERS
119											
40											
78	3R	2 3/8"	3.0'	2.0'	35.4	67%					
102											
83											GRAVEL AND COBBLES, TRACE OF SILT
[redacted]	15D	2"	18"		38.2	34	43	90			
[redacted]	4R	2 3/8"	1.0'	0.6'	39.3	60%					

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-213

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 2 OF 2

HOLE NO. B-213

DR[illegible] CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

W.T. [illegible] NUMBER

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 06/12/90

DATE FINIS: 06/14/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
											GRAVEL AND COBBLES, TRACE OF SILT
	16D	2"	18"		42.0	37	40	48		42.0	
											BOTTOM OF BORING @ 42.0'
											LOST SPOON IN HOLE
											INSTALL WELL @ 38.3' & 19.6'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-213

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B213
DATE COMPLETED 06-15-90	WELLS INSTALLED MW213, P213	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 1803.-	DRILLER MAINE TEST BORINGS	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 4.5 OD 0-23.8; 3.5 OD 23.8-40.5	ROCK CORE DIAMETER (IN) —	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC(%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
	1D	0.5 TOPSOIL	8				
	2D	BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	23				
5	3D		47				
	4D	6.5	77				
	5D		84				
10	6D	BROWNISH GRAY SANDY GRAVELLY SILT-CLAY W/ TRACE OF COBBLES (BASAL TILL)	89	12			
	7D		81				
15	8D		67	11			
	9D		70				K_F = 0.067
	10D		40				
20	11D		29	12			
	12D		79				
25	1R	2.0' REC (GRAVEL & COBBLES)					
	2R	1.4' REC. (BOULDER) ...VERY BOULDERY					
30	13D		—				
	14D		—				
	3R	2.0' REC (GRAVEL & COBBLES)					$K_F \geq 27$
35	15D		86				
40	16D	...BECOMING BROWN AND STRATIFIED WITH SANDS * 42.0	88				
		B.O.E					
45							

INSTRUMENT LOG



WATER LEVEL	DEPTH (FT)
7.18 AG P213	
4.23 AG MW213 07-10-90	
12.7	
5' 3/4" SCREEN MW213	
19.6	
22.8	
BENTONITE (TYP)	
26.2	
CAVE (TYP)	
28.0	
31.2	
SAND (TYP)	
3/4" 5' SCREEN P213	
38.3	
42.0	

NOTES

* SPLIT SPOON DISCONNECTED FROM RODS; COULD NOT RETRIEVE

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CO

SHEET 1 OF 2

HOLE NO. B-214

DR' T. CHAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

W.T.B. NUMBER
90

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	BQ
SIZE I.D.	4"	1 3/8"	1 7/16"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 06/18/90

DATE FINISH 06/19/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE SPACING	DEPTH	STRATUM DESCRIPTION
AUGER											
"	1D	2"	24"		2.0	1	3	6	9	3.4	BROWN SILTY FINE-MED SAND W/LITTLE GRAVEL
"											
"	2D	2"	24"		4.0	22	24	28	34	6.5	MOTTLED SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES
"											
"	3D	2"	24"		6.0	22	22	38	39		
"											
"	4D	2"	18"		8.0	21	34	48		10.2	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
170										10.5	BROWN FINE-MED SAND
40	5D	2"	18"		10.9	38	48	65			
17											
17	6D	2"	18"		12.5	34	48	60			
275	7D	2"	18"		15.1	46	63	102			
29	8D	2"	14"		16.9	44	55	100		17.7	BROWN SILTY FINE SAND W/LITTLE CAORSE SAND AND GRAVEL, TRACE OF COBBLES
34											
52	1R	2 3/8"	0.6'	0.3'	18.0	50%					
22	9D	2"	18"		19.5	52	50	45			
30											
20	10D	2"	18"		21.5	34	42	42			
13											
20	11D	2"	17"		23.4	18	22	50		24.0	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
32											
41	12D	2"	18"		25.5	25	38	45			
12											
21	13D	2"	16"		27.3	50	75	50			
24											
46	14D	2"	18"		29.5	24	16	19			
26											
24	15D	2"	10"		31.6	21	100				GRAY SILTY FINE SAND W/LITTLE CAORSE SAND AND GRAVEL, TRACE OF COBBLES
39											
60											
41	16D	2"	18"		34.1	72	90	82			
39	17D	2"	6"		35.8	120					
33											
30											
	18D	2"	18"		38.0	49	69	90		38.0	GRAY SILTY FINE SAND W/SOME GRAVEL, LITTLE COARSE SAND AND COBBLES
	19D	2"	8"		39.7	62	75				
	20D	2"	4"		40.8	150					

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-214

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

JAMES RIVER CO

SHEET 2 OF 2

HOLE NO. B-214

R" SCHAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

T.B. 90 NUMBER

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	BQ
SIZE I.D.	4"	1 3/8"	1 7/16"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 06/18/90

DATE FINISH 06/19/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
58											
91	21D	2"	14"		42.0	48	65	100			
58											
72	22D	2"	10"		44.4	68	100				GRAY SILTY FINE SAND W/SOME GRAVEL, LITTLE COARSE SAND AND COBBLES
62	23D	2"	10"		45.8	63	100				
140											
97	24D	2"	11"		47.9	57	100				
69										48.0	
73	25D	2"	12"		49.5	72	125				BROWN SILTY FINE SAND W/SOME GRAVEL, LITTLE COARSE SAND AND COBBLES
85											
72	D	2"	0"		51.0	50				51.8	
88	D	2"	0"		51.8	100					
1[illegible]											
	2R	2 7/8"	3.2'	3.2'	55.2	100%					ROCK
	3R	2 7/8"	5.0'	5.0'	60.2	100%					
	4R	2 7/8"	2.0'	2.0'	62.2	100%				62.2	
											BOTTOM OF BORING @ 62.2' INSTALL WELL @ 62.2' & 43.1' & 16.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-214

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B214	
DATE COMPLETED 06.21.90	WELLS INSTALLED P214 A, B & C	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 189.2	DRILLER Maine Test Borings	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 0-17.0 4.5 O.D. 17.0-51.8 3.5 O.D.	ROCK CORE DIAMETER (IN.) 1.615	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASSING #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
	1D	0.5 TOPSOIL	9				
	2D		52				
5	3D		60				
	4D	Brown Very Silty Gravelly Sand Trace of Cobbles (Basal Till)	82				
10	5D		113		45		
	6D		108	9			K_F = 0.0054
	7D	... becoming Brownish Gray with Depth	165				
15	8D		99	10			
	"H" CLEANOUT						
	9D		95				
20	10D		84	10			
	11D		72				
		24.0					
25	12D		83				
	13D		125				
	14D	Gray Sandy Gravelly Silt-Clay Trace of Cobbles (Basal Till)	35		52		
30	15D		—	10			
	16D		172				
35	17D		—	10		LL: 24 PI: 9	
	18D		159				
	19D		—			LL: 20 PI: 4	K_F = 0.048
40	20D	CEC = 4.58 meq/100 gm pH = 8.53	—				
	21D		113	11			
	22D		—				
45	23D		—		50		
	24D		—				
		48.0					
	25D	... becoming Brown and Stratified with Sand	—				
50		51.8					
	2R	RQD = 17% Interbedded Phyllite and Metagraywacke (Bedrock)					
55	3R	RQD = 30%					K_F = 0.42
60	4R	RQD = 0%					
		62.2 B.O.E.					

INSTRUMENT LOG

WATER LEVEL

- 2.99 AG P214A
- 2.77 AG P214B
- P214C 07 16 90 0900
- 5.0
- BENTONITE (TYP)
- 8.0
- SAND (TYP)
- 5' 3/4" SCREEN P214C
- 16.0
- 17.5
- GROUT (TYP)
- 35.8
- 5' 3/4" SCREEN P214B
- 43.1
- 44.6
- 55.2
- 5' 3/4" SCREEN P214A
- 62.2

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-215

THO[illegible]NEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

T.B[illegible]UMBER
90[illegible]

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	NQ2
SIZE I.D.	4"	1 3/8"	2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 06/21/90

DATE FINISH 06/22/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
IGER										0.2	TOPSOIL
"	1D	2"	24"		2.0	1	2	3	4	2.5	BROWN SILTY FINE-COARSE SAND W/LITTLE GRAVEL
"	2D	2"	24"		4.0	10	29	37	44	4.1	BROWN SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES
"	3D	2"	15"		6.5	27	48	100		5.2	BOULDER
"	4D	2"	18"		8.5	21	42	35		9.2	BROWN SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES
14	5D	2"	18"		10.7	19	28	35			GRAY/BROWN SILTY FINE SAND W/LITTLE GRAVEL, TRACE OF COBBLES
14	6D	2"	18"		12.9	29	35	60		15.5	
52	7D	2"	18"		15.0	41	32	35		17.9	BROWN SILTY FINE SAND W/LITTLE COARSE SAND, TRACE OF GRAVEL AND COBBLES
6 9 12	8D	2"	18"		17.5	24	34	38		20.5	BOULDER (WEATHERED)
92 210										21.8	BROWN SILTY FINE-MED SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
58 95	9D	2"	12"		21.5	60	105				
ASHED HEAD											
"	1R	3"	2.0'	2.0'	25.0	100%					ROCK
"	2R	3"	2.3'	2.3'	27.3	100%					
"	3R	3"	1.4'	0.8'	28.7	57%					
	4R	3"	4.3'	4.0'	33.0	93%				33.0	
											BOTTOM OF BORING @ 33.0' INSTALL WELL @ 33.0' & 12.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-215

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B215	
DATE COMPLETED 06.25.90	WELLS INSTALLED PZ15 A & B	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 211.7	DRILLER MAINE TEST BORINGS	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 0-17.9 4.5 O.D. 17.9-21.8 3.5 OD	ROCK CORE DIAMETER (IN.) 2.0	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASSING #200	ATTER-BERG LIMIT	PERME-ABILITY (FT/DAY)
		0.2 TOPSOIL					
	1D		5				
	2D	BROWN SILTY GRAVELLY SAND TRACE OF COBBLES AND BOULDERS (BASAL TILL)	66				
5	3D		75				
	4D	9.2	77				
10	5D	BROWNISH GRAY GRAVELLY SILTY SAND TO SAND SILT-CLAY W/ COBBLES (BASAL TILL)	63	10	57		
	6D		95		48		$K_E = 0.013$
	7D	15.5	67	12		LL: 22 PI: 7	
15	8D	BROWN SILTY GRAVELLY SAND TRACE OF COBBLES AND BOULDERS (BASAL TILL)	72		32		
20	9D	21.8	—				
	1R	INTERBANDED PHYLLITE AND METAGRAY WACKE (BEDROCK) RQD = 0%					
25	2R	RQD = 17%					$K_E = 9.1$
	3R						
30	4R	RQD = 93%					
		33.0 B.O.E					
35							

INSTRUMENT LOG

WATER LEVEL

1.0
PZ15A
PZ15B
4.0
6.0
5' 3/4" SCREEN PZ15B
12.0
13.0
15.0
SAND (TYP)
17.5
BENTONITE (TYP)
26.0
5' 3/4" SCREEN PZ15A
33.0

DEPTH (FT)

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-216A

[illegible] HAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

A.T.B. [illegible] UMBER
90[illegible]

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE I.D.	4"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 07/02/90

DATE FINISH 07/02/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER											
"											
"											
"											
"											
"											
"											
"											
"											
63											
75											
[illegible]											
9[illegible]											
17											
31											
220											
245										20.4	

BOTTOM OF BORING @ 20.4'
INSTALL WELL @ 19.0' & 10.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-216A

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 3006	BORING NO. B216A
DATE COMPLETED	WELLS INSTALLED MW216B, P216B	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 157.3	DRILLER ~~MAINE TEST BORINGS~~	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 4.5 O.D.	ROCK CORE DIAMETER (IN) ———	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTER-BERG LIMITS	PERME-ABILITY (FT/DAY)	INSTRUMENT LOG	WATER LEVEL	DEPTH (FT)
		1.0 TOPSOIL								
5		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES AND BOULDERS (BASAL TILL)					K_F = 0.14		3.0 ▽ P216B ▽ MW216B 07-16-99	5
10									25' 5" SCREEN P216B 10.0 10.5 BENTONITE (TYP)	10
15							K_F = 0.96		13.0 SAND (TYP) 5'2" SCREEN MW216B	15
		18.8							19.0 19.5	
20		20.4 B.O.E. GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)							20.4	20
25										25

NOTES

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill	JOB NO 90016	BORING NO B220	
DATE COMPLETED 09.12.90	WELLS INSTALLED P220 A,B	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 144.9	DRILLING CONTRACTOR MAINE TEST BORING, INC.	LOGGED BY MWM	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (CM/SEC)	INSTRUMENT LOG	DEPTH (FT)
		0.8 PEAT							
	1D		9						
	2D	GRAY SILTY CLAY (MARINE CLAY)	11					GROUT (TYP)	
5	3D		5						5
	4D		4						
	5D		1						
10	6D		2	32.		LL: 32 PI: 10			10
	7D	12.9	1						
	8D	BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	43					13.7	
15									15
	9D		55	10			K_f = 0.066	P220 B 5' SCREEN	
	10D		64						
20		20.0						21.0	20
	11D	GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	10		51			22.0	
	12D		64		57				
25	13D		42	12	61				25
		28.5						28.0 BENTONITE (TYP)	
		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)						31.0	
30	14D		48	11	64				30
							K_f = 6.6	P220A 5' SCREEN	
35	15D		22	14	64			SAND (TYP)	35
	16D	38.5	30		66			37.9	
		B.O.E.						38.5	
40									40

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT JAMES RIVER CORP	SHEET 1 OF 1 HOLE NO. B-222
BY T HAEFER	PROJECT NAME PROPOSED LANDFILL SITE	LINE & STATION
T.B. NUMBER 90-	LOCATION OLD TOWN, MAINE	OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	BQ
SIZE I.D.	3"	1 3/8"	1 7/16"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 09/05/90 | DATE FINISH 09/06/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6"	6-12"	12-18"	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER	1D	2"	18"		1.5	2	2	5		0.5	TOPSOIL
"											
"	2D	2"	18"		3.0	6	20	36			MOTTLED SILTY FINE SAND W/TRACE OF GRAVEL
"	3D	2"	18"		4.5	34	42	47		4.0	
"											
"	4D	2"	18"		6.0	18	45	40			
"	5D	2"	18"		7.5	25	35	48			BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL
	6D	2"	18"		9.2	17	24	35			
22	7D	2"	18"		11.5	38	32	45		12.5	
56											
											BROWN SILTY FINE SAND W/LITTLE COARSE SAND, SOME GRAVEL AND COBBLES
59	8D	2"	18"		15.5	40	53	62		16.0	
30											
72											
67	9D	2"	18"		18.0	17	17	55			BROWN SILTY FINE SAND W/FINE SANDY SILT LAYERS,
51	10D	2"	9"		19.4	77	100			19.4	LITTLE GRAVEL AND COBBLES
75										20.4	WEATHERED ROCK
	1R	2 3/8"	3.6	3.3'	24.0	92%					ROCK
	2R	2 3/8"	3.0	2.4'	27.0	80%					
	3R	2 3/8"	3.4	2.5'	30.4	74%				30.4	
											BOTTOM OF BORING @ 30.4' HOLE CAVED @ 28.7' INSTALL WELL @ 28.7' & 10.2'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

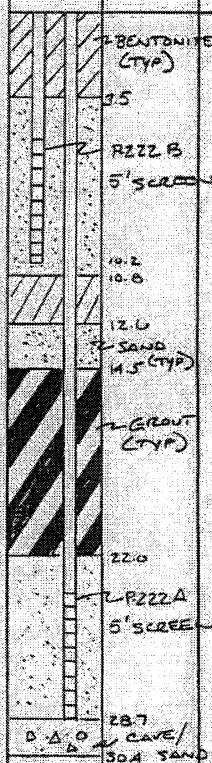
REMARKS:

HOLE NO. B-222

PROJECT West Old Town Landfill	JOB NO. 3806	BORING NO. B222	
DATE COMPLETED 07.06.90	WELLS INSTALLED P222A,B	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 212.4	DRILLING CONTRACTOR MAINE TEST BORINGS, INC	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 3.5" O.D.	ROCK CORE DIAMETER (IN) 1.615"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
0	1D	TOPSOIL	7				
	2D		56				
	3D		87				
5	4D	BROWN VERY SILTY	85				
	5D	GRAVELLY SAND	83				K_P = 0.0033
	6D	TRACE OF COBBLES WITH RARE WASHED ZONES	59				
10	7D	(GLACIAL TILL)	87	9	44		
		... BECOMING BROWNISH GRAY WITH DEPTH					
15	8D		105				
	9D		72	16		LL: 23 PI: 4	
	10D	19.4	—				
20		20.9 WEATHERED BEDROCK					
	1R	RQD=86% INTERBEDDED PHYLLITE AND METAGRAYWACKE (BEDROCK)					
25	2R	RQD=97%					K_P = 0.91
	3R	RQD=74%					
30		30.4 B.O.E.					
35							

INSTRUMENT LOG



NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-223

DR
L. HAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

A.T.B. NUMBER
90-

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2 1/2"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 09/07/90 | DATE FINISH 09/07/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	WATER READING	DEPTH	STRATUM DESCRIPTION
AUGER	1D	2"	18"		1.5	7	19	25		0.5	TOPSOIL
"										2.2	MOTTLED SILTY FINE SAND W/TRACE OF COARSE SAND AND GRAVEL
"	2D	2"	18"		3.0	26	18	15		4.0	MOTTLED FINE SANDY SILT W/TRACE OF COARSE SAND AND COBBLES
"										7.5	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
"	3D	2"	18"		5.0	15	26	21		9.5	BROWN FINE SANDY SILT W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
"											
"	4D	2"	18"		7.0	16	25	35			BROWN FINE SANDY SILT W/SOME GRAVEL AND COBBLES LITTLE COARSE SAND
16											
32	5D	2"	18"		9.0	19	27	35			
35	6D	2"	18"		10.9	54	52	72			
21											
20											
	7D	2"	18"		13.8	30	30	35			
14	8D	2"	8"		14.8	31	100				
125											
35	9D	2"	18"		16.8	18	26	35			
39											
28	10D	2"	13"		18.6	33	45	50		18.6	
27											
95											
	1R	(±)	2.0'	1.7'	21.2	85%					
	2R	(±)	2.6'	2.6'	23.8	100%					ROCK
	3R	(±)	4.7'	4.7'	28.5	100%					
	4R	(±)	4.8'	4.8'	33.3	100%				33.3	
											BOTTOM OF BORING @ 33.3'
											INSTALL WELL @ 33.0'

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
(±) 3 25/32"

HOLE NO. B-223

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B223
DATE COMPLETED 09.10.90	WELLS INSTALLED MW-223A	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 173.5	DRILLING CONTRACTOR MAINE TEST BORING, INC	LOGGED BY KPN / MWM
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 3 25/32" O.D.	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)
0	1D	0.5 TOPSOIL	44				
	2D		33				
	3D	BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES AND (BOULDERS) (BASAL TILL)	47				
5	4D		51				
	5D		56	10			
10	6D		124				
	7D		65				
	8D		—				
15	9D		71	12	59		
	10D	18.6	—				
20	1R	INTERBEDDED PHYLLITE AND METAGRAYWACKE (BEDROCK) RQD = 46%					
	2R						
25	3R	RQD = 66%					K_F = 0.77
30	4R	RQD = 56%					
		33.3					
35							

INSTRUMENT LOG

- BENTONITE (TYP) — 3.0
- GROUT (TYP)
- 25.0
- MW-223A 5' SCREEN
- SAND (TYP) — 33.0

NOTES

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-223A

BY: [redacted] CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

T.B. [redacted] MBER: 90-1[redacted]

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE I.D.	4"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 09/11/90

DATE FINISH: 09/11/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER											
"											
"											
"											
"											
"											BROWN SILTY FINE SAND, W/SOME GRAVEL
"											
"											
"											
27											
51											
7[redacted]										12.0	
[redacted]											
110											
WASHED											BROWN FINE SANDY SILT W/SOME BOULDERS AND COBBLES
HEAD											
"										17.6	
											BOTTOM OF BORING @ 17.6'
											INSTALL WELL @ 17.6'
[redacted]											

SAMPLES
- D = SPLIT SPOON
- U = 2" SHELBY TUBE
- S = 3" SHELBY TUBE
- P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
- [XX] DRILLER-VISUALLY
- [ ] SOIL TECHNICIAN-VISUALLY
- [ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-223A

PROJECT West Old Town Landfill	JOB NO. 90060	BORING NO. B223A
DATE COMPLETED 09.11.90	WELLS INSTALLED MW-223B	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 173.5	DRILLING CONTRACTOR MAINE TEST BORINGS, INC	LOGGED BY MWM
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	M (%)	LIQUID LIMIT	ATTER-BERG LIMITS	PERME-ABILITY (FT/DAY)	INSTRUMENT LOG	DEPTH (FT)
0	SEE B223A FOR SOIL SAMPLES	0.5 TOPSOIL						BENTONITE (TYP)	0
5		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES AND BOULDERS (BASAL TILL)							5
10							$K_F = 0.12$	9.0 SAND (TYP)	10
15								MW-223B 5' SCREEN	15
20		17.6 B.O.E						17.6	20

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CORP

SHEET 1 OF 1

HOLE NO. B-225

DRILLER
T. HAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

LINE & STATION

A.T.B. NUMBER
90

LOCATION
OLD TOWN, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	
SIZE I.D.	3"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START 09/14/90

DATE FINISH 09/14/90

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER	1D	2"	18"		1.5	1	4	8		0.2	TOPSOIL
"										1.0	GRAY FINE SANDY SILT
"										3.0	BROWN FINE SANDY SILT
"											
"											
"	2D	2"	18"		6.5	32	48	61			
"											
"											
"											
17											BROWN SILTY FINE SAND W/LITTLE GRAVEL AND COBBLES
60	3D	2"	13"		11.1	37	80	100			
WASHED											
AH										14.9	
"										15.1	ROCK
											REFUSAL @ 15.1'
											INSTALL WELL @ 12.7'

SAMPLES
D= SPLIT SPOON
C= 2" SHELBY TUBE
S= 3" SHELBY TUBE
P= 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS

HOLE NO. B-225

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B225	
DATE COMPLETED 09.17.90	WELLS INSTALLED P-225	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 212.8	DRILLING CONTRACTOR Maine Test Boring, Inc	LOGGED BY KAN	
BOREHOLE DIAMETER (IN) 3.5" O.D.	ROCK CORE DIAMETER (IN) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERBERG LIMIT	PERMEABILITY (FT/DAY)	INSTRUMENT LOG	DEPTH (FT)
0	1D	0.5 TOPSOIL	12					3.0 4.0	0
5	2D	Brown Sandy Gravelly Silt-Clay Trace of Cobbles (Basal Till)	109				K_F = 0.073	6.0 P-225 5' screen	5
10	3D		—	10.				12.7 13.5	10
15		15.1 REFUSAL B.O.E						15.1	15
20									20

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 1

HOLE NO. B-226

DRI: CHAEFER

PROJECT NAME: PROPOSED LANDFILL SITE

LINE & STATION:

W.T.B. NUMBER: 90

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT 0.00 FT. AFTER 0.00 HOURS

AT 0.00 FT. AFTER 0.00 HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	NW	SS	
SIZE I.D.	3"	1 3/8"	
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 09/13/90

DATE FINIS.: 09/13/90

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER	1D	2"	18"		1.5	2	7	35		0.2	TOPSOIL
										2.5	BROWN FINE SANDY SILT W/LITTLE GRAVEL & COBBLES
										4.0	BROWN SILTY FINE SAND W/SOME GRAVEL & COBBLES
										6.5	MOTTLED FINE SANDY SILT W/LITTLE GRAVEL
	2D	2"	18"		7.0	22	28	30			
											GRAY/BROWN FINE SANDY SILT W/LITTLE GRAVEL & COBBLES
31	3D	2"	18"		11.2					11.2	
50											
WO											
&HE											
	4D	2"	14"		16.3	48	72	50			
											GRAY FINE SANDY SILT W/SOME COBBLES & LITTLE COARSE SAND & GRAVEL
	5D	2"	18"		21.5	25	32	56			
										25.3	
											REFUSAL @ 25.3'
											INSTALL WELL @ 25.3'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

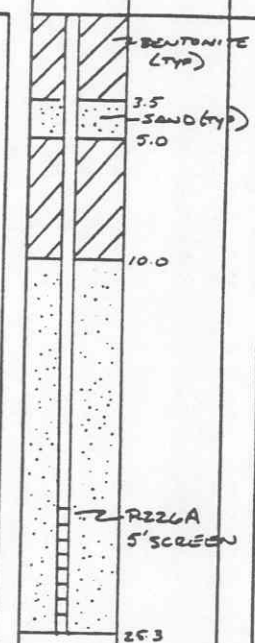
REMARKS:

HOLE NO. B-226

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B226	
DATE COMPLETED 09.13.90	WELLS INSTALLED P-226A	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 215.0	DRILLING CONTRACTOR Maine Test Boring, Inc	LOGGED BY MWM	
BOREHOLE DIAMETER (IN) 3.5" O.D.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% Wash #7.7	Atterberg Limit	Permeability (ft/day)
	1D	0.2 TOPSOIL	42				
5	2D	Brown Very Silty Gravelly Sand Trace of Cobbles (Basal Till) ... Becoming Brownish Gray with Depth	58		61		
10	3D	11.2	—	10	55		
15	4D	Gray Gravelly Silty Sand to Sandy Silt-Clay with Trace of Cobbles (Basal Till)	—	9	49		
20	5D		88	11	63		K_f = 0.022
25		25.3 REFUSAL B.O.E					

INSTRUMENT LOG



NOTES

Revised as per later corresp.

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
JAMES RIVER CORP

BORING LOG

DRILLER
T HAEFER

PROJECT NAME
PROPOSED LANDFILL SITE

AUGER PROBE
SIZE O.D. 4"

M.T.B. NUMBER
90

LOCATION
OLD TOWN, MAINE

BORING NO.: P-226A
LINE & STA.:
OFFSET:
GR. ELEV.:
DATE: 12/07/90

BORING NO.:
LINE & STA.:
OFFSET:
GR. ELEV.:
DATE: / /

DEPTH	STRATUM DESCRIPTION
	BROWN SILTY FINE SAND W/LITTLE GRAVEL, SOME COBBLE
12.0	
	BOTTOM OF BORING @ 12.0'
	INSTALL PIEZOMETER @ 10.0'

DEPTH	STRATUM DESCRIPTION

SOIL CLASSIFIED BY:

XX DRILLER VISUALLY

SOIL TECHNICIAN

☐ LABORATORY TESTS

REMARKS:

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B-226A	
DATE COMPLETED 12-07-90	WELLS INSTALLED B-226B	DRILLING METHOD AUGER	
GROUND SURFACE ELEVATION (FT) 215.5	DRILLING CONTRACTOR MAINE TEST BORING INC.	LOGGED BY RSC	
BOREHOLE DIAMETER (IN) 4.0" OD.	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	INSTRUMENT LOG	DEPTH (FT)
			2.5' TOP OF PVC	
5		BROWN SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)	BENTONITE (TYP) 3.5 B-226B 5' SCREEN (3/4" Ø) SAND (TYP)	5
10		... BECOMING BROWNISH GRAY WITH DEPTH	10.5	10
15		12.0 B.O.E	12.0	15

NOTES

SEVEE & MAHER ENGINEERS

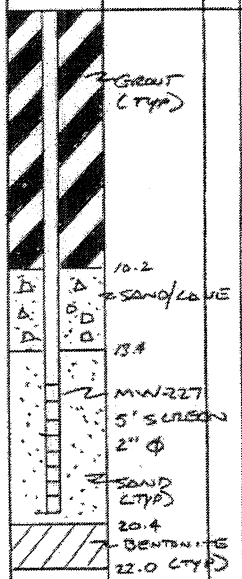
5/90

PROJECT WEST OLD TOWN LANDFILL — 20058

DATE COMPLETED 09.17.90	WELLS INSTALLED MW-227	DRILLING METHOD WASHED BORING
GROUND SURFACE ELEVATION (FT) 161.0	DRILLING CONTRACTOR MAINE TEST BORING, INC	LOGGED BY KAN
BOREHOLE DIAMETER (IN) 3.5" O.D.	ROCK CORE DIAMETER (IN) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	MC (%)	% PASS #200	ATTERG. LIMIT	PERMEABILITY (FT/DAY)
0	1D	0.2 TOPSOIL	103				
		BROWN VERY SILTY GRAVELLY SAND TRACE OF COBBLES (BASAL TILL)					
5	2D		51				
10	3D		—	11			
		13.0					
		GRAY SANDY GRAVELLY SILT-CLAY TRACE OF COBBLES (BASAL TILL)					
15	4D		116	11	67		K_F = 0.00046
	5D	22.0	60	10			
		B.O.E					

INSTRUMENT LOG



DEPTH (FT)

NOTES

SEVEE & MAHER ENGINEERS

PROJECT West Old Town Landfill	JOB NO. 9006	BORING NO. B-228
DATE COMPLETED 12-07-90	WELLS INSTALLED P-228	DRILLING METHOD Auger
GROUND SURFACE ELEVATION (FT) 215.0	DRILLING CONTRACTOR Maine Test Boring Inc	LOGGED BY RBC
BOREHOLE DIAMETER (IN) 4.0" OD	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION						INSTRUMENT LOG	DEPTH (FT)
								2.5 TOP OF PVC	
		Brown Sandy Gravelly Silt-Clay Trace of Cobble (Basal Till) ... Becoming Brownish Gray with Depth						Bentonite (Typ) 3.5	
5								P-228 5' Screen (3/4" ø)	5
								Sand (Typ)	
10								10.5	10
		12.0						12.0	
		BOE.							
15									15

NOTES

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

JAMES RIVER CORP

BORING LOG

RILLER HAEFER	PROJECT NAME PROPOSED LANDFILL SITE	AUGER PROBE SIZE O.D. 4"
T.B. 90- MBER	LOCATION OLD TOWN, MAINE	

BORING NO.: P-230
LINE & STA.:
OFFSET:
GR. ELEV.:
DATE: 12/07/90

BORING NO.:
LINE & STA.:
OFFSET:
GR. ELEV.:
DATE: / /

DEPTH	STRATUM DESCRIPTION
4.0	BROWN SILTY FINE SAND W/LITTLE GRAVEL
12.0	GRAY/BROWN SILTY FINE SAND W/LITTLE GRAVEL &COBBLE
	OTTOM OF BORING @ 12.0' INSTALL PIEZOMETER @ 10.0'

DEPTH	STRATUM DESCRIPTION

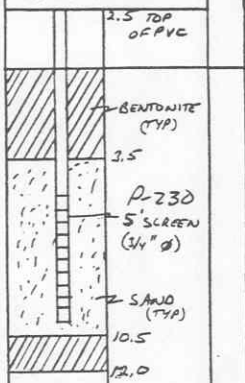
SOIL CLASSIFIED BY:
DRILLER VISUALLY
SOIL TECHNICIAN
☐ LABORATORY TESTS

REMARKS:

PROJECT WEST OLD TOWN LANDFILL	JOB NO. 9006	BORING NO. B-230
DATE COMPLETED 12-07-90	WELLS INSTALLED A-230	DRILLING METHOD AUGER
GROUND SURFACE ELEVATION (FT) 214.7	DRILLING CONTRACTOR MAINE TEST BORING INC.	LOGGED BY RBC
BOREHOLE DIAMETER (IN) 4.0" OD	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		
5		BROWN SANDY GRAVELLY SILT-CLAY
		TRACE OF COBBLES
		(BASAL TILL)
10		... BECOMING BROWNISH GRAY WITH DEPTH
		12.0
		BOE.
15		

INSTRUMENT LOG



DEPTH (FT): 0, 5, 10, 15

NOTES

SEVEE & MAHER ENGINEERS

PROJECT WEST OLD TOWN LANDFILL JOB NO. 90006 BORING NO. MW 301

DATE COMPLETED 07.02.96	DATE WELLS INSTALLED 07.02.96	DRILLING METHOD SPIN CASING
GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR Maine Test Borings, Inc	LOGGED BY Tom Schaefer / KAN
BOREHOLE DIAMETER (IN) 4½"	ROCK CORE DIAMETER (IN) 3 25/32	SHEET 1 OF 4

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION						INSTRUMENT LOG	DEPTH (FT)
		MOTTLED BROWN SILT, CLAY, AND GRAVEL						3.0	
5		6 FILL							
		OLIVE CLAYEY SILT TRACE OF GRAVEL							
		9							
10									
15		BROWN SANDY GRAVELLY SILT W/ COBBLES						17.0	
								BENTONITE CHIPS (TYP)	
20								21.0	
25		27							
30									
		GRAY SANDY GRAVELLY SILT W/ COBBLES							
35									
40									
45									
50									
55									
60									

NOTES

9/90

SEVEE & MAHER ENGINEERS

PROJECT WEST OLD TOWN LANDFILL **JOB NO.** **BORING NO.** MW 301

DATE COMPLETED	DATE WELLS INSTALLED	DRILLING METHOD
GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR	LOGGED BY
BOREHOLE DIAMETER (IN)	ROCK CORE DIAMETER (IN.)	SHEET 2 OF 4

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD (%)	INSTRUMENT LOG	DEPTH (FT)
		... BECOMING Gray Clayey Sandy Silt w/ Gravel & Cobbles		65	
70				Bentonite Chips (Typ)	
				73	
75					
80		81.3 BASAL TILL			
85	1R		92	Bentonite Grout (Typ)	
90	2R	BEDROCK	99		
	3R		100		
100	4R		100		
105	5R		100		
110	6R		100		
115	7R		100		
120					

NOTES

SEVEE & MAHER ENGINEERS

5/90

PROJECT WEST OLD TOWN LANDFILL JOB NO. BORING NO. MW 301

DATE COMPLETED	DATE WELLS INSTALLED	DRILLING METHOD
GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR	LOGGED BY
BOREHOLE DIAMETER (IN) Approx 163	ROCK CORE DIAMETER (IN)	SHEET 3 OF 4

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	RQD %	Kmax cm/sec				INSTRUMENT LOG	DEPTH (FT)
	8R		100						
125	9R		100						
130	10R		100	7.0 x10⁻⁷ cm/sec (146.9-182.7 TEST INTERVAL)					
135	11R		100						
140	12R		100						
145	13R		100	6.8x10⁻⁷ cm/sec (146.9-182.7) TEST INTERVAL					
150	14R		76						
155	15R		86	6.0 x10⁻⁷ cm/sec (151.7-182.7) TEST INTERVAL				155.0 "00" SAND (TYP) 157.5	
160	16R		94					"0" SAND (TYP)	160
165	17R		100						
170	18R		100	1.2x10⁻⁶ cm/sec (TEST INTERVAL 161.5-182.7)				2" ϕ SCH 40 PVC SCREEN No 10 SLOT L=20 FT	
175	19R		86						
180									

NOTES

5/90

SEVEE & MAHER ENGINEERS

PROJECT WEST OLD TOWN LANDFILL **JOB NO.** **BORING NO.** MW 301

DATE COMPLETED	DATE WELLS INSTALLED	DRILLING METHOD
GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR	LOGGED BY
BOREHOLE DIAMETER (IN)	ROCK CORE DIAMETER (IN.)	SHEET 4 OF 4

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	Rad(%)					INSTRUMENT LOG	DEPTH (FT)
	20R	1830	94						
		B.O.E.							
185									

NOTES

SEVEE & MAHER ENGINEERS

5/90

PROJECT: CASELLA - JRL DETENTION POND #5		JOB NO.: 07086	BORING NO.: B-302R
DATE STARTED: 10/01/07	DATE FINISHED: 10/01/07	DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT): 204.49	DRILLING CONTRACTOR: MTB	LOGGED BY: EJL /JES	
BOREHOLE DIA. (IN): 41/4 in.	ROCK CORE DIA. (IN): 2 1/2	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (ft.)	RQD %	WELL LOG	DEPTH (FT)
		0.4 Dark brown silty SAND with organics				1	
5		Brown silty c-f SAND, trace gravel, dense				cuttings sand b-chips	5
	1D	(basil till)	136	2			
10	1R	Refusal at 7.7 ft. Drive casing to 7.4 ft. Wash to 8.0 ft. and begin coring		3.9	100	9.4 bentonite chips 12.9	10
15	2R			5.0	88	filter sand	15
		Interbedded PHYLLITE and Metagray WACKE					
20	3R			5.0	92	19.5	20
25	4R			5.0	94	schedule 40 #10 slot well screen L=10 ft.	25
	5R	(bedrock)		3.0	100	29.5	
30		29.9 BOTTOM OF EXPLORATION					30
35							35
40							40
45							45
50							50
55							55
60							60

NOTES:	Installed 2" PVC Piezometer with 10 ft.	Filter Sand
	screened interval at 29.5 ft.	Bentonite Chips
	Elevation MW-302R = 206.86 TPVC	Mixture of borehole cuttings, sand, and chips
	Wire line system used for rock coring (HQ)	

PROJECT WEST OLD TOWN LANDFILL JOB NO. 90006 BORING NO. MW 303

DATE COMPLETED 07 09 96 | DATE WELLS INSTALLED 07-10-96 | DRILLING METHOD SPIN CASING

GROUND SURFACE ELEVATION (FT) 213 | DRILLING CONTRACTOR Maine Test Boring, Inc. | LOGGED BY Tim Schaffer/EM

BOREHOLE DIAMETER (IN) 4 1/4" | ROCK CORE DIAMETER (IN) N/A | SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO	MATERIAL DESCRIPTION
0		Top Soil
5		Brown Sand Silt w/ Gravel / Cobbles
10		
15		
18.5		
20		Gray Sandy Gravelly Silt Mass of Cobbles becoming coarser with depth
25		
29.0		
30		Brown Silty Gravelly Sand w/ cobbles
35		
40		
45		
46.5		Weathered Till
		B.O.E.
50		

INSTRUMENT LOG

Bentonite Chips (typ)

3.0

Sand (typ)

7.0

9.0

Bentonite Grout (typ)

20.7

31.2

2" Ø Sch 40 PVC No. 10 Slot Screen L=10 ft.

44.7

45.0

DEPTH (FT)

NOTES

SEVEE & MAHER ENGINEERS

5/90

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

PROJECT
Replacement Well
CASELLA - Juniper Ridge Landfill
West Old Town, ME

REPORT OF BORING No. MW-303R
SHEET 1 OF 2
JOB No. 12064.00
CHKD. BY

Driller: MAINE TEST BORINGS
18 Mack Lane, Hermon, ME

INSPECTOR: Brian Johnson

BORING LOCATION N 477517.1 E 927635.5 Maine State Plane

GROUND SURFACE ELEVATION 206.1 feet DATUM (Site Datum)

DATE START 9/11/2012 DATE END 9/11/2012

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 In.

AUGER: NA

HAMMER: High-speed winch and safety hammer

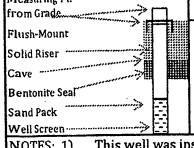
CASING SIZE: 4-inch OTHER: NA

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
9/19/2012		28.72 ft BTOC		

DEPTH	WELL DETAILS (See Below)	SAMPLE NO.	PEN./ REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	SPT N Value	STRATUM DESCRIPTION
0						Surface has topsoil and grass.		
5		S-1	2.0/2.0	5-7	19/17/25/28	Brown Silt; little coarse sand to fine gravel; trace clay; subrounded to rounded.	42	
10		S-2	1.6/2.0	10-12	17/26/31/36	Simmilar to above.	57	BROWN SANDEY SILT WITH GRAVEL AND COBBLES (TILL)
						Encountered Cobble		
15		S-3	1.8/2.0	15-17	17/29/33/41	Brown; Silt; little clay; little to trace fine sand to fine gravel; rounded to subrounded.	62	
20		S-4	1.5/1.5	20-21.5	15/67/98	Brown; Silt, little clay; little fine sand to fine gravel; trace fine gravel; rounded to subrounded.	>100	
25		S-5	1.2/1.5	25-26.5	36/126/65	Gray, black and rust colored; Coarse to medium SAND; little to some fine gravel; trace to little silt; subangular to angular.	>100	GRAY SAND, GRAVEL AND SILT WITH COBBLES (TILL)
						Cobbles encountered.		
30		S-6	0.5/1.5	30-31.5	58/93/63	Rust colored, brown and gray; Sandy GRAVEL; little sand and silt; trace clay; angular.	>100	
						Cobbles encountered.		

PIEZOMETER DETAILS



GRANULAR SOILS

Blows/Ft	Rel. Density
0 - 4	Very Loose
4-10	Loose
10-30	Medium Dense
30-50	Dense
>50	Very Dense

COHESIVE SOILS

Blows/Ft	Rel. Density	Approx Su. (psf)
<2	Very Soft	0-250
2-4	Soft	250-500
4-8	Med. Stiff	500-1000
8-15	Stiff	1000-2000
15-30	Very Stiff	2000-4000
>30	Hard	>4000

MODIFIED BERMISTER SYSTEM

Descriptive Term	Portion of Total
Trace	0% - 10%
Little	10% - 20%
Some	20% - 35%
Adjective (e.g., clayey)	35% - 49%

Well Details
Screen: 40.4 to 30.4 ft bgs
Sand: 41.5 to 28.3 ft bgs
Chips: 28.3 to 19 and 11 to 1 ft bgs
Cuttings: 19 to 11 ft bgs
Stickup = 2.9 feet

NOTES: 1) This well was installed to replace MW-303, which was damaged in the summer of 2012.

BORING No. MW-303R

P:\Casella\OldTownLandfill\GeneralSiteInfo\SSI\Boring Log\2012\MW-303R.xls

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

PROJECT
Replacement Well
CASELLA - Juniper Ridge Landfill
West Old Town, ME

REPORT OF BORING No. MW-303R
SHEET 2 OF 2
JOB No. 12064.00
CHKD. BY

Driller: MAINE TEST BORINGS
18 Mack Lane, Hermon, ME

INSPECTOR: Brian Johnson

BORING LOCATION See Page 1

GROUND SURFACE ELEVATION See Page 1

DATE START 9/11/2012 DATE END 9/11/2012

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 In.

AUGER NA

HAMMER:

CASING SIZE: OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
See Pg 1				

DEPTH	WELL DETAILS (See Pg 1)	SAMPLE NO.	PEN./ REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	SPT N Value	STRATUM DESCRIPTION
32								
35		S-7	1.5/2.0	35-37	53/48/50/61	Mixed- Brown and Black; Medium SAND; SILT and Gravelly Zones;; angular.	98	BROWN AND BLACK (MIXED) SANDY SILTY GRAVEL (TILL)
40		S-8	0.8/1.1	40-41.1	16/100/50(0.1')	Brown Fine to Medium SAND.	NA	SAND
						Roller coned to 41.5 feet		INTERPRETED AS BEDROCK
45						BOTTOM OF EXPLORATION AT 41.5 feet BGS		
50								
55								
60								

PIEZOMETER DETAILS
Measuring Pt. from Grade
Flush-Mount
Solid Riser
Cave
Bentonite Seal
Sand Pack
Well Screen

GRANULAR SOILS Blows/Ft	Rel. Density
0 - 4	Very Loose
4-10	Loose
10-30	Medium Dens
30-50	Dense
>50	Very Dense

COHESIVE SOILS Blows/Ft	Rel. Density	Approx Su. (psf)
<2	Very Soft	0-250
2-4	Soft	250-500
4-8	Med. Stiff	500-1000
8-15	Stiff	1000-2000
15-30	Very Stiff	2000-4000
>30	Hard	>4000

MODIFIED BERMISTER SYSTEM

Descriptive Term	Portion of Total
Trace	0% - 10%
Little	10% - 20%
Some	20% - 35%
Adjective (e.g., clayey)	35% - 49%

Well Details
See Page 1

NOTES: 1) This well was installed to replace MW-303, which was damaged in the summer of 2012.

BORING No. MW-303R

P:\Casella\OldTownLandfill\GeneralSiteInfo\SSI\Boring Log\2012\MW-303R.xls

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Sevee & Maher Engineering, Inc.

SHEET 1 OF 3

HOLE NO. MW-401-A

DRILLER: Tom Schaefer

PROJECT NAME: West Old Town Landfill

LINE & STATION:

M.T.B. JOB NUMBER: 04-095

LOCATION: Old Town, ME

OFFSET:

GROUND WATER OBSERVATIONS
06/30/04 Water @ 5.3' Hole depth=7.0';
07/01/04 7:15am Water @ 4.9';
07/02/04 7:30am Water @ 4.6';
07/12/04 7:30am Water @ 3.6'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 06/30/04 Start — DATE 07/13/04 Finish

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"	16"	2.0	2	2	5	13			
"											3.5	Mottled Silty Very Fine Sand w/Trace of Clay
"												
"												
"												
"	2D	2"	24"	13"	7.0	18	52	10	15			
24												
48												
28												
12											10.0	*Brown Silty F/M Sand,* w/Little Gravel, w/Trace of Cobbles
17	3D	2"	19"	16"	11.6	12	18	28	50			
35												
39												
60											13.0	Brown F/M Sand, w/Little Silt, Coarse Sand & Gravel, w/Trace of Cobbles
Spun												
Casing	4D	2"	24"	11"	17.0	33	68	65	50			
"											15.5	Olive Silty Gravelly Sand
"												
"												
"											18.2	Gray Silty Very Fine Sand, w/Some Gravel, w/Trace of Cobbles
"												
"	1R	3.78"	3.0'	2.1'	22.0	70.%						
"											21.1	Boulder
"												
"												
"											25.0	Gray Clayey Silty F/M Sand, w/Little Gravel & Cobbles
"	5D	2"	24"		27.0	32	35	28	40			
"												
"												
"												
"												
"	D	2"	24"	0"	32.0	25	25	24	32			
"												
"												
"												
"											35.0	Gray Fine Sandy Silt, w/Little Gravel, w/Trace of Cobbles
"	7D	2"	24"		37.0	30	38	25	23			
"												
"												
"												Gray Clayey Silty F/M Sand, w/Little Gravel, w/Trace of Cobbles

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
* Sample from Core
Washed ahead from 10' to 19', 53.0' to 53.3', 65.0' to 66.5', 70.0' to 73.2', and from 75.0' to 82.4'; Pulled casing at 19.0' & switched to spinning shoe;

HOLE NO. MW-401-A

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 3 HOLE NO. MW-401-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
06/30/04 Water @ 5.3' Hole depth=7.0';
07/01/04 7:15am Water @ 4.9';
07/02/04 7:30am Water @ 4.6';
07/12/04 7:30am Water @ 3.6'

	CASING	SAMPLER	CORE BARREL	DATE 06/30/04 Start	DATE 07/13/04 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
"	8D	2"	11"		40.9	22	50					
"	9D	2"	20"		46.7	38	42	60	50			
"	10D	2"	23"		51.9	20	31	50	50			
"	2R	3.78"	1.0'	0.4'	54.3	40%						
"	11D	2"	16"		56.3	15	30	50			56.3	Gray Clayey Silty F/M Sand, w/Little Gravel, w/Trace of Cobbles
"	12D	2"	7"		60.6	38	50					
"	13D	2"	6"		65.5	90					65.0	Gray Clayey Silty Gravelly F/M Sand, w/Some Cobbles
"	14D*										66.2	Gray Fine Sandy Silt w/Little Gravel & Cobbles
											67.1	Boulder
"	3R	3.78"	5.0'	2.8'	71.5	56.%						
"	15D*										75.5	Gray Fine Sandy Silt w/Little Gravel & Cobbles
"	4R	3.78"	2.3'	0.8'	75.5	34.8%						
"	16D	2"	8"		76.7	85	50				78.5	Brown Gravelly Silty F/M Sand w/Some Cobbles
												Rock

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
* Sample from Core
Washed ahead from 10' to 19', 53.0' to 53.3', 65.0' to 66.5', 70.0' to 73.2', and from 75.0' to 82.4'; Pulled casing at 19.0' & switched to spinning shoe;

HOLE NO. MW-401-A

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 3 OF 3 HOLE NO. MW-401-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
06/30/04 Water @ 5.3' Hole depth=7.0';
07/01/04 7:15am Water @ 4.9';
07/02/04 7:30am Water @ 4.6';
07/12/04 7:30am Water @ 3.6'

	CASING	SAMPLER	CORE BARREL	DATE 06/30/04 Start	DATE 07/13/04 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"		SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
"												
"												
	5R	3.78"	3.0'	2.6'	82.4	87%						
	6R	3.78"	5.0'	4.4'	87.4	88.%						
	7R	3.78"	4.8'	5.4'	92.2	113%						Rock
	8R	3.78"	5.0'	5.0'	97.2	100%						
	9R	3.78"	5.0'	4.9'	102.2	98%						
	10R	3.78"	4.0'	1.6'	106.2	40.%						
	11R	3.78"	3.2'	3.2'	109.4	100%					109.4	
												Bottom of Boring @ 109.4' Well Installed @ 108.8'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

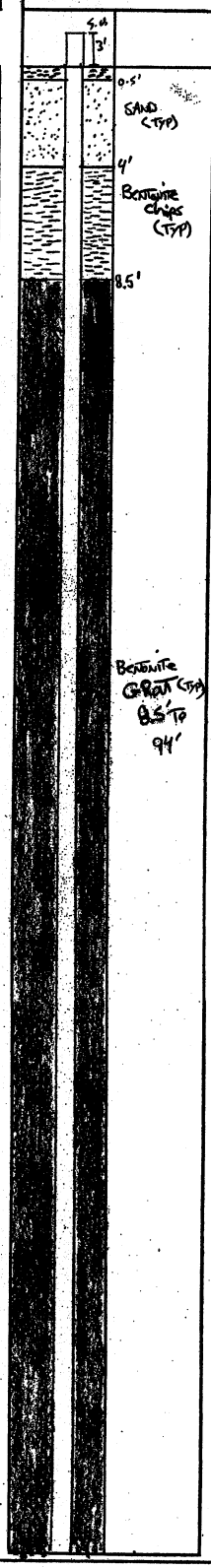
REMARKS:
* Sample from Core
Washed ahead from 10' to 19', 53.0' to 53.3', 65.0' to 66.5', 70.0' to 73.2', and from 75.0' to 82.4'; Pulled casing at 19.0' & switched to spinning shoe;

HOLE NO. MW-401-A

PROJECT West Old Town Land Fill Expansion	JOB NO. 03676.09	BORING NO. 401A	
DATE COMPLETED 7/13/04	DATE WELLS INSTALLED 7/12/04	DRILLING METHOD Wash Rotary	
GROUND SURFACE ELEVATION (FT) 153.8' ±	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.6"	SHEET 1 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Sieve	Water Content %
0	1D	0-0.5' Topsoil Mottled silty Very Fine SAND w/ Trace of clay	18			
3.5'						
5	2D	Brown Silty Fine to Medium SAND w/ Little Gravel and Trace of Cobbles	25			
10	3D	10' Brown Fine to Medium SAND w/ Little silt, Coarse Sand and Gravel, Trace of Cobbles.	50 - 0.1'		27.7%	11.9%
13'		Becoming Increased Olive Color Silts.				
15	4D	13.5' Coarse silt w/ Very Fine Sand and some Cobbles	115			
18'		Boulder				
21'						
25	5D	Gray Clayie Silty Fine to Medium SAND with Little gravel and Cobbles	68			
30	6D		56			
35'						
35	7D	Becoming Increased Clay Content.	48			
40	8D		50-0.4'			
45	9D		50-0.2'			
50	10D		50-0.4'			
55	11D	56' UA Gray Clayey Silt with Some Gravel and Cobbles	50-0.3'		62.3%	11.1%
60		BASAL TILL				

INSTRUMENT LOG



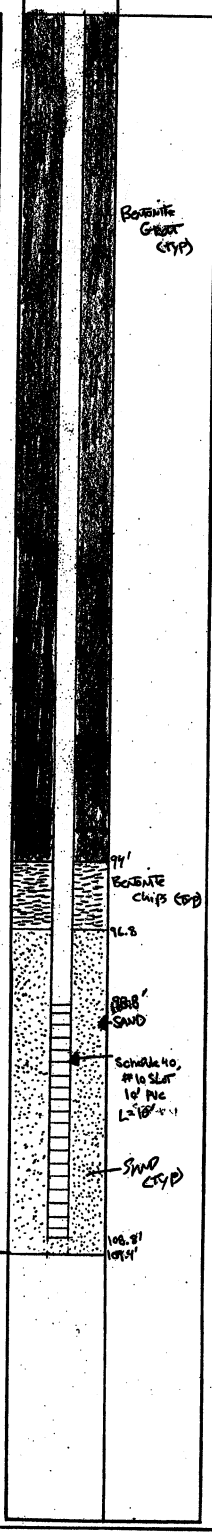
NOTES

SEVEE & MAHER ENGINEERS

PROJECT West old Town Expansion	JOB NO. 0307609	BORING NO. 401A	
DATE COMPLETED 7/13/04	DATE WELLS INSTALLED 7/12/04	DRILLING METHOD Wash Rotary	
GROUND SURFACE ELEVATION (FT) 153.8'	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD
60	12D	Gray Clayey SILT w/ some gravel and cobbles.	50-0.1'	
65	65' 13D		90-0.5'	
70	14D	Brown Gravelly SILT, [illegible]	NA	
75	15D 16D		NA 50-0.2'	
80	78.5' Roller cone	BASAL TILL		
85	1R			0%
90	2R			48%
95	3R			86%
100	4R			62%
105	5R			30%
110	6R			0%
	7R			80%
	109.4'	Bedrock B.O.E.		

INSTRUMENT LOG



DEPTH (FT)

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-401-B
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE 07/13/04 Start	DATE 07/13/04 Finish
TYPE	HW				
SIZE I.D.	4"				
HAMMER WT.	300#				
HAMMER FALL	16"			SURFACE ELEVATION	

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
Spun												
Casing												
"												
"												
"												
"												
"												Same as MW-401-A
"												
"												
"												
"												
"												
"												
"												
"												
Wash												
Ahead												
											20.5	
												Bottom of Boring @ 20.5'
												Well Installed @ 20.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
No Samples Taken

HOLE NO. MW-401-B

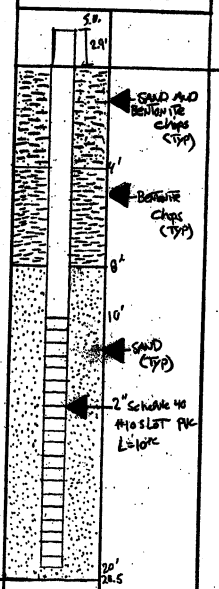
PROJECT West Old Town Landfill Expansion	JOB NO. 03076.09	BORING NO. 401B	
DATE COMPLETED 7/13/04	DATE WELLS INSTALLED 7/13/04	DRILLING METHOD Wash-Rotary	
GROUND SURFACE ELEVATION (FT) 154.6'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) N/A"	SHEET 1 OF 1	

DEPTH (FT) | SAMPLE NO. | MATERIAL DESCRIPTION

See Log 401A for Stratigraphy.

20.5' B.O.E. — BASAL TILL

INSTRUMENT LOG



DEPTH (FT)

NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 3 HOLE NO. MW-402-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
06/23/04 7:00am Water @ 4.1';
06/24/04 5:15pm Water @ 8.2', Hole depth= 70.0';
06/25/04 7:00am Water @ 1.9'

	CASING	SAMPLER	CORE BARREL	DATE 06/22/04 Start	DATE 06/28/04 Finish
TYPE	HW	SS	HQ		
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#		SURFACE ELEVATION	
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.3	Topsoil
"	1D	2"	24"		2.0	1	2	4	6			
"											3.0	Gray Brown Silty Fine Sand
"												
"												
8												
12	2D	2"	24"		7.0	6	4	6	8		6.5	Mottled Clayey Silty Fine Sand
20												
18												
18												
7											10.5	Gray Silty Clay
30	3D	2"	14"		11.2	WOH	7	50			11.0	*Brown Silty Clay*
27												
64												
120												
19											15.5	Brown Silty Gravelly Sand w/Some Cobbles
30	4D	2"	13"		16.6	21	30	50				
52												
58												
52											20.0	Gray Silty Gravelly Sand, w/Trace of Cobbles & Clay
26												
20	5D	2"	24"		22.0	11	20	23	30			
20												
23												
45												
35												
120	6D	2"	13"		26.1	17	38	50				
85												
50												
78												
65												
35	7D	2"	14"		31.2	42	82	50				Gray Clayey Silty Fine Sand, *w/Coarse Sandy Gravel & Cobbles*
42												
37												
37												
38												
45	8D	2"	24"		37.0	15	24	48	30			
55												
50												
53												

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R =ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Casing refusal @ 48.1' (boulder)- Changed over to spinning;
Started spinning at 18.0';
Washed ahead from 10.0' to 75.0'

HOLE NO. MW-402-A

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 2 OF 3 HOLE NO. MW-402-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
06/23/04 7:00am Water @ 4.1';
06/24/04 5:15pm Water @ 8.2', Hole depth= 70.0';
06/25/04 7:00am Water @ 1.9'

	CASING	SAMPLER	CORE BARREL	DATE 06/22/04 Start	DATE 06/28/04 Finish
TYPE	HW	SS	HQ	SURFACE ELEVATION	
SIZE I.D.	4"	1 3/8"	2.5"		
HAMMER WT.	300#	140#			
HAMMER FALL	16"	30"			

CASING BLOWS PER FOOT	SAMPLE NO	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
45												
58												Gray Clayey Silty Fine Sand
65	9D	2"	24"		43.0	30	24	47	45			w/Coarse Sandy Gravel & Cobbles
74												
90											45.0	
52												Gray Silty Fine Sand,
55	10D	2"	14"		46.2	53	82	50				w/Little Clay, Coarse Sand & Gravel,
50											47.7	w/Trace of Cobbles
25											48.8	Boulder
100	1R	3.78"	2.0'	1.6'	50.0	80%						Gray Silty Fine Sand
Spun												w/Little Clay, Coarse Sandy Gravel & Cobbles
Casing												
"												
"												
"												
"												
"												
"	11D	2"	24"		57.5	20	33	53	53			
"												
"												
"												
"	12D	2"	19"		61.6	32	43	65				
"												
"												
"												
"	13D	2"	7"		65.6	45	50					
"												Gray Silty Fine Sand,
"												w/Little Coarse Sandy Gravel,
"												w/Trace of Clay, Some Cobbles
"												
"												
"												
"	14D	2"	5"		71.4	100					72.0	
"											73.0	Boulder
"												
"												Olive Silty Gravelly Sand,
	15D	2"	4"		75.3						75.4	w/Some Coarse Sand & Cobbles
	2R	3.78"	3.0'	3.0'	79.0	100%						Rock

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
Casing refusal @ 48.1' (boulder)- Changed over to spinning;
Started spinning at 18.0';
Washed ahead from 10.0' to 75.0'

HOLE NO. MW-402-A

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 3 OF 3 HOLE NO. MW-402-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
06/23/04 7:00am Water @ 4.1';
06/24/04 5:15pm Water @ 8.2', Hole depth= 70.0';
06/25/04 7:00am Water @ 1.9'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 06/22/04 Start | DATE 06/28/04 Finish
SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
	3R	3.78"	5.0'	5.0'	84.0	100%						
	4R	3.78"	3.0'	3.0'	87.0	100%						
	5R	3.78"	5.0'	5.0'	92.0	100%						Rock
	6R	3.78"	5.0'	5.0'	97.0	100%						
	7R	3.78"	5.0'	5.0'	102.0	100%						
	8R	3.78"	4.0'	4.0'	106.0	100%					106.0	
												Bottom of Boring @ 106.0' 2" PVC Well Installed @

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

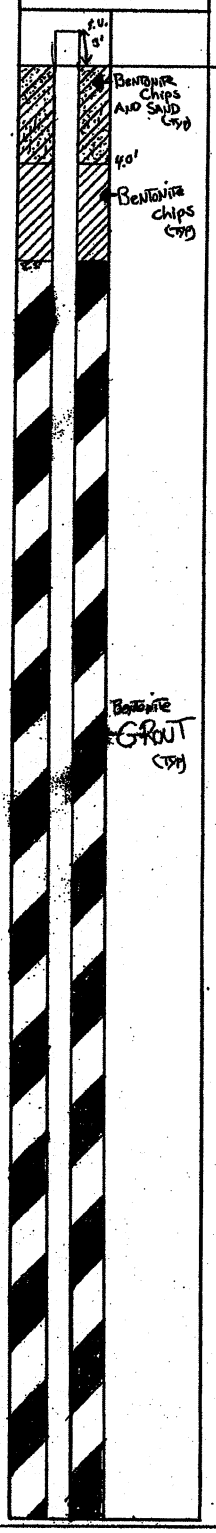
REMARKS:
Casing refusal @ 48.1' (boulder)- Changed over to spinning;
Started spinning at 18.0';
Washed ahead from 10.0' to 75.0'

HOLE NO. MW-402-A

PROJECT: WEST MIDTOWN LANDFILL EXPANSION	JOB NO. 03076.09	BORING NO. 402A	
DATE COMPLETED: 6/29/04	DATE WELLS INSTALLED: 6/29/04	DRILLING METHOD: WASH-ROTARY	
GROUND SURFACE ELEVATION (FT): 149.5'	DRILLING CONTRACTOR: MTB	LOGGED BY: T. Riley / JES	
BOREHOLE DIAMETER (IN): 4.5" O.D.	ROCK CORE DIAMETER (IN.): 2.5"	SHEET 1 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Sieve	WATER CONTENT %
		0.3' TOP SOIL				
5	1D	Mottled clayey SILTY FINE SAND	10			
	2D	5.5' — — — — Gray SILTY SANDY CLAY (MARINE CLAY)	14		86.9%	21.9%
10	3D	11' MARINE SEDIMENTS.	60-0.2'			
15	4D	BROWN GRAVELLY SANDY SILT WITH A TRACE OF COBBLES. — — ...Becoming gray with a TRACE of clay.	50-0.1'			
20		20' — — — —				
	5D		53			
25	6D		60-0.1'			
		Gray GRAVELLY SANDY CLAYEY SILT. TRACE of COBBLES.				
30	7D		50-0.2'			
35	8D		78			
40	9D		92			
45		45' — — — —				
	10D	...Becoming, TRACE of clay (0.9' thick cobbles)	60-0.2'			
50						
55	11D		106		65.6%	11.0%
60		BASAL TILL				

INSTRUMENT LOG



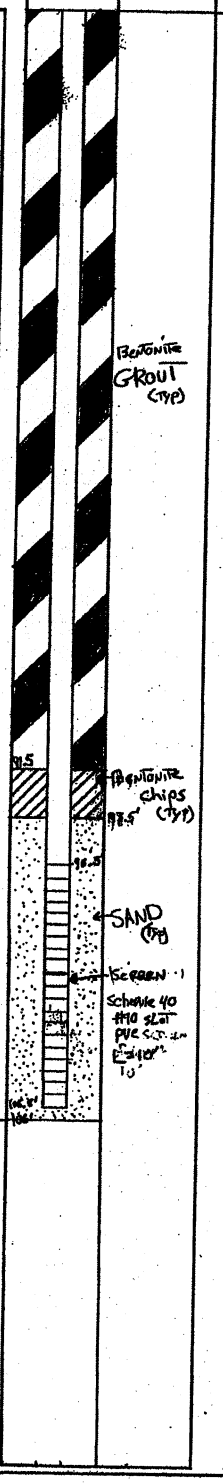
NOTES

SEVEE & MAHER ENGINEERS

PROJECT WEST OLDTOWN LANDFILL EXPANSION	JOB NO. 03076.09	BORING NO. 402A	
DATE COMPLETED 6/27/04	DATE WELLS INSTALLED 6/29/04	DRILLING METHOD WASH - ROTARY	
GROUND SURFACE ELEVATION (FT) 147.5'	DRILLING CONTRACTOR MTB	LOGGED BY TCR / JES	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 2 OF 2	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% < 200	K cm/sec
60	12D	From Above... Gray Gravelly Sandy Clayey Silt. Trace of Cobbles. Trace of Clay	50-0.1'			
65	13D		60-0.1'			
70	14D	(BASALTIC)	100-0.4'		53%	9.6×10^{-4}
		1' Thick Boulder				
75	15D	Basal Till	100-0.3'			
	3R			63%		
80	4R			76%		
85	5R			10%		
	6R			60%		
90						
95	7R			56%		
100	8R			80%		
105	9R	106' B.O.E. Bedrock		92%		
110						

INSTRUMENT LOG



NOTES

5/90

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-402-B
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS

	CASING	SAMPLER	CORE BARREL	DATE	DATE
TYPE	HW		HQ	06/29/04 Start	06/29/04 Finish
SIZE I.D.	4"		2.5"	SURFACE ELEVATION	
HAMMER WT.	300#				
HAMMER FALL	16"				

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger												
"												
"												
"												
"												
"												
"												
"												
Spun												
Casing												
"												Same as MW-402-A
"												
"												
"												
"												
"												
Wash Ahead	1R	3.78"	1.0'	0.9'	18.0	90%						
"												
"												
"												
"												
											22.5	
												Bottom of Boring @ 22.5'
												Well Installed @ 22.0'

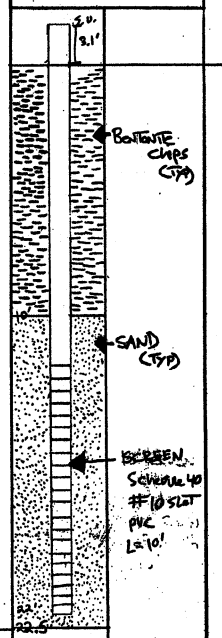
SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. MW-402-B

PROJECT WEST OLD TOWN LANDFILL EXPANSION	JOB NO. 03076.09	BORING NO. 402B
DATE COMPLETED 6/29/04	DATE WELLS INSTALLED 6/29/04	DRILLING METHOD WASH-ROTARY
GROUND SURFACE ELEVATION (FT) 149.8'	DRILLING CONTRACTOR MTB	LOGGED BY T. Riley
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	INSTRUMENT LOG	DEPTH (FT)
0		See LOG 402A for STRATIGRAPHY.		0
5				5
10				10
15				15
20		22.5' BASAL TILL		20
25		B.O.E.		25

NOTES

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 1 OF 2

HOLE NO. B-502

OF: SCHAEFER

PROJECT NAME: LANDFILL

LINE & STATION:

M T B JOB NUMBER: 92-28

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS

AT FT. AFTER HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	H/N/B	SS	NQ/BQ
SIZE I.D.	3/2/	1 3/8"	2:1 7/16
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 02/24/92

DATE FINIS: 02/27/92

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
AUGER											
"										2.5	BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL
"	1D	2"	24"		3.0	4	11	33	82	3.5	MOTTLED SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL
"	2D	2"	24"		5.0	25	32	45	45		
"	3D	2"	12"		6.0	37	90			6.0	OLIVE SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL
"											
"											
36											
62	4D	2"	24"		10.0	40	67	108	94		
26											
7	5D	2"	24"		12.0	58	58	97	90		
20	6D	2"	24"		15.0	53	57	55	120		
24											
26	7D	2"	24"		17.0	69	60	72	95		OLIVE SILTY FINE SAND W/SOME GRAVEL, LITTLE COARSE SAND COBBLES
29	8D	2"	12"		18.3	117	120				
31											
24											
24											
39	9D	2"	24"		22.0	35	37	31	52		
36	10D	2"	8"		22.7	74	100				
60	11D	2"	2"		24.4	100					
62										25.0	
48											
47	12D	2"	18"		27.0	70	90	130			BROWN FINE-MED SAND W/SOME COARSE SAND AND SILT, LITTLE GRAVEL
50										28.0	
77 -NW											
26	13D	2"	4"		30.5	115					
90											
SPIN	1R	3"	2.0'	0.5'	32.5	25%					
"											
"	14D	2"	12"		34.6	120	120				BROWN SILTY SANDY GRAVEL W/SOME COBBLES
"	15D	2"	4"		35.3	100					
"											
"											
"	2R	3"	2.0'	1.0'	38.0	50%					

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:

HOLE NO. B-502

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CO

SHEET 2 OF 2

HOLE NO. B-502

DRI: T. SCHAEFER

PROJECT NAME: LANDFILL

LINE & STATION:

M.T.B. JOB NUMBER: 92-28

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS

AT FT. AFTER HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	H/N/B	SS	NQ/BQ
SIZE I.D.	3/2/	1 3/8"	2:1 7/16
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 02/24/92

DATE FINIS: 02/27/92

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READINGS	DEPTH	STRATUM DESCRIPTION
19 -BW											
112											
115	16D	2"	8"		43.7	105	100			43.7	BROWN SILTY SANDY GRAVEL W/SOME COBBLES
110											
											ROCK
	3R	2 3/8"	5.3'	4.3'	50.8	81%				50.8	
											BOTTOM OF BORING @ 50.8'
											INSTALL WELL @ 42.6' & 11.3'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

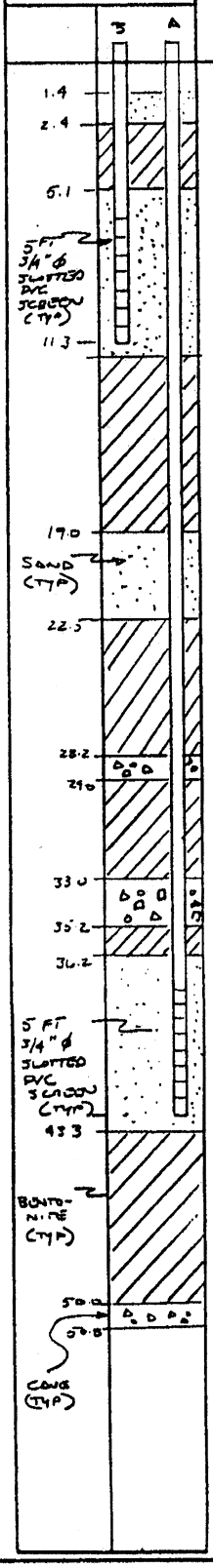
REMARKS:

HOLE NO. B-502

PROJECT West Old Town Landfill	JOB NO. 9000	BORING NO. B-5D	
DATE COMPLETED 02-27-92	DATE WELLS INSTALLED 02-27-92	DRILLING METHOD WASHED BORING	
GROUND SURFACE ELEVATION (FT) 208.4	DRILLING CONTRACTOR Maine Test Borings, Inc.	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 4" ID	ROCK CORE DIAMETER (IN.) 1.13" O.D.	SHEET ___ OF ___	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% RECOVERY @ 200	RQD %			DEPTH (FT)
0								0
5	1D	Brown Silty Gravelly Sand to Sandy Silt-Clay trace of cobbles	44					5
	2D		77					
	3D		90(0.5)				Kp = 0.10 ft/day	
10	4D		175					10
	5D		155					
	6D		112					
15	7D		131					15
		17.0						
	8D	... Becoming Greyish Brown Very Silty trace of clay (Basal Till)	120(0.5)					
20	9D		69					20
	10D		100(0.2)	52				
		21.0						
25			100(0.2)					25
	12D	Brown Silty Sand trace of gravel	220	17				
		28.0						
30	13D		* 40(0.3)					30
	1R	Brown Silty Sandy Gravel trace of cobbles (Washed Till)						
	14D		*40(0.5)	13				
35	15D		*25(0.3)					35
	2R							
40							Kf = 13 ft/day	40
	16D	43.7	+30(0.2)	27				
45		Bedrock						45
	3R				9			
50		50.8						50
		B.O.C.						
55								55

INSTRUMENT LOG



NOTES

* used 300 lb hammer 18" Drop

SEVEE & MAHER ENGINEERS

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CORP

SHEET 1 OF 2

HOLE NO. B-504

DF: T. SCHAEFER

PROJECT NAME: LANDFILL

LINE & STATION:

M.T.B. JOB NUMBER: 92-28

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS

AT FT. AFTER HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	BQ
SIZE I.D.	4"	1 3/8"	1 7/16"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 03/03/92 DATE FINIS: 03/06/92

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	WATER CONTENT %	DEPTH	STRATUM DESCRIPTION
AUGER											
"										2.0	BROWN SILTY FINE SAND, TRACE OF GRAVEL
"	1D	2"	24"		3.0	3	1	4	24	3.0	MOTTLED SILTY FINE SAND W/LITTLE GRAVEL
"	2D	2"	7"		3.6	65	100				
"											
"	3D	2"	12"		6.0	42	90				
"											
"											
107	4D	2"	8"		9.0	52	100				OLIVE SILTY FIEN SAND W/LITTLE GRAVEL AND COBBLES
68											
19	5D	2"	2"		11.2	100					
17^											
	6D	2"	7"		13.6	75	100				
33	7D	2"	10"		15.8	112	100				
80											
73	8D	2"	7"		17.4	105	60				
55										18.0	
67											
70											
84	9D	2"	24"		21.0	40	46	74	142		
75											
102	10D	2"	10"		23.0	23	50				GRAY FINE SANDY SILT W/SOME GRAVEL AND COBBLES, TRACE OF CLAY
77											
85	11D	2"	12"		25.0	32	47			25.5	
50	12D	2"	6"		26.5	50					GRAY/BROWN SILTY FINE SAND W/LITTLE COARSE SAND AND GRAVEL, TRACE OF COBBLES
60											
53	13D	2"	6"		28.5	65					
50										29.0	
60											
63											BROWN FINE-COARSE SAND W/LITTLE GRAVEL AND SILT, TRACE OF SANDY SILT LAYERS
56	14D	2"	24"		32.0	35	44	49	50		
62	15D	2"	12"		33.3	25	60			33.3	
108											
108										35.0	BROWN FINE-COARSE SAND W/LITTLE GRAVEL AND COBBLES AND SILT
50											
41	1R	(*	2.0	0.0'	37.0	0%					
12^	16D	2"	11"		36.9	35	100				BROWN SILTY SANDY GRAVEL W/SOME COBBLES
	17D	2"	2"		38.7	55					
	18D	2"	7"		40.0	48	50				

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

REMARKS:
USED HW 0-35.0' CHANGED TO NW 35.0-45.0'
CHANGED TO BW 45.0-49.6'

HOLE NO. B-504

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: JAMES RIVER CORP

SHEET 2 OF 2

HOLE NO. B-504

DRI: T. SCHAEFER

PROJECT NAME: LANDFILL

LINE & STATION:

M T B. JOB NUMBER: 92-28

LOCATION: OLD TOWN, MAINE

OFFSET:

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS

AT FT. AFTER HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	BQ
SIZE I.D.	4"	1 3/8"	1 7/16"
HAMMER WT.	300	140	
HAMMER FALL	16"	30"	

DATE START: 03/03/92 DATE FINISH: 03/06/92

SURFACE ELEVATION:

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	ELEV. DEPTH	STRATUM DESCRIPTION
93										
140										
139	19D	2"	6"		43.3	150				BROWN SILTY SANDY GRAVEL W/SOME COBBLES
200									44.8	
92										
103										
33										BROWN SILTY SANDY GRAVEL W/SOME COBBLES & BOULDERS
823	2R	(*	3.7	2.4'	48.5	65%				TRACE OF BROWN TILL
100										
155									50.0	
										ROCK
	3R	(*	4.1	3.9'	54.2	95%			54.2	
										BOTTOM OF BORING @ 54.2'
										INSTALL WELLS @ 48.0' & 23.3' & 10.0'

SAMPLES
- = SPLIT SPOON
- = 2" SHELBY TUBE
- = 3" SHELBY TUBE
- = 3½" SHELBY TUBE

SOIL CLASSIFIED BY:
- [XX] DRILLER-VISUALLY
- [ ] SOIL TECHNICIAN-VISUALLY
- [ ] LABORATORY TESTS

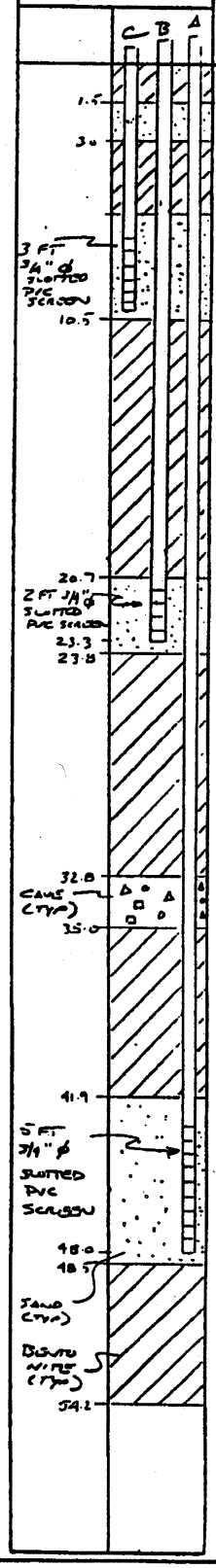
REMARKS:

HOLE NO. B-504

PROJECT West Old Town Landfill	JOB NO. 7006	BORING NO. 8504	
DATE COMPLETED 03.06.92	DATE WELLS INSTALLED 03.06.92	DRILLING METHOD Washed Boring	
GROUND SURFACE ELEVATION (FT) 212.8	DRILLING CONTRACTOR Maine Test Borings, Inc	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 4"	ROCK CORE DIAMETER (IN.) 1.43"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	% Passing # 200	RQD %		
	1D	Brown Silty Gravelly Sand Trace of Cobbles (Basal Till)	5				
	2D		100(0.1)				
5	3D		90(0.5)				
	4D		100(0.2)				
10	5D		100(0.2)				
	6D		100(0.1)				
15	7D		100(0.3)				
	8D	18.0	*60(0.1)				
20	9D	Gray Gravelly Sandy Silt Clay Trace of Cobbles & Clay (Basal Till)	120				
	10D		*50(0.3)				
25	11D	25.5	*47(0.5)				
	12D	Mixed w/ Brown Sandy Silt; (Basal Till) 27.5	*50(0.5)	58			
	13D	Brown Silty Gravelly Sand Trace of Cobbles (Washed Till) 29.0	*65(0.5)	33			
30	14D	... w/ Layers Silty Sand (0.02 to 0.15' thick).	*73	32			
	15D	33.3 (Washed Till)	*60(0.5)	12			
35	1R 16D	Brown Silty Gravelly Sand Trace of Cobbles (Washed Till)					
	17D		*18(0.2)				
40	18D		*50(0.3)	16			
	19D		150(0.5)	18			
45	2R	48.2					K_F=21 FT/DAY
		Brown Silty Gravelly Sand Trace of Cobbles (Basal Till) 50.1					
50	3R	Bedrock 54.2			85		
55		B.O.E					

INSTRUMENT LOG



NOTES

* 3" ϕ Spoon; 300 lb Hammer 18" Drop

PROJECT WEST OLD TOWN LANDFILL JOB NO. 90006 BORING NO. B505 (MW 302)

DATE COMPLETED 03.10.92	DATE WELLS INSTALLED 03.10.92	DRILLING METHOD HOLLOW STEM AUGER
GROUND SURFACE ELEVATION (FT) 206.1	DRILLING CONTRACTOR MAINE TEST BORING, INC.	LOGGED BY KPN
BOREHOLE DIAMETER (IN) 4" ID	ROCK CORE DIAMETER (IN) 3.875" OD (HQ)	SHEET ___ OF ___

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	REC %				INSTRUMENT LOG	DEPTH (FT)
0	1D	Brown Silty Gravelly Sand Trace of Cobbles	32						0
	2D		98					BENTONITE 2.0	5
	1R	BEDROCK		25				15.0 SAND	10
15	2R			95					15
	3R			95					20
20	4R			100				10 FT 2" Ø SLOTTED PVC SCREEN	25
	5R			82				29.8 29.3 30.4 ROCK CORE NOT RECOVERED	30
30		30.9 BOE							

NOTES

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Sevee & Maher Engineering, Inc.	SHEET 1 OF 1 HOLE NO. MW-304-A
DRILLER Tom Schaefer	PROJECT NAME West Old Town Landfill	LINE & STATION
M.T.B. JOB NUMBER 04-095	LOCATION Old Town, ME	OFFSET

GROUND WATER OBSERVATIONS
07/15/04 Water @ 25.4' Hole depth= 34.0'

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	HQ
SIZE I.D.	4"	1 3/8"	2.5"
HAMMER WT.	300#	140#	
HAMMER FALL	16"	30"	

DATE 07/14/04 Start — DATE 07/15/04 Finish

SURFACE ELEVATIO

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	VANE READING	DEPTH	STRATUM DESCRIPTION
Auger											0.2	Topsoil
"	1D	2"	24"		2.0	1	1	3	3			
"												
"											3.5	Brown Silty Fine Sand, w/Trace of Medium Sand, Gravel & Cobbles
"												
"	2D	2"	6"		5.5	75						
"												
"												Olive Silty F/M Sand, w/Little Gravel & Cobbles
12												
75												
6											10.5	
4	3D	2"	24"		11.5	27	35	45	45			
4												
5												Brown F/M Sand, w/Little Coarse Sand, w/Trace of Silt
12												
7											15.5	
5	4D	2"	24"		17.0	23	38	47	55			
6												
5												Brown Silty Fine Sand, w/Med-Coarse Sand & Clayey Silt Layers
8											19.5	
24	5D	2"	4"		20.3	50						
20											20.2	Brown Silty F/M Sand w/Little Coarse Sand w/Trace of Weathered Rock
14												
12											24.0	Weathered Rock
30												
	1R	3.78"	4.4'	4.1'	29.0	93%						
												Rock
	2R	3.78"	5.0'	4.7'	34.0	94%						
	3R	3.78"	3.0'	3.6'	37.0	120.%						
	4R	3.78"	3.0'	3.0'	40.0	100%					40.0	

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3½" SHELBY TUBE
R = ROCK CORE
V = VANE TEST

SOIL CLASSIFIED BY:
[XX] DRILLER-VISUALLY
[ ] SOIL TECHNICIAN-VISUALLY
[ ] LABORATORY TESTS

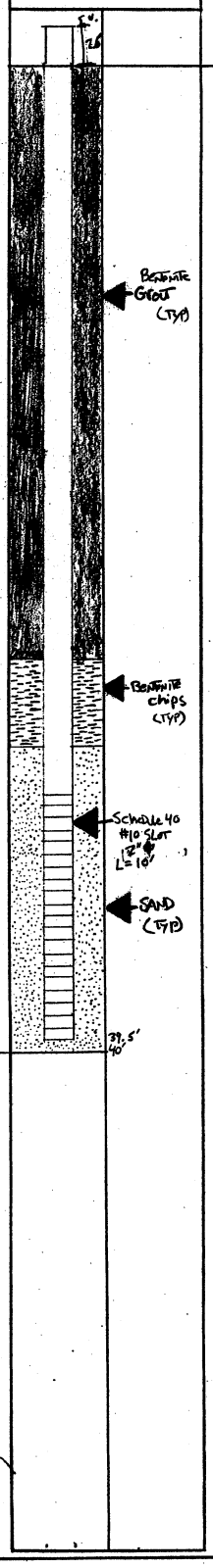
REMARKS:
Bottom of Boring @ 40.0';
Well Installed @ 39.5';
Washed ahead from 10.0' to 24.6';
Lost water while coring @ 33.0'

HOLE NO. MW-304-A

PROJECT West OldTown Landfill Expansion	JOB NO. 03876.09	BORING NO.	MW-304A
DATE COMPLETED 7/16/04	DATE WELLS INSTALLED 7/15/04	DRILLING METHOD	Wash-Rotary
GROUND SURFACE ELEVATION (FT) 214.71	DRILLING CONTRACTOR M.T.B.	LOGGED BY	T. Riley / JES
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET	1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Screen	Water Content (%)
0		0-0.2' Topsoil				
	1D	Brown SILT / Clay w/ A Trace of Medium Sand, Gravel and Cobbles	6			
		3.5'				
5	2D	Olive silt w/ Fine to Medium Sand w/ Little Gravel and Cobbles.	75/3.5'		57.7%	11.6%
10	3DA	10.5' (BASAL TILL)	61			
	3DB	Brown Fine to Medium Sand w/ Little Coarse Sand (SAND LENSE)	90			
15		15.5'				
	4D	Becoming ... VERY SILTY with clayey layers	102		21.7%	18.2%
		17.5' (BASAL TILL)				
20	5D	BROWN SILTY TO CLAYEY SAND	50/0.3'			
		24' (WASHED TILL)				
25	1R	GRAY PHYLLITE ... WX		100%		
30	2R			91%		
35	3R			61%		
40	4R	40' (Bedrock) B.O.E		97%		
45						
50						
55						
60						

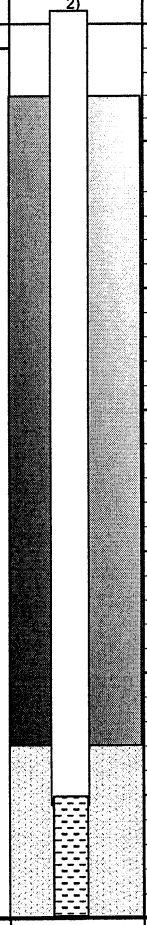
INSTRUMENT LOG



NOTES

SEVEE & MAHER ENGINEERS

PROJECT: A JRL Landfill, Old Town, ME		JOB NO.: 15093.00		**Boring ID: P-04-02R**
DATE STARTED: 07/09/2015	DATE FINISHED: 07/09/2015	DRILLING METHOD: 4-inch casing		
GROUND SURFACE ELEVATION:		DRILLING CONTRACTOR: NewEngland Boring Contractors		LOGGED BY: Tom S.
BOREHOLE DIA. (IN): 4-inches	ROCK CORE DIA. (IN): NA			SHEET 1 OF 1

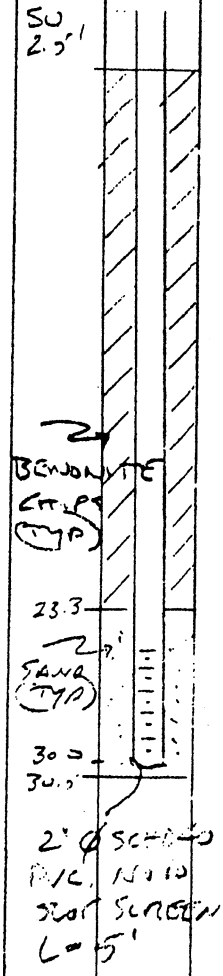
DEPTH (FT)	DRILLING DESCRIPTION	Notes	Piezometer Detail (See Note 2)	DEPTH (FT)
	This is a replacement of P-04-02. See P-04-02 for soil conditions. P-04-02R was installed adjacent to P-04-02. P-04-02 was abandoned, see Note 1.			3 28 30 35
5 10 15 20 25 30 35				
	BOTTOM OF BORING AT 35 feet			
40 45				

NOTES: Piezometer is located approximately 5 feet north of the original P-04-02 location.

2. Piezometer construction (completed 7/9/2015), bottom up: drilled to approximately 35 ft bgs; sand 35 to 28 ft bgs; bentonite chips 28 to 3 ft bgs; 2-inch diameter PVC screen 35 - 30 ft; 2-inch PVC riser pipe to 30 to 2.87 ft above ground surface. Water measured at 14.89 ft below the top of PVC on 7/15/2015.

PROJECT VERTICAL LANDFILL EXP	JOB NO. 03076	BORING NO. P0404	
DATE COMPLETED 03/03/04	DATE WELLS INSTALLED 03/03/04	DRILLING METHOD DRIVE - WASH	
GROUND SURFACE ELEVATION (FT) SEE PLAN	DRILLING CONTRACTOR ME. TEST	LOGGED BY KPN	
BOREHOLE DIAMETER (IN) 4 1/2 OD	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	PID ppm					INSTRUMENT LOG	DEPTH (FT)
0		BROWN SILTY GRAVELLY SAND TRACE OF COBBLES						SU 2.5'	0
5									5
10									10
14.0									
15		... BECOMING GRAY AND FINER						BENONITE CHIPS (TYP)	15
20									20
23.3									
25								SAND (TYP)	25
30		30.5						30.0 / 30.5	30
		B.O.E.						2" Ø SCH 40 PVC, NO 10 SLOT SCREEN L=5'	
35									35



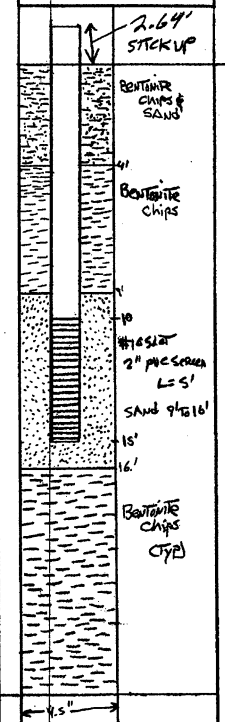
NOTES

VERY MINIMAL WASH WATER LOSS MUD TUB DOWN 1-3" AND WASH TUB AT SLANT ESTIMATE 10-15 GAL. MOSTLY BOREHOLE DISPLACEMENT

PROJECT West old Town Landfill	JOB NO. 04119.00	BORING NO. B-04-102 MW-04-102
DATE COMPLETED 12/29/04	DATE WELLS INSTALLED 12/29/04	DRILLING METHOD Auger + Rotary wash
GROUND SURFACE ELEVATION (FT) 167.68'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	DRILLER ~~SAMPLING~~	DRILLING No.			
0	0.5' 1D 2.5'	Brown silty fine sand w/ little coarse sand, gravel & cobbles	Auger	25			
5	5' 2D 6.2'			57-50/0.2'			
10	10' 3D 10.7'		Rotary wash	55-50/0.2'			
	13'	Gray fine sandy silt w/ coarse sand & gravel trace of clay					
15	15 4D 16.2'			50-50/0.2'			
	19'	Gray clayey sandy silt w/ coarse sand + gravel	Open hole				
20	20' 5D 22'			36			
	22.5 23'	Gray fine sandy silt w/ coarse sand + gravel trace of clay					
25	25 6D			64			
		BOE. 25'					

INSTRUMENT LOG



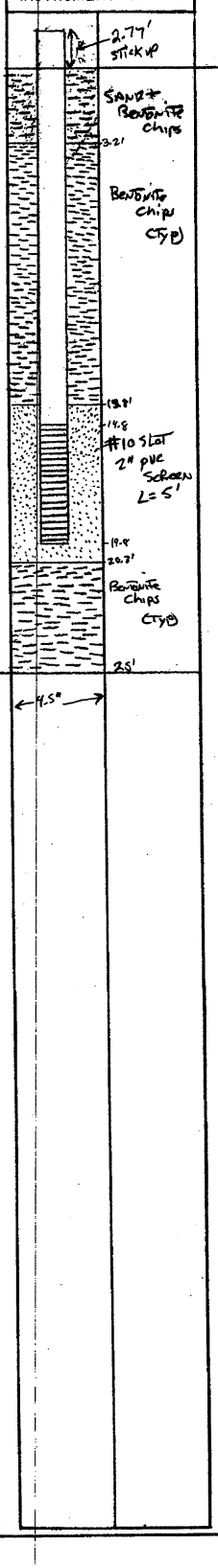
DEPTH (FT): 0, 5, 10, 15, 20, 25

NOTES

PROJECT West Old Town Landfill	JOB NO. 04/17.00	BORING NO. B-04-105	MW-04-105
DATE COMPLETED 12/21/04	DATE WELLS INSTALLED 12/21/04	DRILLING METHOD Auger + Rotary wash	
GROUND SURFACE ELEVATION (FT) 162.86'	DRILLING CONTRACTOR M.T.B.	LOGGED BY T. Riley	
BOREHOLE DIAMETER (IN) 4.5"	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	Drilling Sequence
0	1D	Brown silty fine to medium sand w/ little course sand + gravel	5	Auger
4.5'				
5	2D	Mottled clayie sandy silt	20	Rotary wash
8'				
10	3D	Brown fine to medium sand w/ little silt, course sand, and gravel, trace of cobbles.	42	
14'				
15	4D	Becoming - and a trace of silt.	90	
20	5D	20.3'	105-0.5'	Open Hole
		Olive clayie silt w/ fine to medium sand and some course sand, gravel and a trace of cobbles.		
25	6D	25' B.O.E	98	

INSTRUMENT LOG



DEPTH (FT)

NOTES

SEVEE & MAHER ENGINEERS

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION		JOB NO.: 18018.00		BORING NO.: OW-601 A
DATE STARTED: 3/15/2018	DATE FINISHED: 3/20/2018A		DRILLING METHOD: SPIN & WASH	
GROUND SURFACE ELEVATION (FT): 214.89		DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 2 (NQ)			SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)	WELL LOG	DEPTH (FT)
			35,28,18,19	15	A	
	1A	Brown fine sandy SILT				
5						5
	2A	5-6.2	33,73,50/.2	10		
10						10
	3A	Olive sandy SILT, little gravel	16,25,5,7	19.5		
15						15
	4A		22,25,27,36	5		
20						20
	5A	Gray sandy SILT, little gravel	12,30,50	21.5		
25		20-21.5				25
	6A	25-25.5	26	3		
		Granular dense silty sand (till) w/ areas of cobble and sand				
30	7A		26,25,19,50	13		30
35						35
	8A	35.5-36.4	44,50	5		
40						40
	9A	40-41.7	18,22,50	6		
45		Gray sandy SILT, with gravel				45
	10A		14,31,23,31	12.5		
50						50
	11A		25,31,38,19	16		
55	12A		21,37,13,13	12.5		55
		Refusal at 56.8 ft.				
60		Begin Rock Coring at 56.8 ft.				60
65						65
70						70
75						75
		BOB at 76.6 ft.				

NOTES: OW-601A --10 ft slotted screen set from 76.6 to 66.6 ft. TPVC elevation = 217.94

Water level on 4/4/2018.

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION		JOB NO.: 18018.00		BORING NO.: OW-601B
DATE STARTED: 3/29/2018	DATE FINISHED: 4/3/2018		DRILLING METHOD: SPIN & WASH	
GROUND SURFACE ELEVATION (FT): 214.5		DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 2 (NQ)			SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)	WELL LOG	DEPTH (FT)
			35,28,18,19	15	B	
	1A	Brown fine sandy SILT				
5						5
	2A	5-6.2	33,73,50/.2	10		
10						10
	3A	Olive sandy SILT, little gravel	16,25,5,7	19.5		
15						15
	4A		22,25,27,36	5		
20						20
	5A	Gray sandy SILT, little gravel	12,30,50	21.5		
25		20-21.5				25
	6A	25-25.5 Granular dense silty sand (till) w/ areas of cobble and sand	26	3		
30	7A		26,25,19,50	13		30
35						35
	8A	35.5-36.4	44,50	5		
40			18,22,50	6		40
	9A	40-41.7				
45		Gray sandy SILT, with gravel	14,31,23,31	12.5		45
	10A					
50						50
	11A		25,31,38,19	16		
55	12A		21,37,13,13	12.5		55
60		Refusal at 56.8 ft. BOB at 56.2 ft.				60

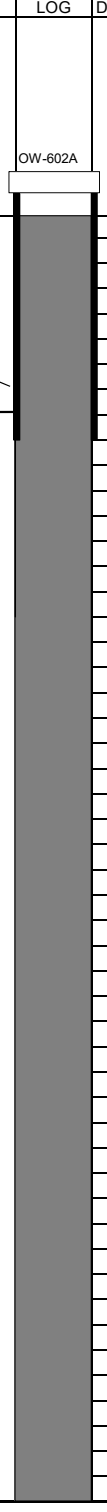
NOTES: OW-601B --10 ft slotted screen set from 56.2 to 46.2 ft. TPVC elevation = 217.5

Water level on 4/4/2018.

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **OW-602A**
DATE STARTED: 12/11/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 211.69 Site Datum	**TOP OF CASING ELEVATION (FT):** 213.17 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
25		increasing hardness…
50		light brown soft phyllite
75		increasing hardness…
100		Bedrock light brown soft phyllite at 105', 20 GPM
125		



NOTES:

Monitoring Point Elevation for OW-602A= 213.17 ft (top of DI casing)

Water level measured on 1/2/2018: 34.40 ft-below monitoring point, 178.77 ft

Water level measured on 1/11/2018: 34.55 ft-below monitoring point, 178.62 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **OW-602A**
DATE STARTED: 12/11/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 211.69 Site Datum	**TOP OF CASING ELEVATION (FT):** 213.17 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
125				125
		Fracture at 140, 100 GPM		
		Bedrock		
150				150
		160'-220', Gray/white phyllite		
175				175
200				200
225				225
		Bottom of boring at 240.0 ft After development flow = 100 gpm		
250				250

NOTES:

Monitoring Point Elevation for OW-602A= 213.17 ft (top of DI casing)

Water level measured on 1/2/2018: 34.40 ft-below monitoring point, 178.77 ft

Water level measured on 1/11/2018: 34.55 ft-below monitoring point, 178.62 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION	JOB NO.: 18018.00		BORING NO.: OW-603B
DATE STARTED: 3/21/2018	DATE FINISHED: 3/21/2018	DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT): 205.07	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): N/A		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
		Brown fine sandy SILT				B	
	1B		12,18,15,16	23			
5							5
	2B	Same as above	12,19,19,25	24			
10							10
	3B	Grayish brown and sandy SILT with cobble	20,20,22,32	19			
15							15
	4B	Grayish Brown, sandy SILT, trace of clay with cobble	22,34,38,32	17.5			
20							20
	5B	Granular dense silty sand (till) w/ areas of cobble and sand	17,27,30,49	15			
25		Weathered Bedrock 25-26.2					25
	6B		14,46,50	13			
30		Refusal at 26.2 ft. BOB at 26.2 ft.					30
35							35
40							40

NOTES: OW-603B --10 ft slotted screen set from 26.2 to 16.2 ft. TPVC elevation = 208.07

Water Level on 4/3/2018.

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION	JOB NO.: 18018.00		BORING NO.: OW-604A
DATE STARTED: 3/22/2018	DATE FINISHED: 3/27/2018	DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT): 195.8		DRILLING CONTRACTOR: N.E.B.C.	LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 2 (NQ)		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
		Brown fine sandy SILT				A	
	1D		29,25,41,38	19.5			
5							5
	2D	Olive sandy SILT	20,30,50	15.5			
		5-6.3 trace of gravel					
		Gray sandy SILT with gravel					
10		10-10.7					10
	3D		35,50	0.3			
		Refusal at 10.7 ft.					
		Began rock coring at 12.5 ft.					
15							15
20							20
25							25
30							30
		BOB at 32.5 ft.					
35							35
40							40

NOTES: OW-604A --10 ft slotted screen set from 32.5 to 22.5 ft. TPVC elevation = 198.8

Water level on 4/3/20118.

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO. OW-605A**
DATE STARTED: 12/12/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 184.71 Site Datum	**Top of Casing Elevation (FT):** 186.76 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders	OW-605A 6" Dia. Black Iron Steel Casing	0
30				30
60		Gray/White Phyllite Dirty fracture zone 83' 4 GPM		60
90				90
		Bedrock		
120				120
150				150

NOTES:

Monitoring Point Elevation for OW-605A = 186.76 ft-Site Datum (top of DI casing)

Water level measured on 1/02/2018: 25.5 ft-below monitoring point, 161.26 ft

Water level measured on 1/11/2018: 25.35 ft-below monitoring point, 161.41 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO. OW-605A**
DATE STARTED: 12/12/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 184.71 Site Datum	**Top of Casing Elevation (FT):** 186.76 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
150		100'-160', Gray/white phyllite		150
		Bedrock		
180		light brown soft phyllite		180
210				210
240				240
		Bottom of boring at 260.0 ft		
270				270
300				300

NOTES:

Monitoring Point Elevation for OW-605A = 186.76 ft-Site Datum (top of DI casing)

Water level measured on 1/02/2018: 25.5 ft-below monitoring point, 161.26 ft

Water level measured on 1/11/2018: 25.35 ft-below monitoring point, 161.41 ft

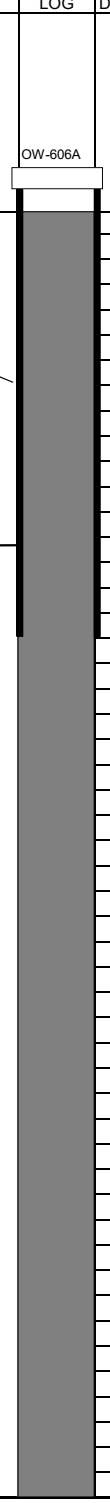
Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **OW-606A**
DATE STARTED: 12/14/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 156.98 Site Datum	**TOP OF CASING ELEVATION (FT):** 159.62 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
25		
50		light brown soft phyllite Fracture at 48', 4 GPM increasing hardness…
75		Gray/White Phyllite
100		Bedrock
125		



NOTES:

Monitoring Point Elevation for OW-606A= 159.62 ft (top of DI casing)

Water level measured on 1/2/2018: Flowing, 159.62+ ft

Water level measured on 1/11/2018: Flowing, 159.62+ ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **OW-606A**
DATE STARTED: 12/11/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 211.69 Site Datum	**TOP OF CASING ELEVATION (FT):** 213.17 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
125		Bedrock		125
150		light brown soft phyllite at 158', 40 GPM		150
175				175
200		Gray/White Phyllite		200
225		Bottom of boring at 240.0 ft After development flow = 100 gpm		225
250				250

NOTES:

Monitoring Point Elevation for OW-606A= 159.62 ft (top of DI casing)

Water level measured on 1/2/2018: Flowing, 159.62+ ft

Water level measured on 1/11/2018: Flowing, 159.62+ ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: OW-606B
DATE STARTED: 12/8/20	DATE FINISHED: 12/8/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	162.9	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: RNF
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 1

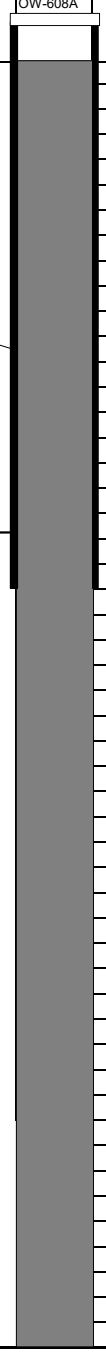
DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
					2" Schedule 40 PVC Riser	A	
					Bentonite Chips		
5							5
	1A	Silty sand with some small stone	7, 15, 17, 20	12			CONFIRM TOP OF SAN
					Top of Screen @ 7.0'	--	
10					2" Schedule 40 PVC Slotted Screen	--	10
	2A	Silty sand with some small stone	9, 15, 18, 22	20		--	
	3A	Bedrock at 12 ft. Rollacone Cuttings 12.2 ft - 13.7 ft			Bottom of Screen @ 12.7' Bottom of Boring @ 13.7'		
15					Sand		15

NOTES: 2" PVC Well
Augur refusal at 12.2'

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO. OW-608A**
DATE STARTED: 12/15/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 196.07 Site Datum	**Top of Casing Elevation (FT):** 196.61 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
30		
60		Gray/White Phyllite
		light brown soft phyllite
		Gray/White Phyllite
90		Bedrock
120		
150		light brown soft phyllite at 148', 100+ GPM



NOTES:

Monitoring Point Elevation for OW-608A = 196.61 ft-Site Datum (top of DI casing)

Water level measured on 1/02/2018: 33.5 ft-below monitoring point, 163.11 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: OW-607B
DATE STARTED: 11/13/20	DATE FINISHED: 11/16/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	172.2	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): N/A			SHEET 1 OF 1

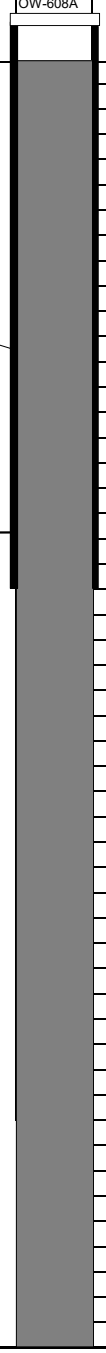
DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5						A	5
	1A	Brown sand, some organics, trace gravel	25, 40, 38, 36	18			
10							10
	2A	Light brown sand with silt, some gravel	24, 20, 17, 22	14.5	2" Schedule 40 PVC Riser		
15		Boulder					15
	3A	Light brown sand with silt, some gravel throughout	37, 55, 55, 47	18			
20							20
	4A	Light brown sand with silt, gravel in top 0.5'	16, 32, 30, 34	20			
25							25
	5A	Light brown sand with silt, some clay, trace gravel	6, 13, 21, 48	17.5			
30							30
	6A	Olive silty sand, some dark brown strains, trace gravel	32, 55, 50, 50 / 0.1	14			
35					Bentonite Chips		35
	7A	Olive silty sand, some gravel	45, 50 / 0.1	8			
40							40
	8A	Gravel with some olive silty sand	50 / 0.3	6.5	Top of Screen @ 41.0'		
45					Sand		45
	9A	Gravel with some olive silt, trace clay	50 / 0.3	7	2" Schedule 40 PVC Slotted Screen		
50							50
	10A	Gray silt with clay, some gravel	50 / 0.4	8.5	Bottom of Screen @ 51.0'		
		Bedrock at 53'			Bottom of Boring @ 53.0'		
55							55
60							60

NOTES: 2" PVC Well

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO. OW-608A**
DATE STARTED: 12/15/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 196.07 Site Datum	**Top of Casing Elevation (FT):** 196.61 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
30		
60		Gray/White Phyllite
		light brown soft phyllite
		Gray/White Phyllite
90		Bedrock
120		
150		light brown soft phyllite at 148', 100+ GPM



NOTES:

Monitoring Point Elevation for OW-608A = 196.61 ft-Site Datum (top of DI casing)

Water level measured on 1/02/2018: 33.5 ft-below monitoring point, 163.11 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO. OW-608A**
DATE STARTED: 12/15/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 196.07 Site Datum	**Top of Casing Elevation (FT):** 196.61 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
150		Bedrock		150
180		Gray/White Phyllite		180
210				210
240				240
		Bottom of boring at 260.0 ft		
270				270
300				300

NOTES:

Monitoring Point Elevation for OW-608A = 196.61 ft-Site Datum (top of DI casing)

Water level measured on 1/02/2018: 33.5 ft-below monitoring point, 163.11 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: OW-608B
DATE STARTED: 12/15/2020	DATE FINISHED: 12/16/2020	DRILLING METHOD:	Drive & Wash	
GROUND SURFACE ELEVATION (FT):	198.4	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: DPW
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): N/A			SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5						A	5
	1A	Brown/Olive Sand with some silt and organics	23	18			
10					2" Schedule 40 PVC Riser		10
	2A	Brown/Olive Sand, Silt, Some Stone	36	19			
15							15
	3A	Brown/Olive Sand Silt, Some Stone	42	21			
20							20
	4A	Brown/Olive Silt, Sand, and Stone	40	19			
25		NOTE: Sizeable Boulder at 24.9'					25
	5A	Brown/Olive Silt, Sand, More Sand then previous samples	46	23	Bentonite Chips		
30							30
	6A	Brown/Olive/Gray Sand, Silt, Clay, More prominent stone.	42	11.5			
35		NOTE: Sizeable Boulder at 32'			Top of Screen @ 33.5'		35
	7A	Olive/Green/Gray Sand, Silt, Clay, Some Stone.	44.5	25	Sand		
40					2" Schedule 40 PVC Slotted Screen		40
	8A	Olive/Green/Gray Sand, Silt, Clay, Some Stone.	36	9			
45					Bottom of Screen @ 43.5' Bottom of Boring @ 44.0'		45

NOTES: 2" PVC Well

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750			BORING NO.: OW-609B
DATE STARTED: 12/2/20	DATE FINISHED: 12/3/20		DRILLING METHOD: Drive & Wash		
GROUND SURFACE ELEVATION (FT):	209.9	DRILLING CONTRACTOR: N.E.B.C.			LOGGED BY: RNF
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)				SHEET 1 OF 1

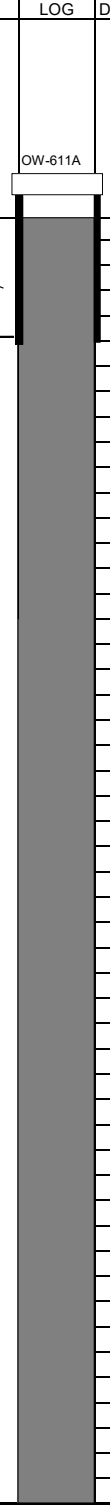
DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5						A	5
	1A	Silty sand, some moisture	7, 10, 17, 20	24			
10					2" Schedule 40 PVC Riser		10
	2A	Silt, sand, fragmented rock	16, 29, 24, 21	12			
15		Boulder					15
	3A	Silt, sand, some clay	10, 12, 12, 21	18			
20							20
	4A	Grey silty clay	7, 7, 7, 9	18			
25							25
	5A	Grey silty clay	11, 14, 15, 20	24			
30							30
	6A	Grey glacial till	18, 16, 27, 42	18			
35					Bentonite Chips		35
	7A	Grey glacial till	13, 19, 20, 31	24			
40					Top of Screen @ 39'	--	40
	8A	Grey glacial till	13, 50 / 0.1	7.2		--	
45					2" Schedule 40 PVC Slotted Screen	--	45
	9A	Grey glacial till, some stones	11, 18, 22, 28	24	Sand	--	
50					Bottom of Screen @ 49'	--	50
	10A	Weathered Rock	50, 50, 30, 50	3.6	Bottom of Boring @ 51'		
55							55

NOTES:

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **OW-611A**
DATE STARTED: 12/13/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 183.07 Site Datum	**TOP OF CASING ELEVATION (FT):** 185.15 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
25		Dirty fracture zone 28' 28 GPM
		Gray/White Phyllite
50		Bedrock
75		Dirty fracture zone 82' 88+ GPM
100		Gray/White Phyllite
125		



NOTES:

Monitoring Point Elevation for OW-611A= 185.15 ft (top of DI casing)

Water level measured on 1/2/2018: 9.7 ft-below monitoring point, 175.45 ft

Water level measured on 1/11/2018: 9.85 ft-below monitoring point, 175.3 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine		**JOB NO.:** 18018.00	**BORING NO.** **OW-611A**
DATE STARTED: 12/13/2017		**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 183.07 Site Datum	**TOP OF CASING ELEVATION (FT):** 185.15 Site Datum		**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"			**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
125		Bedrock		125
150		Gray/White Phyllite		150
175				175
200				200
		Bottom of boring at 220.0 ft		
225				225
250				250

NOTES:

Monitoring Point Elevation for OW-611A= 185.15 ft (top of DI casing)

Water level measured on 1/2/2018: 9.7 ft-below monitoring point, 175.45 ft

Water level measured on 1/11/2018: 9.85 ft-below monitoring point, 175.3 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION	JOB NO.: 18018.00		BORING NO.: MW-501
DATE STARTED: 3/27/2018	DATE FINISHED: 3/29/2018	DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT): 163.19	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 2 (NQ)		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
		Brown fine sandy SILT				A	
	1E		2,3,4,6	19			
5							5
	2E	Same as above	10,17,26,22	17			
		5-6.3					
		Becoming gray, silty sand with cobble					
10							10
	3E	10-10.7	27,27,21,24	0			
15							15
	4E	Gray, silty sand with cobble	10,14,49,38	14.5			
20							20
	5E	Gray silty sand with cobble	10,13,17,19	12.5			
		Refusal at 22 ft.					
		Began rock coring at 22.8 ft.					
25							25
30							30
35							35
40							40
45		BOB at 45 ft.					

NOTES: MW-501 --10 ft slotted screen set from 45 to 35 ft. TPVC elevation = 166.19

Well is flowing on 4/3/2018.

PROJECT: JUNIPER RIDGE LANDFILL CELL 12		JOB NO.: 19063.00		BORING NO.: MW-502
DATE STARTED: 10/24/2019	DATE FINISHED: 10/25/2019		DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT):		DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: PCM/RNF
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-Value (bpf)	Recovery (in.)		WELL LOG	DEPTH (FT)
	S-1	Gray/brown till with stones	23.5	6			
5							5
	S-2	Gray/brown find sand, till with stones. Water Level at 6.4 ft.	21.5	18			
	Hit large boulder at 8.4 ft; started coring at approx 8.8 ft and cored through boulder.						
10							10
	S-3	Gray/brown find sand, till with stones.	28	18			
		Refusal at 14 ft.					
15	Run 1	14' - 19'					15
20	Run 2	19--24'					20
25	Run 3	24'-29'					25
30	Run 4	29'-34'					30
35	Run 5	34'-39'					35
40	Run 6	39'-44'					40
45	Run 7	44'-48'					
50		BOB at 48 ft.					

NOTES: 5 ft slotted screen set from 38 to 43 ft.

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-503
DATE STARTED: 12/9/20	DATE FINISHED: 12/11/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	160.7	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: RNF
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 1

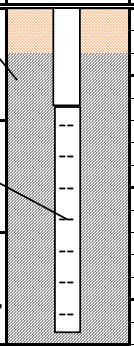
DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5	1A	Silty sand with some small stones, some moisture	9, 10, 18, 15	14			5
10	2A	Silty sand with some small stone	10, 22, 15, 17	15			10
15	3A	Silty sand with some small stone	12, 10, 11, 18	24			15
20							20
25							25
30	4A	Clay silt with some sand and small stones	26, 26, 28, 19	18			30
35					1" Schedule 40 PVC Riser		35
40	5A	Grey gravel	28, 32, 38, 55	12			40
45	6A	Clay silt with some sand and small stones	12, 14, 19, 24	14			45
50	Run 1	46 - 48'. Bedrock at 46'. RQD = 71%					50
55	Run 2	48' - 53'. RQD = 77%.			Bentonite Chips		55
60	Run 3	53' -58'. RQD = 87%			Bentonite Pellets		60
65	Run 4	58' - 63'. RQD = 48%			Top of Screen @ 60.0'		65
70	Run 5	63 - 65'. Bedrock at 46'; Saple did not meet soundess requirmetns and RQD not calcuated.			Sand		70
	Run 6	65' - 69'; RQD = 60%			1" Schedule 40 PVC Slotted Screen		
	Run 4	69' -72'. RQD = 94%			Bottom of Screen @ 70.0' Bottom of Boring @ 72.0'		

NOTES: 1" PVC Well

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-504
DATE STARTED: 11/9/20	DATE FINISHED: 11/12/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	172.6	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5						A	5
	1A	Silty sand with some gravel (<0.5"), some moisture	7, 10, 17, 20	24			
10							10
		Boulder					
	2A	Silt, sand, fragmented rock	25, 35, 59, 40	24			
15							15
	3A		21, 20, 30, 30	24			
20							20
	4A		14, 30, 47, 60	24			
25							25
	5A	Brown Sand with silt, trace gravel	17, 37, 33, 45	18.5			
30	6A	Brown Sand with silt, some gravel	38, 70	9			30
35							35
	7A	Brown Sand with silt, some gravel (~1")	50, 52	9.5			
40					1" Schedule 40 PVC Riser		40
	8A	Brown Sand with silt, some gravel	27, 50 / 0.3	9			
45		Boulder					45
	9A	Olive silt with sand, gravel, some clay	50 / 0.4	5			
50					Bentonite Chips		50
	10A	Olive silt with some sand, trace clay, trace gravel	50, 55 / 0.2	10			
55							55
	11A	Olive silt with trace sand, clay at tip	65, 50 / 0.2	11.25			
60	Run 1	57' - 62'; Bedrock at 57'; RQD = 100%		60	Bentonite Pellets		60
65	Run 2	62' - 67'; RQD = 100%.		60			65

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-504
DATE STARTED: 11/9/20	DATE FINISHED: 11/12/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	172.6	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 2

70	Run 3	67' - 72'; RQD = 95%.		57	Sand Top of Screen @ 71.5'		70
75	Run 4	72' - 77'; RQD = 92%.		60	1" Schedule 40 PVC Slotted Screen		75
80	Run 5	77' - 82'; RQD = 100%.			Bottom of Screen @ 81.5'		80
85					Bottom of Boring @ 82.0'		85

NOTES: 1" PVC Well

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-505
DATE STARTED: 11/18/20	DATE FINISHED:		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	197.0	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 2

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
						A	
5							5
	1A	Brown sand with silt and organics	20, 50 / 0.2	8.5			
10							10
	2A	Dark gray/olive sand with silt	22, 22, 23, 23	22.5			
15							15
	3A	Brown silty sand wth trace gravel	14, 18, 18, 34	18			
20							20
	4A	Brown silty sand with some gravel, trace clay	10, 11, 50 / 0.1	11			
25							25
	5A	Brown sand with some silt, trace gravel	12, 12, 15, 16	13			
30							30
	6A	Light brown silt with clay, trace gravel	19, 27, 50 / 0.4	11.5			
35					1" Schedule 40 PVC Riser		35
	7A	Olive silt with sand, some gravel	32, 57, 54, 50	16.5			
40							40
	8A	Brown silt with sand, some gravel	67, 50 / 0.3	8			
45							45
	9A	Brown silt with sand, some gravel	50 / 0.3	3			
50					Bentonite Chips		50
	10A	Gravel	50 / 0.2	3			
55							55
	11A	Gray silt with clay, trace gravel	75 / 0.4	7.5			
60	Run 1	58.5 - 63.5'. Bedrock 58.5 - 59.5', Silt 59.5' - 61', Bedrock 61'. Mechanical fracture at 61.75'		56.5			60
65	Run 2	63.5 - 68.5'. Mechanical fracture at 65.5'		54	Bentonite Pellets		65

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-505
DATE STARTED: 11/18/20	DATE FINISHED:		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	197.0	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 2

70	Run 3	68.5 - 73.5'		56.5	Top of Sand @ 69.5' Top of Screen @ 72.2'		70
75	Run 4	73.5 - 78.5'. Bedrock with natural fractures throughout		42	**Sand**		75
80	Run 5	78.5 - 83.0'. Bedrock with natural fractures throughout		60	**1" Schedule 40 PVC Slotted Screen** Bottom of Screen @ 82.2'		80
85					Bottom of Boring @ 82.5'		85

NOTES: 1" PVC Well

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-506
DATE STARTED: 12/3/20	DATE FINISHED: 12/7/20		DRILLING METHOD: Drive & Wash	
GROUND SURFACE ELEVATION (FT):	195.8	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: RNF
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): 3.88 (HQ)			SHEET 1 OF 1

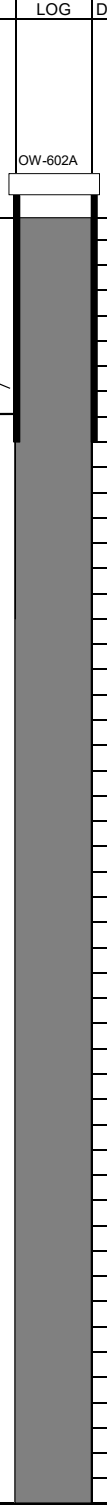
DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
5						A	5
	1A	Silty sand with some small stones, some moisture	7, 8, 8, 13	24			
10							10
		Cobbles					
	2A	Silty sand with some small stone	14, 23, 24, 50 / 0.2	20			
15							15
	3A	Clay silt with some sand and small stones	10, 12, 12, 18	24			
20					1" Schedule 40 PVC Riser		20
	4A	Clay silt with some sand and small stones	6, 8, 8, 12	24			
25							25
	5A	Clay silt with some sand and small stones	5, 5, 7, 10	24			
30							30
	6A	Clay silt with some sand and small stones	7, 15, 20, 32	24			
35		Boulder					35
	7A	Clay silt with some sand and small stones	19, 25, 31, 60	24			
40		Cobbles					40
	8A	Clay silt with some sand and small stones	20, 32, 36, 45	24			
45					Bentonite Chips		45
	9A	Clay silt with some sand and small stones	14, 25, 50 / 0.4	17			
50	Run 1	47 - 52'. Bedrock at 47'. RQD = 92%			Top of Screen @ 50.0'		50
55	Run 2	52 -57'. RQD = 98%			1" Schedule 40 PVC Slotted Screen		55
					Sand		
60	Run 3	57 - 62'. RQD = 92%			Bottom of Screen @ 60.0'		60
					Bottom of Boring @ 62.0'		
65							65

NOTES: 1" PVC Well

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **MW-507**
DATE STARTED: 12/13/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 174.72 Site Datum	**TOP OF CASING ELEVATION (FT):** 176.83 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 1 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION
0		Basal Till Brown, gravely, sandy silt, trace of cobbles and boulders
25		Dirty fracture zone 28' 30 GPM
50		light brown soft phyllite
75		Bedrock
100		Gray/White Phyllite
125		



NOTES:

Monitoring Point Elevation for MW-507= 176.83 ft (top of DI casing)

Water level measured on 1/2/2018: 3.8 ft-below monitoring point, 173.03 ft

Water level measured on 1/11/2018: 3.88 ft-below monitoring point, 172.95 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

WELL INSTALLATION LOG

PROJECT: Juniper Ridge Landfill, Old Town, Maine	**JOB NO.:** 18018.00	**BORING NO.** **MW-507**
DATE STARTED: 12/13/2017	**DRILLING METHOD:** Air Rotary w/ 6" dia. casing	
GROUND SURFACE ELEVATION (FT): 174.72 Site Datum	**TOP OF CASING ELEVATION (FT):** 176.83 Site Datum	**LOGGED BY:** Sevee & Maher
BOREHOLE DIA.: Soil 8.75", Rock 6"		**SHEET 2 OF 2**

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	WELL LOG	DEPTH (FT)
125		Bedrock		125
150		Gray/White Phyllite		150
175				175
200				200
		Bottom of boring at 220.0 ft		
225				225
250				250

NOTES:

Monitoring Point Elevation for MW-507= 176.83 ft (top of DI casing)

Water level measured on 1/2/2018: 3.8 ft-below monitoring point, 173.03 ft

Water level measured on 1/11/2018: 3.88 ft-below monitoring point, 172.95 ft

Soil Key

- Fill
- Marine Clay
- Submarine Sand & Gravel
- Ablation Till
- Basal Till
- Bedrock

PROJECT: JUNIPER RIDGE LANDFILL	JOB NO.:		BORING NO.: MW-508
DATE STARTED:	DATE FINISHED:	DRILLING METHOD:	
GROUND SURFACE ELEVATION (FT):	189.27	DRILLING CONTRACTOR:	LOGGED BY: PLM
BOREHOLE DIA. (IN): 2-inch	ROCK CORE DIA. (IN): N/A		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)	Top of PVC @ 192.03'	WELL LOG	DEPTH (FT)
10					2" Schedule 40 PVC Riser		10
20					Bentonite Chips		20
30					Top of Screen @163.25'		30
40					2" Schedule 40 PVC Slotted Screen Sand		40
50					Bottom of Screen @ 153.25'		50

PROJECT: JUNIPER RIDGE LANDFILL EXPANSION	JOB NO.: 18018.00		BORING NO.: OW-06-03
DATE STARTED: 3/22/2018	DATE FINISHED: 3/22/2018	DRILLING METHOD: DRIVE & WASH	
GROUND SURFACE ELEVATION (FT): 203.04	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY:NMT
BOREHOLE DIA. (IN): 4.5 (HW)	ROCK CORE DIA. (IN): N/A		SHEET 1 OF 1

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N-VALUE (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
		Brown fine sandy SILT				B	
	1C		2,2,6,10	14			
5							5
	2C	Gray sandy SILT trace of gravel	7,10,8,9	20			
10							10
	N/A		3,5,7,8	0			
15							15
	3C	Grayish brown silty sand with cobble	11,5,6,16	15			
20							20
	4C	20.5-22.5 Granular dense silty sand (till) w/ areas of cobble and sand	20,54,34,33	14.5			
25		BOB 23 ft.					25
30							30
35							35
40							40

NOTES: OW-06-03 --10 ft slotted screen set from 23 to 13 ft. TPVC elevation = 206.04

Water level on 4/3/2018.

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-08-01
DATE STARTED: 11/17/20	DATE FINISHED: 11/17/20		DRILLING METHOD: N/A	
GROUND SURFACE ELEVATION (FT):	173.1	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 6 (HW)	ROCK CORE DIA. (IN): N/A			SHEET 1 OF 3

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	BLOWS/ 0.5' (bpf)	RECOVERY (in.)		WELL LOG	DEPTH (FT)
10						A	10
20							20
30							30
40							40
50					**2" Schedule 40 PVC Riser**		50
60					**Bentonite Chips**		60
70							70
80					**Bentonite Pellets**		80
90							90
100							100
110							110
120					Top of Screen @ 117.0'		120
130					**2" Schedule 40 PVC Slotted Screen** Bottom of Screen @ 127.0'		130
					Sand		

PROJECT: JUNIPER RIDGE LANDFILL		JOB NO.: 20750		BORING NO.: MW-08-01
DATE STARTED: 11/17/20	DATE FINISHED: 11/17/20	DRILLING METHOD: N/A		
GROUND SURFACE ELEVATION (FT):	173.1	DRILLING CONTRACTOR: N.E.B.C.		LOGGED BY: BAM
BOREHOLE DIA. (IN): 6 (HW)	ROCK CORE DIA. (IN): N/A			SHEET 1 OF 3

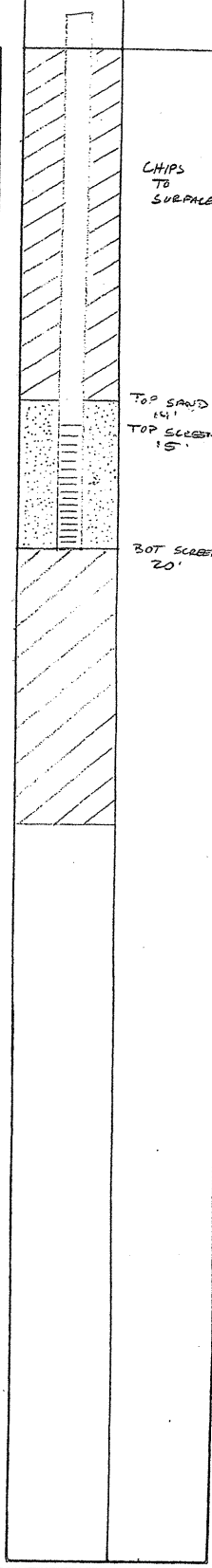
140							140
150							150
160							160
170							170
180							180
190							190
200							200
210							210
220							220
230							230
240							240
250							250
260					Bottom of Boring @ 259.7'		260
270							270

NOTES: 2" PVC Well, installed in existing PW-08-01

PROJECT JRL WGL REPLACEMENT	JOB NO.	BORING NO. MW09-901	
DATE COMPLETED 11-9-09	DATE WELLS INSTALLED 11-9-09	DRILLING METHOD	
GROUND SURFACE ELEVATION (FT)	DRILLING CONTRACTOR MTB	LOGGED BY PLM	
BOREHOLE DIAMETER (IN)	ROCK CORE DIAMETER (IN.) N/A	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	
		BROWN CLAY (SILTY) 0-10'	AUGER TO 5.0'
		BROWN TILL / COBBLES 10-20'	
		GREY TILL 20-25' NO SAND PRESENT	
		GREY TILL 25-31' NO SAND PRESENT	31'- SPOON REFUSAL

INSTRUMENT LOG



DEPTH (FT)

NOTES

Maine Geological Survey Water Well Database Information for PW-ADC	
Well Number	149803
Town	OLD TOWN
Address	LANDFILL PROPERTY - CASELLA
Drill Date	3/8/2024
Driller	CARMEL WELL DRILLING LLC
Well Use	INDUSTRIAL
Well Type	BEDROCK
Well Development	AIR/WATER
Hydrofracture	NO
Casing Lenth (ft)	65
Overburden Thickness (ft)	15
Well Depth (ft)	425
Yield Modifier	> (GREATER THAN)
Yield (gpm)	50
Yield Date	3/8/2024
Vien 1 Yield (gpm)	50
Replacement Well	NO
Geothermal Well	NO
Comment	GEOROCFOR SHOE - 6 INCH BOREHOLE
Location Method	DRILLER PROVIDED - OK
Latitude	44.98787
Longitude	-68.72671
Date Entered	3/19/2024
Date Edited	3/22/2024

APPENDIX E

BEDROCK CORE LOGS

SME
SEVEE & MAHER
ENGINEERS

BEDROCK CORE LOG

PROJECT West Old Town Landfill Expansion BORING NO. 304A PAGE 1 OF 2

JOB NO. 03076.09 DRILLER M.T.B.

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 24-37

AZIMUTH _____ INCLINATION _____ LOGGED BY T. Riley (NAME) 8/9/09 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
24		Bedrock 24'					
25							
26		40° stained		93%	100%	IR	
27							
28							
29							
30		30° Drillers Fracture Along A quartzite vein.					
31							

BEDROCK CORE LOG

PROJECT West Old Town Land Fill Expansion BORING NO. 304A PAGE 2 OF 2

JOB NO. 03076.09 DRILLER M.T.B.

CORE DIAMETER (IN.) 2.6" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 24-37

AZIMUTH _____ INCLINATION _____ LOGGED BY T. Riley (NAME) 8/9/04 (DATE)

BREAKS IN CORE

- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
31	85° - STAINED					
32			94%	91%	2R	
33	50°					
34						
35			120%	61	3R	
36	60° - STAINED					
	STAINED CHIPS.					
37						
38						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. 304A PAGE 1 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH _____ INCLINATION _____ LOGGED BY M. Scully / BS (NAME) 1/3/05 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
24						24'-40' TD - Bedrock - see below R1-R3 Box is missing.
26						FROM FIELD LOGS: R1-R3 CONSISTS OF GRAY PHYLLITE ALSO SEE T. RILEY LOGS
28						
30						
32						
34						
36						
38	60°- Weathered w. Qtz-Ca vein	70°-85°	97%	9[illegible]	R4	Greenish to bluish gray weathered phyllite w. thin Qtz-Ca veins + occassional pyrite grains.

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. 304A PAGE 2 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 1/3/05 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
36		70°-85°	97%	97	R4	
40	70° D					40': TD

BEDROCK CORE LOG

PROJECT West Old Town BORING NO. P-04-06 PAGE 1 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) _____ DEPTH (FT) 28.5-44.4'
INTERVAL INTERVAL

AZIMUTH - INCLINATION 90 LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING SL - SLIGHT MOD - MODERATE SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
28	Rollerreamed - no recovery	-	0	0		28.5 - Top of Bedrock. Recovery begins at 29.7'
30	15° 30.3-32.3': Rock is Rubbly due to several fractures - 2 sets 1 fx set at 5-15° 1 fx set at 50-60° FeOx + Mn staining	80° -90°	100	20	R1	29.7 - 36.5': Medium to dark greenish gray medium-grained meta-graywacke. - Rock is hard and competent - moderate weathing on fracture surfaces to FeOx, MnO + clays - occassional thin white Qtz+Ca veins throughout
32	10° - stained					
34	- Broken zone 5° stained 50 - stn					34-38.5': Contact at ~ 85° sharp contact surface
36	Rock contact at 85° D	85°	94	100?	R2	36.5 laminated black and medium to dark gray siltstone/graywacke - lighter thin laminae show cross-bedding - occassional disseminated Py
38	D					
40	D 5° D 5° - stained	85-90°	100	100	R3	$n_{TOT} = 0.0013$
42						

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-06 PAGE 2 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
42	5° D	85° 90°	100	100	R3	
44						
46						

BEDROCK CORE LOG

PROJECT West old Town Land Fill — BORING NO. P-04-07 — PAGE 1 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" — ELEVATION (FT) INTERVAL _____ — DEPTH (FT) INTERVAL 4.8-107.5'

AZIMUTH — — INCLINATION 90° — LOGGED BY M. Scully (NAME) — 12/30/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED-WEATHERING — SL - SLIGHT, MOD - MODERATE, SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	ROD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
4						4.8' - Top of Bedrock
6	Rollerconed No recovery	-	0	-	X	Rollerconed to 7.0' no recovery
8	2° D	88° -90°	100	100	R1	7'-25.5': Rock is interbedded dark gray to black sulfidic, carbonaceous shale/phyllite and light to medium gray siltstone. - weathered fracture surfaces have abundant FeOx staining. - Black phyllite beds occassionally have abundant disseminated pyrite. - Bedding is nearly vertical
10	D					
12						
14	10° w. FeOx stain	88° -90°	100	100	R2	
16	D No stain					
18	10° w. FeOx stain 20° " "	80 -90°	100	88		17'-23': several thin white quartz-Ca veinlets, weathered fractures have small cavities due to dissolution of calcite.

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. B-04-07 PAGE 2 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
18							
		35° D	80°			R3	
20		40° D	-90°	100	88		
		15° D					
22		50° - stained					
		5° "					
		50° "					
→		20° - Rubbly core - stained	80°				23.3-23.7': Fracture zone - rubbly + FeOx - stained core.
24			-90°	96		R4	24.1-25.2': "
→		Rubbly core - stained w. FeOx			20		
		20° FeOx					
26		20° D					25.5' Rock shows abrupt change to medium gray, fine to medium grained meta-graywacke
		D					- rock is generally hard and competent
28							- whitish Qtz+Ca veins are common at various angles.
		40° D		100	100	R5	
30							
		10° D					
		D					
32							31.8-32.2': Qtz-Ca vein

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-07 PAGE 3 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
32	D					Same
	20° stained	80°				
34	10° weathered	-90°	98	86	R6	
	Rubbly - weathered					
	70° - on contact					35.3': Thin layer of black phyllite at ~ 80°
36	D					
						37'-40': several thin, whitish Qtz-Ca veins.
38		80°				
		-90°	100		R7	
	5° D			100		
40	D					
42	75° - FeOx stained					
		85°				
	5° D	-90°	100	93	R8	
44	D					
	25° - FeOx stained					
46						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-07 PAGE 4 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 12/30/04

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING SL - SLIGHT MOD - MODERATE SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	ROD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
46						Same
	15° D	85°				
	5° 50° clean	-90°				
48			100	87	R9	
	5° D					
	D - clean					
50						
		80°				
52		-90°	100	90	R10	
	20° D					
	20° FeOx stain					
54	Rubbly - weathered to reddish-brown					54.2' - 55.3': Rock is rubbly and bleached to a medium reddish brown.
	"					
56	10°	85°				
		-90°	81	67	R11	
	5° w. FeOx Stain					
58	- Rubble - D					
		85°				
	22°	-90°				
60	40° > w. FeOx Stain					

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-07 PAGE 5 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
60	0° 20° staining	85° -90°	96	82	R12	60'- Rock begins to show a fragmental texture + has some layers and lenses of black phyllite.
62	D					
64	70° FeOx stain.	80° -90°	98	100	R13	
66	5° - FeOx. D					
68	D					
70	85° D	80° -90°	102	100	R14	
72	D 20° D					
74						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-07 PAGE 6 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 12/30/04

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
74						same
	5° stained, Rubbly	85°				
76	70° FeOx	-90°	96	75	R15	n_{TOT} = 0.00057
	10° FeOx					
	D					
	D					
78	15° D					
	50° stained					
	25° "					
80		85°	98	78	R16	
		-90°				
	5° FeOx					
82						
	D?					
	5° D					
84						
	10° D					
		85°		96%		
		-90°	100		R17	
86						
88						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-07 PAGE 7 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
88							Schist
		20° D					
90			85° 90°	100	100	R18	
		30° D					
		20° D					
92		D					
94			85° 90°	100	100	R19	
96		D					
98			85° 90°	100	100	R20	
100		15° D					
102							

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-07 PAGE 8 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/30/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING; SL - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
102	75° - on Qtz-Ca vein					same
		85°				
104		90°	95	100	R21	
106	20° D					
108						107.5': TD

BEDROCK CORE LOG

PROJECT West Old Town Landfill — BORING NO. P-04-09 — PAGE 1 OF 1

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" — ELEVATION (FT) INTERVAL _____ — DEPTH (FT) INTERVAL 31.6-45'

AZIMUTH — — INCLINATION 90° — LOGGED BY M. Scully (NAME) — 1/3/05 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING; SL - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
31		—	0	0		31.6': Top of Bedrock - rolled core no recovery to 32'.
	80° - minor FeOx					32'-40': Interbedded black sulfidic phyllite & med. gray siltstone/graywacke - same as P-04-10.
	80° " "	75°				
33	80° " "	-80°	94	50	R1	
	D					- thin Qtz-Ca veinlets common.
	75° w. FeOx					
35	D w. minor FeOx					
	5°	70°				
37		-75°	100	50	R2	n_{TOT} = 0.00099
	80° - w FeOx + silt					
	70° D					
39	75° w. FeOx					
	75° w. FeOx					40': Rock changes to med. gray massive-bedded, fine grained meta-graywacke. as P-04-07
41		65-75°	100	100	R3	
43	25° D - on Qtz vein					
	20° D					
45						45': End of Core: TD?

5/90

SEVEE & MAHER ENGINEERS

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-10 PAGE 1 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 9.7-35'

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 1/3/05 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
9						9.7': Top of Bedrock - roller cone. no recovery to 10.7'.
11	80° D					10.7'-15': Interbedded black sulfidic phyllite + med. gray siltstone + graywacke. - several white Qtz-Ca veins
-7	-85° stained	70° -85°				
13	70° D		100	80	R1	
15	D D					15'-29.7': Rock changes to med gray, massive-bedded, fine gr. graywacke. - as P-04-07
17						
	5° D	80° -90°	100	94	R2	
19	5° Fe ox 5° 5° 15° D D					
21		75° -85°	100	100	R3	22.2' 1" white Qtz+Ca vein at 60°
23						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-10 PAGE 2 OF 2

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH _____ INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 1/3/05

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE	D CORE BROKEN BY DRILLER
CHIPS, CAVITY, LOST CORE	
MEASURED HIGH-ANGLE JOINT (JT = JOINT)	M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
23	~20° D	75° -85°	100	100	R3	same
25	D					
27	50° D	70° -85°	100	94?	R4	
29	- D - lost					- 29.7': similar to 10.7'-15'
31	0° - stained + weathered --> 50° Fe Ox 40° - on qtz-ca vein	70° -85°	100	94	R5	n_{TOT} = 0.0051
33	D					
35	- Minor Fe Ox					35': TD

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 1 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 20.2-122'

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 1/4/05 (DATE)

BREAKS IN CORE

- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
20		-	0	-	X	20.2' Bedrock - no recovery to 21'
22	45° D	80° -85°	100	100	R2	Rock is interbedded dark gray to black phyllite & light to medium gray, fine grained meta-siltstone (calcareous) that shows graded & cross bedding & minor folding. - Whitish Qtz + Ca veins are common & abundant in some places
24	80° D, 40° D Bedding	80° -90°	100	96	R3	
26	25° D					
28	70° D - bedding 20° FeOx stain					
30	65° FeOx stain 70° " " -65° " "	50° -85°	66	68	R4	
32						
34	45° FeOx 60° FeOx	20° -90°	97	73	R5	

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 2 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 1/4/05 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE / CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
34	50° FeOx 60° "	20° 90°	97	73	R5	Same
36	35° D 50° 60° D - bedding	15°				
38	60° D " 10° 45° > w. FeOx Stain 60° - D	-85°	100	93	R6	n_{TOT} = 0.0029
40	D 50° D					
42	D 50° D - bedding	60° -90°	100	100	R7	
44	D					
46	60° w. FeOx 20° " " D 30° w. FeOx 30° - D	20° -80°	96	72	R8	
48	50° - D					

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 3 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 1/4/05 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	ROD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
48	40° D					same
		20°				
	70° D	-80°	96	72	R8	
50	D					
	D					
52		75				
	70° - FeOx stained + weathered	-90°	98	94	R9	
54						
	80° D - bedding					
	D					
56						
		45°				
	80° w. FeOx stain n bedding	-80°	100	82	R10	
58						
	60° - v. FeOx					
	50° D - bedding					
60						60-63': Possible Fault zone. Rubbly core w. abund. Qtz-Ca veins + FeOx staining.
→	Rubbly core w. FeOx staining.					
	61.3-62.5': abund. Qtz veining w. FeOx stain		79	25	R11	- Rock change below to non-calcareous S.g. siltstone w. minor black phyllite.
62						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 4 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 1/4/05

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
62	D	Rubbly core w. some FeOx stain		80	0	R12	Same
64	20° D		70° -90°	103	100	R13	64.5-66.5': Abund. Qtz-Ca veins
	40° D						
66	50° D						
	D						
68	D		70° -90°	96	100	R14	
	10° D - Qtz vein						
70	60° D						
	60° D						
	30° D						
72	50° D						72.5-73': Abund. Qtz-Ca. veins
	D		70° -85°	104	100	R15	
74	50° D						
76							

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. R-04-12 PAGE 5 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 1/4/05 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE / CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
76					R15	Some
78						
80		70° -85°	100	100	R16	
82	50° D; 40° D " "; 30° D					
84	50° D	70 -85°	100	100	R17	
86	15° - Qtz-Ca vein; 20° D					
88	D		100		R18	
90	10° D					

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 6 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 1/4/05

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
90						Same
	50° D	70°				
	10° D	-90°	100		R18	
92				100		
	D					
	30° D					
94		70°				
		-				
		90°	100	100	R19	
96						
	20° D					
	30° D - on Qtz-Ca vein					
98						
	10° D					99-102': Abund. Qtz-Ca veins
	40° D	75°				
100	40° D					
		-90°	100		R20	
				100		
	D					
102	10° D					
	20° D on Qtz-Ca vein					
104						

BEDROCK CORE LOG

PROJECT West Old Town Lands, II BORING NO. P-04-12 PAGE 7 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully (NAME) 1/4/05 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
104	15° D	75° -90°	100	100	R21	SAME
106	20° D " " 30° D					
108	D	75° -90°	100	100	R22	
110	20° D					
112						
114	10° D 10° D	75° -90°	100	100	R23	
116	30° D 20° D					
118						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-12 PAGE 8 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 1/4/05

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
118						Schist
		75°				
		90°	100	100	R24	-
120						
	70° D					
	20° JT					
122						122': TD

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-13 PAGE 1 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 128.3

AZIMUTH — INCLINATION 90° LOGGED BY M.V. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
26			0			27.2' Top of Bedrock
28	5° D	55°-75°	100	100		Rock is medium gray, fine to medium grained, massively-bedded, calcareous meta-graywacke. Rock is generally hard + competent and thin whitish qtz-ca veins are common.
30	D					30'-32.5' - Abund. Qtz-Ca veins.
32		65°-85°	100	96		
34						
36	35° - on Qtz Ca vein					
38		50°-65°	100	100		
40						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 2 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) (DATE) 12/28/04

BREAKS IN CORE

- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
40	60° D - on Qtz vein					Same
	0° D	60-75°	100	100		
42	D					
44	D					
46	5° D	45-65°	100	100		
48	20° D	60-75°	100	100		
50	20° D					
52	D					
	D					
54						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 3 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
54						Same 54.7' - ¼" Qtz vein at 45°
	20° D, along Qtz-Ca Vn.	65-85°	100	100		55.5' - 1" Qtz vein at 40°
56	40° D					56.8' - ½" Qtz+Ca Vein at 50°
58						58.2' - ½" Qtz+Ca vn at 35°
	15° D 10° D	70-85°	100	93		58.8' - Qtz-Ca vn 50° 59.5 - Qtz-Ca vn - 45°
60	20° w. minor FeOx + open space					
62						
	30° D on vein	70-85°	98	88		
64	10° micro stringers					n_{TOT} = 0.00051
	75° w. trace FeOx 15° w. FeOx staining					
66	D					
68						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 4 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) _____ DEPTH (FT) _____
INTERVAL INTERVAL

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
68						same
	15° · Minor FeOx Stn.	75				
	25°	-90°	100	98		
70						
72		75				
		-90°	100	97		
74						
	15° minor staining					
	25° - on vein					
76						
						-76.4' - 3/4" Qtz-Ca vein at 30°
	35° - in Qtz-Ca vein					-77.3' - 1/2" Qtz-Ca vein ~ 35°
78		65-				
	10° D - in Qtz-Ca vein	80°	100	91		-78.1' - 1" Qtz-Ca vein ~ 25°
	30° D " " "					78.3' - 1/2" " " " 35°
	30° D					78.6' 1/2" " " " 45°
80						
	10° Trace Stain					
	20° - w. FeOx Stain					
	20° - along Qtz-Ca vein					80.9' 1/2" Qtz-Ca vein ~ 20°
82						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 5 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED-WEATHERING; SL. - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
82						same
	5° D					-82.5'. 1/2" Qtz-Ca veiy ~ 30°
	50° Minor FeOx	55-65°	92	77		
84	10° 60° " "					
	10° D					
	30° - Minor FeOx Stain					85.4' 3/4" Qtz-Ca vein ~ 15°
	35° " " "					
86	D					
	D					
	0-10° D					
	"					
88	"	50-60°	86			
	25° - D			80		
	10° D					
90	10°					90-93': Rock shows change to more shaley composition - i.e. - becomes finer-grained and slightly more fissile. Bedding laminations are more obvious. - medium greenish gray color.
→	45-55° - Rubbly core w. minor FeOx stain					
92		55°	100	94		
	55° w. minor FeOx // to bedding					
	D					
94		55°	100	92		
	10° - on thin Qtz vein					
96						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 6 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE	D CORE BROKEN BY DRILLER
CHIPS, CAVITY, LOST CORE	
MEASURED HIGH-ANGLE JOINT (JT = JOINT)	M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
96						same
	10°. on Qtz-Ca vein	55°				
98	D					
	D					
	20° weathered calcite vein					
	10°					
→ 100	70° – w. FeOx stain	50-60°	98			
	10-20° Rubbly core w. minor FeOx Stain			50		
→	10° D					
102	15°					
→	10°					
	10° - minor FeOx					
	60°					
104						
	60° D - Bedding	50-60°	104	100		
106	40° D					
	10° Fx. staining					
	70° D					
108	D					
	D					
	20° D	50-60°				
110						

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-13 PAGE 7 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
110	50° D - Bedding					Same
		50-60°	98			111' - TD: Rock gradually becomes less shaley again - returning to original texture of wacke.
112				100		
	70° D					
	D 50°					
114						
		55-60°	100	100		
116	D					
118						118.1' - small Qtz-ca vein ~25°
120		50-60°	100	100		
122						
	70° D					
124						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-13 PAGE 8 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/28/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
124	D					$n_{tot} = 0.000099$
126	75° w. minor Fe Ox stain		100	100		
128						128.3' TD
130						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-14 PAGE 1 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully / JES (NAME) 12/21/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
0						0.6': Top of Bedrock
			0		X	
2	45° D					Rock is primarily medium gray, fine to medium grained, massively bedded meta-graywacke,
	30° D					- bedding laminations are visible in places.
4	55° w. minor FeOx stain.		100	95		- rock is commonly calcareous & whitish Qtz+Ca veinlets are common.
	20° D					
6	85°					- rock is generally hard & competent.
	10° - minor FeOx stain					
	45°					
8	45, 35 } multiple fractures w. minor FeOx					
	60° Break along thin Qtz-Ca vein.		100	70		
10	60° D					
	35° w minor FeOx					
	10° D					
	30° - Qtz Vein.					
12	D 20°					
	10° - w. Qtz vein + FeOx		100	74		13.25' - 0.6" Qtz-Ca vein at 10°
14						

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-14 PAGE 2 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully / JSB (NAME) 12/21/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
14	55° w. minor FeOx 70° " " 15° - Rubbly w. FeOx stn + gouge? 60° w. FeOx stain D		100	74		14.0-14.3' - irregular qtz-ca veining. 13.25-29.0': abundant qtz-ca masses + broken veinlets throughout rock. n_{TOT} = 0.0013 same rock type
16						
18	15° w. FeOx		100	80		
20	10° D					
22	50 w minor FeOx.					
24	D		100	98		
26	5° D - along qtz vein					
28	60° D along qtz vein.		100			

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-14 PAGE 3 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully, JBS (NAME) 12/21/04 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
28						same
	15° D		100			
30				100		
	20° D					
	20° D along qtz vein					
32						
			100	100		
34						
36						
	30° D? along qtz vein					
	D					
38	D					
	36.3 - 42.3' - ~ vertical fracture.		100			
40				100		
42						

BEDROCK CORE LOG

PROJECT West Old Town Land Fill BORING NO. P-04-14 PAGE 4 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully / JS (NAME) 12/21/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
42	20° D					Same
		75° -90°	100	100		
44						
46	10° D					46'-74': Abundant qtz+ca veining in this section. Veins range from <1mm to ~2" thick - Some veins have FeOx staining + cavities due to dissolution of Calcite
	15° w. FeOx Qtz. Vn w FeOx					
48		60° -80°	100	96		
	15° Rubbly w. minor FeOx					
50	10° D					
	20° minor FeOx					
-->	- dissolved Ca vein + FeOx					
	10° minor FeOx					
52	D					
	D					
		75° -90°	100	70		
54	30° along qtz vein					54.7-56.1': several white qtz+ca veins, ~.5-2" thick, 0-10-20° Several breaks in core associated with veins.
	10° - w FeOx					
	25° - qtz vein					
	10-20° - in qtz veins					
56	D					

BEDROCK CORE LOG

PROJECT West old Town Landfill BORING NO. P-04-14 PAGE 5 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (JBS) 12/21/84 (NAME) (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED-WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
56	D					same
	D					$n_{TOT} = 0.014$
-->	10° Rubbly core with FeOx staining					
58		60° - 90°	98%	83		
→	20-25° - Rubbly core w. abund. FeOx stain. + some Ca dissolution in veins					
60	20° D					
	D					
	D					
-->	20°					61.5-67': Rock has abundant whitish lenses or fragments of Qtz in matrix
62	20° > some FeOx stain	80° - 90°	100+	90		
64						
66	20°	80° - 90°	100	94		
	20° minor FeOx					
	D					
	D					
68						
			100	100		
70						

BEDROCK CORE LOG

PROJECT: West Old Town Land Fill BORING NO. B-04-14 PAGE 6 OF 9

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH – INCLINATION 90° LOGGED BY M. Scully / JES (NAME) 12/21/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
70						same
		75°-85°	100	100		
72	20° D					
74	30° D					
		75°-90°	100	90		
76	30° D					
78	Rubbly core - D? No staining					
80		75°-85°	96	100		
82	40° D + on Qtz vein					
	D					
84	D					

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. P-04-14 PAGE 7 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully / JBS (NAME) 12-21-04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
84						84.8-86.3': Abund. Qtz veining + Ca.
	50° D	80°				
86	20° D - Qtz vein	-90°	100	100		Same rock type
88						
90						
	30° D - on Qtz vein	80° -90°	98	98		
92	D					
	Rubbly - D?					
94	~85° - along bedding?					
		80°				
96		-90°	100	80		
	D					
98	D					

BEDROCK CORE LOG

PROJECT West Old Town Lands, II BORING NO. P-04-14 PAGE 8 OF 8

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully / JTS (NAME) 12/21/04 (DATE)

BREAKS IN CORE

- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
98	~10° D					same
	D					
100	TD					
	D	75°				
	100.7 - 103.8' - Rock is broken in several places due to being drilled-over by drillers - mislatch.	-90°	95%	100%		
102						
104						103.8' - TD

BEDROCK CORE LOG

PROJECT WOTL Expansion BORING NO. OW-0605 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER MTB (Darrel McKeon)

CORE DIAMETER (IN.) 2.5" (H-Core) ELEVATION (FT) INTERVAL ____ DEPTH (FT) INTERVAL ____

AZIMUTH ____ INCLINATION ____ LOGGED BY JAB (NAME) 3-27-05 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
23							
23.2	D?						
		No Natural Fractures (All Drilled/ mechanical)		100	94	R-1	Gray Silt Stone w/ Quartz Seams
25	D						
	D						
27							
	D						
28.4							
29	85°						
	10°						
	D	Moderatly Fractured Vertically & Horizontally		98	88	R-2	Gray Silt Stone w/ Quartz Seams
31							
	85°						
33	10°						
33.4							
		Highly Fractured w/ mud		100	10	R-3	Gray Silt Stone w/ Mud in Fractures
35	90°						
	D						
	D						
36.8							

5/90

SEVEE & MAHER ENGINEERS

BEDROCK CORE LOG

PROJECT WOTL Expansion BORING NO. OW-0606 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER MTB (Darrel McKeen)

CORE DIAMETER (IN.) 2.5" (H-Core) ELEVATION (FT) INTERVAL DEPTH (FT) INTERVAL

AZIMUTH INCLINATION LOGGED BY JAB (NAME) 3-28-06 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING; SL - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
18						
20.1						
22	No Natural Fractures		100	100	R-1	Gray Silt Stone w/ Quartz Seams. Trace of erosion in Quartz seams.
23.8						
26	Mostly Intact	85°	100	100	R-2	Brown Mud in Fracture
28.8						
30	No Natural Fractures		96	100	R-3	Gray Silt Stone. Trace of Quartz in seams. $n_{TOT} = 0.00032$
32.8		55°				
34	Moderately fractured	55°, 10°, 10°, 55°	100	27	R-4	Gray Silt Stone w/ Quartz Seams. Erosion of Quartz. Seam of mud & pebbles @ ~37'
38 38.1						

BEDROCK CORE LOG

PROJECT WOTL Expansion BORING NO. OW-0607 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER MTB (Darrel McKeen)

CORE DIAMETER (IN.) 2.5" (H-Core) ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH _____ INCLINATION _____ LOGGED BY JAB (NAME) 3-29-06 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D: CORE BROKEN BY DRILLER
- M: CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
18	18.3					
	50°					Gray Siltstone w/ quartz seams
	D 10°		100	100	R-1	
22	23.2					
	D No Natural Fractures					Gray Siltstone w/ Thin quartz Seams
26			100	100	R-2	
	28.5					
	D					Gray Siltstone
30	D Mostly Intact		100	100	R-3	w/ Thin quartz Seams
	70°					$n_{TOT} = 0.00034$
	33.5					
	90°					Gray Silt Stone
34	Vertical and Horizontal Fractures		94	68	R-4	Traces of white mineral which has been eroded from Core Sample (Dissimilar to quartz)
	50° 100 50° 100					
38	50°					
	38.5					

BEDROCK CORE LOG

PROJECT WOTL Expansion BORING NO. OW-0608 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER MTB (Darrel McKeen)

CORE DIAMETER (IN.) 2.5" (H-Core) ELEVATION (FT) INTERVAL ____ DEPTH (FT) INTERVAL ____

AZIMUTH ____ INCLINATION ____ LOGGED BY JAB (NAME) 3-30-06 (DATE)

BREAKS IN CORE

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED-WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
20						
20.6						
22	Verical Fracture Through entire core length		88	62	R-1	Gray Siltstone w/ Brown mud in fractures
24						
	55° Vertical Fractures Through entire core		100	50?	R-2	Gray Siltstone w/ Thin Quartz seams Brown mud in fractures
26						
	Mostly Intact 2 Driller's Breaks ~80°		113	93	R-3	Gray Siltstone w/ Thin Quartz seams
28	D					
	D					
29.0						
	Mostly Intact		76		R-4	Gray Siltstone w/ Thin Quartz seams
30	80°			100		Clay seam @ ~30'
30.7						Clay seam to ~32'
32			106		R-5	Gray Siltstone w/ Thin Quartz seams
				100		
34.0						

5/90

SEVEE & MAHER ENGINEERS

BEDROCK CORE LOG

PROJECT WOTL Expansion BORING NO. OW-0609 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER M.T.B. (Darrel McKeen)

CORE DIAMETER (IN.) 2.5" (H-core) ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH _____ INCLINATION _____ LOGGED BY JAB (NAME) 04/03/06 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D = CORE BROKEN BY DRILLER; M = CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING; SL - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
26						
27.4						
28	Highly Fractured; 10° Vertical Fracture Down entire Length; 10°		100	63?	R-1	Gray Siltstone w/ Brown mud in fractures
30						
30.4	75° 15° 75° Highly Fractured		100	0	R-2	Gray Siltstone w/ Brown mud in fractures
32						
32.9	80° Highly Fractured		75	0	R-3	Brown clay Seam
33.7						
34	90° Highly Fractured		93	0	R-4	Gray Siltstone
35.1						
36	Highly Fractured		107	0	R-5	Gray Silt Stone
36.5						
37.5	Highly Fractured		100	0	R-6	Fe Staining
38	60° Highly Fractured; 10° 10°		100	53	R-7	Gray Siltstone w/ Quartz Seams
39.4						

5/90

SEVEE & MAHER ENGINEERS

BEDROCK CORE LOG

PROJECT WOTL Expansion

BORING NO. OW-0610 PAGE 1 OF 1

JOB NO. 05055.00 DRILLER MTB (Darrel McKeen)

CORE DIAMETER (IN.) 2.5 (H-Core) ELEVATION (FT) INTERVAL ____ DEPTH (FT) INTERVAL ____

AZIMUTH ____ INCLINATION ____ LOGGED BY JAB (NAME) 4-4-06 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
30							
30.6		75° Highly Fractured, Vertically & Horizontal 10°		100	0	R-1	Gray Silt Stone w/ Brown mud in fractures
32							
32.1		10° Mostly Intact		100	87	R-2	Gray Silt Stone Seams of white quartz
34							
36		D					
37.4							
38		80° Highly Fractured one Long vertical Fracture and many Horizontal.		100	0	R-3	Gray Silt Stone No quartz Brown mud in fractures
38.7		Highly Fractured very Small Pieces		100	0	R-4	Brown clay/mud in fractures
39.9							
40		80° 10° 10° 10° Highly Fractured Vertically & Horizontally		100	0	R-5	Brown Clay Seam
41.1							
42		60° 80° 70° Highly Fractured Vertically & Horizontally		100	67	R-6	Purplish Staining and Greenish/Buff Tinge in Fractures
42.6							
43.6		Mostly Intact		100	100 SL	R-7	

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. 401A PAGE 1 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5 ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL 78.5-109.4

AZIMUTH _____ INCLINATION 90° LOGGED BY M. Scully (NAME) 12/29/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED-WEATHERING SL - SLIGHT MOD - MODERATE SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
78						78.5' - Top of bedrock rollerconed to 79.4'
			0			
80	79.4-82.4 - Broken + weathered core. - fissile at steep angles 75-90°.	75° -90°	77	0		79.4-87.6': Phyllite - interbedded greenish-gray and black. Bedding is steep + undulating in thin beds. - Rock is more fissile than wacke below. - Highly fractured + weathered from 79.4-82' + 85.3-87.4'
82	not recovered	-	0	0		- Parting + fracture surfaces show Fe and Mn staining. Some pyrolucite dendrites on parting surfaces - eg. - @ 81'
	28° D					
84	46° - weathered	75° -90°	84	48		
	85.3-87.4' - Rubbly core - weathered w clays, FeO_x + MnO					
86						
	10° D					87.6' - 109.4' TD - Meta-graywacke - medium bluish gray to greenish gray. - Rock is generally hard + competent but is fractured + weathered in places. - Fracture zones are generally weathered with clays, FeO_x + MnO_2 - w. pyrolucite dendrites - Thin white Qtz + Ca veinlets are common throughout at various angles
88	50° - Rubbly + weathered	70° -80°	106	86		
90						
92						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. 401A PAGE 2 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH - INCLINATION 90° LOGGED BY M. Scully (NAME) 12/29/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING; SL - SLIGHT; MOD - MODERATE; SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
92	60°					
	70°					
	75° - Weathered					
	20° - Weathered					
	25° "					
94		75° -85°	98	62		
	70° clean					
	70° tr. weathering					
96	20° " "					
	10° - weathered					
	30° "					
98	30° - weathered					
		70° -90°				
	70° - weathered		96	30		
100	20° - D					
	70° MnO2					
	45° - minor weathering					
102	15° " " MnO2					
	102.2 - 106' - Rubbly & weathered core. - mostly small angular pieces					
104		7	25	0		
106						

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. 401A PAGE 3 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/29/04 (DATE)

MEASURED BREAKS OR PARTINGS ACROSS CORE
CHIPS, CAVITY, LOST CORE
MEASURED HIGH-ANGLE JOINT (JT = JOINT)
D CORE BROKEN BY DRILLER
M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	BREAKS IN CORE	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	ROD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
106							
		20°					
		50°	50°				
			75°	98	50		
108		30° - weathered					
		30° "					
		50° "					
							109.4' TD
110							

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. MW-402A PAGE 1 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5 ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M.V. Scully (NAME) 12/29/04 (DATE)

BREAKS IN CORE: MEASURED BREAKS OR PARTINGS ACROSS CORE; CHIPS, CAVITY, LOST CORE; MEASURED HIGH-ANGLE JOINT (JT = JOINT); D CORE BROKEN BY DRILLER; M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING SL - SLIGHT MOD - MODERATE SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
						-75.4' Top of Bedrock Recovery begins at 76'
76						Bedrock:
	20° clean					- Medium to coarse grained quartz wacke, medium to dark bluish gray color, locally abundant white Qtz+Ca veins
	70° D Bedding?	60				
	50° D, on Qtz-Ca vein	-70°	97%	63		
78	40°					
	D - Rubbly - clean					
	} - Rubbly core minor FeOx					
80						
		60-				
	D	70°	100	76		
82	30°					
	55°					
*	50°. on Calcite veinlet					83': MnO_2 dendrites on parting surface - calcite veinlet.
	10° w. MnO_2 Dendrites					
84	D					83-86': Abundant small qtz-ca veinlets (1/16-1/4") at various angles
	20° D					
	40° - on Qtz-Ca vein	60°				
	40° D	-75°	100	53		
86						86-86.5' Possible fracture zone. Rubbly core, rock is sheared? blackish phyllite
→	Rubbly core w. Qtz-Ca vein - tr. FeOx.					
	70° - Minor FeOx.					
88	20° D					

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. MW-402A PAGE 2 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/29/04 (DATE)

BREAKS IN CORE

- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
88	5° D					
	40° minor FeOx	65 -75°				
90			100	60		
	50° D					
	30° D					
	50°					
92	D					
	40° D					
		60° -70°				
94						
	50° D		100	56		
	55-60° - multiple breaks w. clayey gouge in breccia zone w. abund. Qtz-Ca veins					95-97.5': Fault Zone? Brecciated rock with some clayey gouge on surfaces, abund. Qtz-Ca veins + masses, 55-60° to horiz.
96						
98						97.5-100.8': Abundant Qtz-Ca veins at various angles, 1/8" - 1/2" wide.
	70° D	65°	98	80		
100	45° D					
	35°					
102	D in Qtz-Ca vein					

BEDROCK CORE LOG

PROJECT West Old Town Landfill BORING NO. MW40ZA PAGE 3 OF 3

JOB NO. _____ DRILLER _____

CORE DIAMETER (IN.) 2.5" ELEVATION (FT) INTERVAL _____ DEPTH (FT) INTERVAL _____

AZIMUTH — INCLINATION 90° LOGGED BY M. Scully (NAME) 12/29/04 (DATE)

BREAKS IN CORE
- MEASURED BREAKS OR PARTINGS ACROSS CORE
- CHIPS, CAVITY, LOST CORE
- MEASURED HIGH-ANGLE JOINT (JT = JOINT)
- D CORE BROKEN BY DRILLER
- M CORE PARTED ALONG MICA CONCENTRATION

WX: WEATHERED - WEATHERING
SL - SLIGHT
MOD - MODERATE
SEV - SEVERE

DIP: DIP OF LAYERING, TEXTURE, FOLIATION, BEDDING, ETC.

DEPTH	CONDITION OF CORE, WX, ETC.	DIP	RECOVERY (%)	RQD (%)	GRAPHIC LOG	ROCK TYPE, GRAIN SIZE, COLOR, TEXTURE, ETC.
102	65°-D - Bedding.					
	10° D					
104		65 -70°	100	92		
	45° D					
	D					
106						106': TD

APPENDIX F

HISTORICAL WATER LEVEL MEASUREMENTS

SME
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ENGINEERS

DATA SUMMARY TABLE

Field Data

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(DP-4) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
DP-4																	
1/30/2004	XX	GWDP4X039	14.12	155.25	169.37												
5/6/2004	XX	GWXXXX00D	14.78	154.59	169.37												
7/26/2004	XX	GWXXXX041	13.92	155.45	169.37												
10/26/2004	XX	GWXXXX07H	13.81	155.56	169.37	27.04											
5/9/2005	XX	GWXXXX13I	13.25	156.12	169.37												
8/1/2005	XX	GWXXXX176	13.8	155.57	169.37												
9/20/2005	XX	GWXXXX1A4	14.38	154.99	169.37	27.06											
5/22/2006	XX	GWXXXX1EJ	14.59	154.78	169.37												
7/24/2006	XX	GWXXXX1HG	14.52	154.85	169.37												
9/11/2006	XX	GWXXXX209	14.96	154.41	169.37	27.07											
5/14/2007	XX	GWXXXX23G	15	154.37	169.37												
7/23/2007	XX	GWXXXX280	15.28	154.09	169.37												
9/10/2007	XX	GWXXXX2AA	15.65	153.72	169.37	27.1											
5/19/2008	XX	GWXXXX2E4	14.4	154.97	169.37												
7/29/2008	XX	GWXXXX2H8	17.19	152.18	169.37												
10/27/2008	XX	GWXXXX2JI	15.3	154.07	169.37	27.05											
4/13/2009	XX	GWXXXX336	14.55	154.82	169.37												
7/6/2009	XX	GWXXXX37A	14.59	154.78	169.37												
10/26/2009	XX	GWXXXX3F5	13.68	155.69	169.37	27.05											
4/26/2010	XX	GWXXXX404	14.8	154.57	169.37												
7/19/2010	XX	GWXXXX438	15.41	153.96	169.37												
10/18/2010	XX	GWXXXX46C	14.98	154.39	169.37	27.1											
4/25/2011	XX	GWXXXX4AD	13.9	155.47	169.37												
7/18/2011	XX	GWXXXX4EB	14.35	155.02	169.37												
10/24/2011	XX	GWXXXX4I6	16.95	152.42	169.37	27.06											
4/25/2012	XX	GWXXXX52G	14.1	155.27	169.37												
7/25/2012	XX	GWXXXX57F	15.3	154.07	169.37												
10/24/2012	XX	GWXXXX5E6	14.08	155.29	169.37	27.06											
4/24/2013	XX	GWXXXX5IH	14.38	154.99	169.37												
10/30/2013	XX	GWDP4X689	14.9	154.47	169.37	27.06											
10/21/2014	XX	GWDP4X72C	14.65	154.72	169.37	27.05											
10/28/2015	XX	GWDP4X7J6	14.57	154.8	169.37	27.05											
10/26/2016	XX	GWDP4X908	15	154.37	169.37	27.1											
10/23/2017	XX	GWDP4X9I7	17.02	152.35	169.37	22.17											
10/3/2018	XX	GWDP4XB25	15.25	154.12	169.37	27.16											
10/28/2019	XX	GWDP4XBJ5	14.91	154.46	169.37	27.1											
10/26/2020	XX	GWDP4XD49	15.1	154.27	169.37	27.12											
10/4/2021	XX	GWDP4XE7A	14.78	154.59	169.37												
4/25/2022	XX	GWDP4XF21	14.67	154.7	169.37												
10/5/2022	XX	GWDP4XG00	14.35	155.02	169.37	27.12											
10/3/2023	XX	GWDP4X09A	16.65	152.72	169.37	27.12											
10/7/2024	XX	GWDP4X229	15.3	154.07	169.37	27.07											
MW-04-09A																	
2/26/2020	XX	GWX09AC56	5.62	164.28	169.9	42.38											
4/30/2020	XX	GWX09ACC1	5.24	164.66	169.9												
6/23/2020	XX	GWX09ACGC	7.84	162.06	169.9												
8/20/2020	XX	GWX09AD1J	9.12	160.78	169.9												

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-04-09A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/15/2021	XX	GWXXXXE20	6.7	163.2	169.9												
10/7/2021	XX	GWX09AE86	6	163.9	169.9												
4/27/2022	XX	GWX09AF2C	5.07	164.83	169.9												
7/20/2022	XX	GWXXXXFAF	9.3	160.6	169.9												
10/5/2022	XX	GWX09AG0B	7.5	162.4	169.9	42.1											
4/19/2023	XX	GWX09AH02	5.1	164.8	169.9												
7/12/2023	XX	GWXXXX00B	5.58	164.32	169.9												
10/4/2023	XX	GWX09A077	9.2	160.7	169.9	42.1											
4/10/2024	XX	GWX09A13G	4.8	165.1	169.9												
7/17/2024	XX	GWXXXX1FA	5.7	164.2	169.9												
10/9/2024	XX	GWX09A209	7.4	162.5	169.9	42.1											
MW-04-09B																	
2/26/2020	XX	GWX09BC57	5.45	164.48	169.93	19.64											
4/30/2020	XX	GWX09BCC2	5.11	164.82	169.93												
6/23/2020	XX	GWX09BCGD	7.85	162.08	169.93												
8/20/2020	XX	GWX09BD20	9.11	160.82	169.93												
7/15/2021	XX	GWXXXXE21	6.65	163.28	169.93												
10/7/2021	XX	GWX09BE87	5.91	164.02	169.93												
4/27/2022	XX	GWX09BF2D	4.6	165.33	169.93												
7/20/2022	XX	GWXXXXFAG	9.4	160.53	169.93												
10/5/2022	XX	GWX09BG0C	7.4	162.53	169.93	19.64											
4/19/2023	XX	GWX09BH03	4.82	165.11	169.93												
7/12/2023	XX	GWXXXX00C	5.35	164.58	169.93												
10/4/2023	XX	GWX09B078	6.13	163.8	169.93	19.64											
4/10/2024	XX	GWX09B13H	4.8	165.13	169.93												
7/17/2024	XX	GWXXXX1FB	5.7	164.23	169.93												
10/9/2024	XX	GWX09B20A	7.4	162.53	169.93	19.64											
MW04-102																	
1/18/2005	XX	GW102X10C	5.45	164.77	170.22												
3/21/2005	XX	GW102X144	4.9	165.32	170.22												
7/25/2005	XX	GW102X17I	6.7	163.52	170.22												
9/20/2005	XX	GW102X1A9	5.52	164.7	170.22	18.02											
5/23/2006	XX	GW102X1F4	4.8	165.42	170.22												
7/25/2006	XX	GW102X1I0	5.13	165.09	170.22												
9/12/2006	XX	GW102X20D	5.54	164.68	170.22	18.04											
5/15/2007	XX	GW102X240	5.67	164.55	170.22												
7/24/2007	XX	GW102X284	6.3	163.92	170.22												
9/11/2007	XX	GW102X2AE	7.42	162.8	170.22	18											
5/20/2008	XX	GW102X2E8	6.05	164.17	170.22												
7/29/2008	XX	GW102X2HC	5.81	164.41	170.22												
10/27/2008	XX	GW102X302	5.5	164.72	170.22	18											
4/14/2009	XX	GW102X339	5.47	164.75	170.22												
7/7/2009	XX	GW102X37D	5	165.22	170.22												
10/27/2009	XX	GW102X3F8	5.27	164.95	170.22	17.84											
4/27/2010	XX	GW102X407	5.97	164.25	170.22												
7/21/2010	XX	GW102X43B	7.58	162.64	170.22												
10/19/2010	XX	GW102X46F	5.85	164.37	170.22	17.97											
4/25/2011	XX	GW102X4AG	5.02	165.2	170.22												

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW04-102) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
7/19/2011	XX	GW102X4EE	6.65	163.57	170.22	
10/25/2011	XX	GW102X4I9	6.5	163.72	170.22	17.85
4/24/2012	XX	GW102X52J	6	164.22	170.22	
7/24/2012	XX	GW102X57I	8	162.22	170.22	
10/22/2012	XX	GW102X5E9	5.78	164.44	170.22	17.98
4/23/2013	XX	GW102X5J0	5.8	164.42	170.22	
7/31/2013	XX	GW102X655	6.5	163.72	170.22	
10/28/2013	XX	GW102X67F	7.1	163.12	170.22	18.05
4/23/2014	XX	GW102X6G1	5.6	164.62	170.22	
7/30/2014	XX	GW102X704	6.3	163.92	170.22	
10/21/2014	XX	GW102X73F	6.58	163.64	170.22	18.05
4/29/2015	XX	GW102X79C	5.5	164.72	170.22	
7/14/2015	XX	GW102X7D4	6.9	163.32	170.22	
10/28/2015	XX	GW102X7ID	6.75	163.47	170.22	18.05
4/5/2016	XX	GW102X873	6	164.22	170.22	
7/26/2016	XX	GW102X8BD	7.6	167.62	170.22	
10/25/2016	XX	GW102X8JC	7.2	163.02	170.22	18.05
4/19/2017	XX	GW102X97I	6.8	163.42	170.22	
7/26/2017	XX	GW102X9DG	8.08	162.14	170.22	
10/25/2017	XX	GW102X9HB	8.2	162.02	170.22	18.05
4/4/2018	XX	GW102XA3A	6.2	164.02	170.22	
7/18/2018	XX	GW102XACB	8.3	161.92	170.22	
10/3/2018	XX	GW102XB19	7.95	162.27	170.22	18.05
4/24/2019	XX	GW102XB66	6.4	163.82	170.22	
7/17/2019	XX	GW102XBCH	7.1	163.12	170.22	
10/28/2019	XX	GW102XBIA	6.55	163.67	170.22	18.05
4/27/2020	XX	GW102XCDH	7.1	163.12	170.22	
7/20/2020	XX	GW102XCIA	8.42	161.8	170.22	
10/26/2020	XX	GW102XD3E	8	162.22	170.22	18.05
4/5/2021	XX	GW102XDCG	6.55	163.67	170.22	
7/12/2021	XX	GW102XE08	8.2	162.02	170.22	
10/4/2021	XX	GW102XE6G	8	162.22	170.22	
4/25/2022	XX	GW102XF18	6.9	163.32	170.22	
7/18/2022	XX	GW102XF96	9.92	160.3	170.22	
10/3/2022	XX	GW102XFJ7	8.3	161.92	170.22	18
4/17/2023	XX	GW102XGII	7	163.22	170.22	
7/10/2023	XX	GW102XH90	7.6	162.62	170.22	
10/2/2023	XX	GW102X067	7.3	162.92	170.22	18
4/1/2024	XX	GW102X12H	6.5	163.72	170.22	
7/15/2024	XX	GW102X1DJ	7.1	163.12	170.22	
10/7/2024	XX	GW102X1JA	8.4	161.82	170.22	18.11
MW04-105						
1/17/2005	XX	GW105X10F	7.31	158.28	165.59	
3/21/2005	XX	GW105X147	6.85	158.74	165.59	
7/25/2005	XX	GW105X181	8.08	157.51	165.59	
9/20/2005	XX	GW105X1AC	7.69	157.9	165.59	22.83
5/23/2006	XX	GW105X1F7	7.08	158.51	165.59	
7/25/2006	XX	GW105X1I1	7.05	158.54	165.59	
9/12/2006	XX	GW105X20E	6.85	158.74	165.59	22.85

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(MW04-105) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
5/14/2007	XX	GW105X241	7.8	157.79	165.59	
7/24/2007	XX	GW105X285	8.02	157.57	165.59	
9/10/2007	XX	GW105X2AF	8.48	157.11	165.59	22.76
5/19/2008	XX	GW105X2E9	8.13	157.46	165.59	
7/29/2008	XX	GW105X2HD	7.32	158.27	165.59	
10/27/2008	XX	GW105X303	7	158.59	165.59	22.78
4/15/2009	XX	GW105X33A	7.67	157.92	165.59	
7/7/2009	XX	GW105X37E	5.91	159.68	165.59	
10/26/2009	XX	GW105X3F9	5.8	159.79	165.59	22.75
4/27/2010	XX	GW105X408	7.32	158.27	165.59	
7/19/2010	XX	GW105X43C	7.5	158.09	165.59	
10/18/2010	XX	GW105X46G	6.9	158.69	165.59	22.75
4/26/2011	XX	GW105X4AH	6.46	159.13	165.59	
7/18/2011	XX	GW105X4EF	7.1	158.49	165.59	
10/25/2011	XX	GW105X4IA	6.9	158.69	165.59	22.75
4/23/2012	XX	GW105X530	7.6	157.99	165.59	
7/24/2012	XX	GW105X57J	8.6	156.99	165.59	
10/22/2012	XX	GW105X5EA	6.6	158.99	165.59	22.75
4/24/2013	XX	GW105X5J1	7.55	158.04	165.59	
10/29/2013	XX	GW105X68B	8.43	157.16	165.59	22.83
10/22/2014	XX	GW105X747	7.28	158.31	165.59	22.83
10/28/2015	XX	GW105X7J7	7.62	157.97	165.59	22.83
10/26/2016	XX	GW105X909	8.31	157.28	165.59	22.83
10/23/2017	XX	GW105X9I8	9.2	156.39	165.59	22.85
10/1/2018	XX	GW105XB26	8.61	156.98	165.59	22.84
10/28/2019	XX	GW105XBJ6	7.2	158.39	165.59	22.83
10/27/2020	XX	GW105XD4A	8.3	157.29	165.59	22.84
10/5/2021	XX	GW105XE7B	8.15	157.44	165.59	
4/25/2022	XX	GW105XF22	8	157.59	165.59	
10/5/2022	XX	GW105XG01	8.5	157.09	165.59	22.85
10/2/2023	XX	GW105X09C	8.7	156.89	165.59	22.85
10/7/2024	XX	GW105X22A	8.22	157.37	165.59	22.82
MW04-109 & MW04-109R						
12/8/2009	XX	GW109X3GF	6.15	153.98	160.13	22.98
4/27/2010	XX	GW109X409	6.35	153.78	160.13	
7/20/2010	XX	GW109X43D	7.49	152.64	160.13	
10/19/2010	XX	GW109X46H	6.6	153.53	160.13	22.92
4/26/2011	XX	GW109X4AI	6.25	153.88	160.13	
7/19/2011	XX	GW109X4EG	7.25	152.88	160.13	
10/25/2011	XX	GW109X4IB	6.62	153.51	160.13	22.95
4/24/2012	XX	GW109X531	6.36	153.77	160.13	
7/24/2012	XX	GW109X580	7.27	152.86	160.13	
10/23/2012	XX	GW109X5EB	6.4	153.73	160.13	22.92
4/23/2013	XX	GW109X5J2	6.68	153.45	160.13	
7/30/2013	XX	GW109X657	6.92	153.21	160.13	
10/29/2013	XX	GW109X67G	7.41	152.72	160.13	22.97
4/22/2014	XX	GW109X6G3	6.22	153.91	160.13	
7/29/2014	XX	GW109X705	6.79	153.34	160.13	
10/21/2014	XX	GW109X73G	7.07	153.06	160.13	22.98

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(MW04-109 & MW04-109R) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/28/2015	XX	GW109X79D	6.23	153.9	160.13												
7/14/2015	XX	GW109X7D5	7.35	152.78	160.13												
10/27/2015	XX	GW109X7IE	7	153.13	160.13	22.97											
4/5/2016	XX	GW109X874	6.33	153.8	160.13												
7/26/2016	XX	GW109X8BE	7.6	152.53	160.13												
10/25/2016	XX	GW109X8JD	7.35	152.78	160.13	22.97											
4/18/2017	XX	GW109X97J	6.11	154.02	160.13												
7/25/2017	XX	GW109X9DH	7.71	152.42	160.13												
10/24/2017	XX	GW109X9HC	8.62	151.51	160.13	22.97											
4/3/2018	XX	GW109XA3B	5.73	154.4	160.13												
7/17/2018	XX	GW109XACC	7.45	152.68	160.13												
10/2/2018	XX	GW109XB1A	7.85	152.28	160.13	22.97											
4/23/2019	XX	GW109XB67	5.67	154.46	160.13												
7/16/2019	XX	GW109XBCI	6.4	153.73	160.13												
10/29/2019	XX	GW109XBIB	5.96	154.17	160.13	22.97											
4/28/2020	XX	GW109XCDI	6.45	153.68	160.13												
7/21/2020	XX	GW109XCIB	7.28	152.85	160.13												
10/27/2020	XX	GW109XD3F	7.08	153.05	160.13	27.98											
4/6/2021	XX	GW109XDCH	6.3	153.83	160.13												
7/13/2021	XX	GW109XE09	7.1	153.03	160.13												
10/5/2021	XX	GW109XE6H	6.75	153.38	160.13												
4/26/2022	XX	GW109XF19	6.3	153.83	160.13												
7/19/2022	XX	GW109XF97	7.5	152.63	160.13												
10/4/2022	XX	GW109XFJ8	7.05	153.08	160.13	27.98											
4/18/2023	XX	GW109XGIJ	6.3	153.83	160.13												
7/11/2023	XX	GW109XH91	6.73	153.4	160.13												
10/2/2023	XX	GW109X068	7.2	152.93	160.13	27.98											
4/2/2024	XX	GW109X12I	5.9	154.23	160.13												
7/16/2024	XX	GW109X1E0	6.5	153.63	160.13												
10/8/2024	XX	GW109X1JB	7.8	152.33	160.13	27.96											
MW06-01																	
4/10/2018	XX	GWXXXXA70	F1			22.13											
6/4/2018	XX	GWXXXXA7H	0.25	165.881	166.131												
7/18/2018	XX	GWXXXXAEF	0.85	165.281	166.131												
8/20/2018	XX	GWXXXXAFG	1.7	164.431	166.131												
4/24/2019	XX	GWXXXXB7D	F1														
7/18/2019	XX	GWXXXXBE1	0.18	165.951	166.131												
10/30/2019	XX	GWXXXXBJ8	F1		166.131	22.13											
4/29/2020	XX	GWXXXXCF1	F1		166.131												
7/22/2020	XX	GWXXXXCJE	3.25	162.881	166.131												
10/28/2020	XX	GWXXXXD4C	2.67	163.461	166.131	22.14											
4/7/2021	XX	GWXXXXDDI	0.9	165.231	166.131												
7/14/2021	XX	GWXXXXE19	2.37	163.761	166.131												
10/6/2021	XX	GWXXXXE7D	1.7	164.431	166.131												
4/27/2022	XX	GWXXXXF24	F1		166.131												
7/20/2022	XX	GWXXXXFA7	1.83	164.301	166.131												
10/5/2022	XX	GWXXXXG03	2.18	163.951	166.131	22.13											
4/19/2023	XX	GWXXXXGJE	F1		166.131												
7/12/2023	XX	GWXXXX003	F1		166.131												

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(MW06-01) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
10/4/2023	XX	GWXXXX06J	0.04	166.091	166.131	22.13											
4/10/2024	XX	GWXXXX138	F1		166.131												
7/17/2024	XX	GWXXXX1F2	0.06	166.071	166.131												
10/9/2024	XX	GWXXXX201	1.35	164.781	166.131	22.13											
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	14.93	161.08	176.01	127.89											
4/7/2021	XX	GWXXXXDAJ	14.75	161.26	176.01												
6/9/2021	XX	GWXXXXDH2	15.04	160.97	176.01												
8/19/2021	XX	GWXXXXE4G	15.3	160.71	176.01												
10/4/2021	XX	GWXXXXE9B	14.68	161.33	176.01												
4/27/2022	XX	GWXXXXF3G	21.75	154.26	176.01												
7/21/2022	XX	GWXXXXFBD	22.4	153.61	176.01												
10/5/2022	XX	GWXXXXG1F	22.45	153.56	176.01	127.89											
4/17/2023	XX	GWXXXXH16	22.15	153.86	176.01												
7/13/2023	XX	GWXXXX019	22.25	153.76	176.01												
10/5/2023	XX	GWXXXX08B	22.4	153.61	176.01												
4/11/2024	XX	GWXXXX150	22.14	153.87	176.01												
7/17/2024	XX	GWXXXX1G8	22.3	153.71	176.01												
10/10/2024	XX	GWXXXX21D	22.72	153.29	176.01	132.96											
MW09-901																	
12/8/2009	XX	GW901X3GH	7.95	157.15	165.1	22.8											
4/27/2010	XX	GW901X3J7	8.86	156.24	165.1												
7/20/2010	XX	GW901X42B	10.8	154.3	165.1												
10/19/2010	XX	GW901X45F	9.25	155.85	165.1	22.75											
4/26/2011	XX	GW901X49G	8.6	156.5	165.1												
7/19/2011	XX	GW901X4DE	10.5	154.6	165.1												
10/25/2011	XX	GW901X4H9	9.35	155.75	165.1	22.75											
4/24/2012	XX	GW901X51J	8.6	156.5	165.1												
7/24/2012	XX	GW901X56I	10.6	154.5	165.1												
10/23/2012	XX	GW901X5D9	8.8	156.3	165.1	22.73											
4/23/2013	XX	GW901X5I0	9.42	155.68	165.1												
7/30/2013	XX	GW901X645	9.94	155.16	165.1												
10/29/2013	XX	GW901X66I	10.63	154.47	165.1	22.8											
4/22/2014	XX	GW901X6F1	8.07	157.03	165.1												
7/29/2014	XX	GW901X6J8	9.31	155.79	165.1												
10/21/2014	XX	GW901X72J	9.7	155.4	165.1	22.8											
4/28/2015	XX	GW901X78G	7.5	157.6	165.1												
7/14/2015	XX	GW901X7C8	10.25	154.85	165.1												
10/27/2015	XX	GW901X7HH	9.48	155.62	165.1	22.82											
4/5/2016	XX	GW901X867	7.8	157.3	165.1												
7/26/2016	XX	GW901X8AH	10.72	154.38	165.1												
10/25/2016	XX	GW901X8IG	10.5	154.6	165.1	22.82											
4/18/2017	XX	GW901X972	7.45	157.65	165.1												
7/25/2017	XX	GW901X9D0	10.91	154.19	165.1												
10/24/2017	XX	GW901X9GF	11.92	153.18	165.1	22.8											
4/3/2018	XX	GW901XA2E	6.3	158.8	165.1												
7/17/2018	XX	GW901XABF	10.17	154.93	165.1												
10/2/2018	XX	GW901XB0D	11	154.1	165.1	22.82											

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(MW09-901) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
4/23/2019	XX	GW901XB5A	5.96	159.14	165.1	
7/16/2019	XX	GW901XBC2	9.15	155.95	165.1	
10/29/2019	XX	GW901XBHF	5.89	159.21	165.1	22.82
4/28/2020	XX	GW901XCD2	6.69	158.41	165.1	
7/21/2020	XX	GW901XCHF	8.8	156.3	165.1	
10/27/2020	XX	GW901XD2J	8.15	156.95	165.1	22.81
4/6/2021	XX	GW901XDC1	6	159.1	165.1	
7/13/2021	XX	GW901XDJD	7.7	157.4	165.1	
10/5/2021	XX	GW901XE61	7.3	157.8	165.1	
4/26/2022	XX	GW901XF0D	6.15	158.95	165.1	
7/19/2022	XX	GW901XF8B	9	156.1	165.1	
10/4/2022	XX	GW901XFIC	7.8	157.3	165.1	22.78
4/18/2023	XX	GW901XGI3	6.57	158.53	165.1	
7/11/2023	XX	GW901XH85	7.35	157.75	165.1	
10/2/2023	XX	GW901X05D	5.7	159.4	165.1	22.78
4/2/2024	XX	GW901X123	5.4	159.7	165.1	
7/16/2024	XX	GW901X1D5	7	158.1	165.1	
10/8/2024	XX	GW901X1IG	10.05	155.05	165.1	22.77
MW-204						
11/13/1990	XX	MW-204XX33190	3.93	160.82	164.75	
2/19/1991	XX	MW-204XX33288	F			
6/3/1991	XX	MW-204XX33392	3.25	161.5	164.75	
9/16/1991	XX	MW-204XX33497	7.19	157.56	164.75	
12/17/1991	XX	MW-204XX33589	4.23	160.52	164.75	
3/2/1992	XX	MW-204XX33665	F			
6/23/1992	XX	MW-204XX33778	6.44	158.31	164.75	
8/17/1992	XX	MW-204XX33833	8.27	156.48	164.75	
1/26/1993	XX	MW-204XX33995	5.84	158.91	164.75	
4/27/1993	XX	MW-204XX34086	4.94	159.81	164.75	
7/21/1993	XX	MW-204XX34171	9.52	155.23	164.75	
10/12/1993	XX	MW-204XX34254	14.22	150.53	164.75	
1/11/1994	XX	MW-204XX34345	6.88	157.87	164.75	
5/26/1994	XX	MW-204XX34480	4.98	159.77	164.75	
8/8/1994	XX	MW-204XX34554	5.26	159.49	164.75	
11/15/1994	XX	MW-204XX34653	5.03	159.72	164.75	
2/7/1995	XX	MW-204XX34737	5.38	159.37	164.75	
5/23/1995	XX	MW-204XX34842	4.8	159.95	164.75	
8/15/1995	XX	MW-204XX34926	8.03	156.72	164.75	
11/30/1995	XX	MW-204XX35033	5.17	159.58	164.75	
2/27/1996	XX	MW-204XX35122	5.88	158.87	164.75	
5/21/1996	XX	MW-204XX35206	4.26	160.49	164.75	
11/25/1996	XX	MW-204XX35394	9.27	155.48	164.75	
3/25/1997	XX	MW-204808-35514	9.48	155.27	164.75	
6/3/1997	XX	MW-204809-35584	8.91	155.84	164.75	
9/9/1997	XX	MW-204810-35682	8.88	155.87	164.75	
12/3/1997	XX	MW-204811-35767	8.88	155.87	164.75	
3/23/1998	XX	MW-204812-35877	8.8	155.95	164.75	
6/8/1998	XX	MW-204813-35954	9.06	155.69	164.75	
9/9/1998	XX	MW-204814-36047	11.03	153.72	164.75	

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(MW-204)

Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
12/14/1998	XX	MW-204815-36143	8.9	155.85	164.75												
3/29/1999	XX	MW-204816-36248	8.53	156.22	164.75												
6/8/1999	XX	MW-204817-36319	8.67	156.08	164.75												
9/13/1999	XX	MW-204818-36416	10.38	154.37	164.75												
12/1/1999	XX	MW-204819-36495	8.45	156.3	164.75												
3/27/2000	XX	MW-204820-36612	8.64	156.11	164.75												
6/12/2000	XX	MW-204821-36689	8.66	156.09	164.75												
9/12/2000	XX	MW-204822-36781	11.82	152.93	164.75												
12/11/2000	XX	MW-204823-36871	9.39	155.36	164.75												
3/12/2001	XX	MW-204824-36962	9.5	155.25	164.75												
6/18/2001	XX	MW-204825-37060	9.23	155.52	164.75												
9/10/2001	XX	MW-204826-37144	10.52	154.23	164.75												
12/11/2001	XX	MW-204827-37236	9.63	155.12	164.75												
3/13/2002	XX	MW-204828-37328	8.76	155.99	164.75												
6/17/2002	XX	MW-204829-37424	8.65	156.1	164.75												
9/18/2002	XX	MW-204830-37517	11.95	152.8	164.75												
12/9/2002	XX	MW-204831-37599	9.47	155.28	164.75												
1/29/2004	XX	GW204X03A	9.45	155.3	164.75												
5/4/2004	XX	GW204X008	8.92	155.83	164.75												
7/27/2004	XX	GW204X03G	9.49	155.26	164.75												
10/25/2004	XX	GW204X07D	9.14	155.61	164.75	24.43											
5/9/2005	XX	GW204X13E	8.35	156.4	164.75												
8/1/2005	XX	GW204X172	9.23	155.52	164.75												
9/20/2005	XX	GW204X1A0	9.68	155.07	164.75	24.41											
5/23/2006	XX	GW204X1EF	9.05	155.7	164.75												
7/24/2006	XX	GW204X1HC	8.92	155.83	164.75												
9/11/2006	XX	GW204X205	9.2	155.55	164.75	24.4											
5/14/2007	XX	GW204X23C	9.5	155.25	164.75												
7/23/2007	XX	GW204X27G	9.71	155.04	164.75												
9/10/2007	XX	GW204X2A6	10.65	154.1	164.75	24.45											
5/21/2008	XX	GW204X2E0	9.72	155.03	164.75												
7/30/2008	XX	GW204X2H4	9.52	155.23	164.75												
10/28/2008	XX	GW204X2JE	9.12	155.63	164.75	24.45											
4/13/2009	XX	GW204X332	9.1	155.65	164.75												
7/6/2009	XX	GW204X376	8.4	156.35	164.75												
10/26/2009	XX	GW204X3F1	8.7	156.05	164.75	24.42											
4/28/2010	XX	GW204X400	9.22	155.53	164.75												
7/19/2010	XX	GW204X434	9.82	154.93	164.75												
10/19/2010	XX	GW204X468	9.32	155.43	164.75	24.45											
4/26/2011	XX	GW204X4A9	8.74	156.01	164.75												
7/19/2011	XX	GW204X4E7	9.43	155.32	164.75												
10/26/2011	XX	GW204X4I2	9.1	155.65	164.75	24.45											
4/24/2012	XX	GW204X52C	9	155.75	164.75												
7/23/2012	XX	GW204X57B	10.15	154.6	164.75												
10/24/2012	XX	GW204X5E2	9.05	155.7	164.75	24.45											
4/24/2013	XX	GW204X5ID	9.22	155.53	164.75												
10/30/2013	XX	GW204X68A	9.95	154.8	164.75	24.43											
10/22/2014	XX	GW204X746	9.45	155.3	164.75	24.48											
10/28/2015	XX	GW204X7J5	9.4	155.35	164.75	24.43											

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(MW-204) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet												
10/26/2016	XX	GW204X907	10.05	154.7	164.75	24.43												
10/23/2017	XX	GW204X9I6	11.5	153.25	164.75	24.43												
10/3/2018	XX	GW204XB24	10.17	154.58	164.75	24.48												
10/28/2019	XX	GW204XBJ4	9	155.75	164.75	24.49												
10/26/2020	XX	GW204XD48	10.1	154.65	164.75	24.47												
10/4/2021	XX	GW204XE79	9.65	155.1	164.75													
4/26/2022	XX	GW204XF20	9.4	155.35	164.75													
10/5/2022	XX	GW204XFJJ	9.9	154.85	164.75	24.47												
10/3/2023	XX	GW204X09B	!		164.75	24.47												
10/7/2024	XX	GW204X22B	11.5	154.68	166.18	25.7												
MW-206																		
4/27/1993	XX	MW-206XX34086	3.9	200.77	204.67													
7/21/1993	XX	MW-206XX34171	9.48	195.19	204.67													
10/13/1993	XX	MW-206XX34255	16.87	187.8	204.67													
1/11/1994	XX	MW-206XX34345	4.98	199.69	204.67													
5/26/1994	XX	MW-206XX34480	4.5	200.17	204.67													
8/8/1994	XX	MW-206XX34554	10.14	194.53	204.67													
11/16/1994	XX	MW-206XX34654	10.65	194.02	204.67													
2/7/1995	XX	MW-206XX34737	4.65	200.02	204.67													
5/24/1995	XX	MW-206XX34843	4.19	200.48	204.67													
8/15/1995	XX	MW-206XX34926	10.03	194.64	204.67													
11/30/1995	XX	MW-206XX35033	4.28	200.39	204.67													
2/27/1996	XX	MW-206XX35122	F															
5/21/1996	XX	MW-206XX35206	3.9	200.77	204.67													
11/26/1996	XX	MW-206XX35395	6.3	198.37	204.67													
3/25/1997	XX	MW-206824-35514	6.45	198.22	204.67													
6/2/1997	XX	MW-206825-35583	4.71	199.96	204.67													
9/8/1997	XX	MW-206826-35681	8.7	195.97	204.67													
12/3/1997	XX	MW-206827-35767	7.09	197.58	204.67													
3/23/1998	XX	MW-206828-35877	4.23	200.44	204.67													
6/8/1998	XX	MW-206829-35954	6.26	198.41	204.67													
9/8/1998	XX	MW-206830-36046	11.37	193.3	204.67													
12/14/1998	XX	MW-206831-36143	7.81	196.86	204.67													
3/29/1999	XX	MW-206832-36248	3.91	200.76	204.67													
6/8/1999	XX	MW-206833-36319	5.29	199.38	204.67													
9/15/1999	XX	MW-206834-36418	15.44	189.23	204.67													
12/1/1999	XX	MW-206835-36495	4.25	200.42	204.67													
3/27/2000	XX	MW-206836-36612	4.5	200.17	204.67													
6/12/2000	XX	MW-206837-36689	4.68	199.99	204.67													
9/13/2000	XX	MW-206838-36782	13.05	191.62	204.67													
12/11/2000	XX	MW-206839-36871	12.6	192.07	204.67													
3/13/2001	XX	MW-206840-36963	7.76	196.91	204.67													
6/18/2001	XX	MW-206841-37060	7.77	196.9	204.67													
9/10/2001	XX	MW-206842-37144	14.8	189.87	204.67													
12/12/2001	XX	MW-206843-37237	18.57	186.1	204.67													
3/13/2002	XX	MW-206844-37328	4.17	200.5	204.67													
6/17/2002	XX	MW-206845-37424	4.65	200.02	204.67													
9/18/2002	XX	MW-206846-37517	14.1	190.57	204.67													
12/9/2002	XX	MW-206847-37599	6.22	198.45	204.67													

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(MW-206)

Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
5/6/2004	XX	GW206X010	3.08	201.59	204.67												
7/28/2004	XX	GW206X047	6.48	198.19	204.67												
10/26/2004	XX	GW206X062	7.09	197.58	204.67	23.05											
5/11/2005	XX	GW206X123	4.13	200.54	204.67												
7/28/2005	XX	GW206X15B	5.06	199.61	204.67												
9/19/2005	XX	GW206X189	5.8	198.87	204.67	23.02											
5/24/2006	XX	GW206X1D4	4.43	200.24	204.67												
7/25/2006	XX	GW206X1G1	4.3	200.37	204.67												
9/12/2006	XX	GW206X1IE	6.92	197.75	204.67	23.13											
5/14/2007	XX	GW206X221	5.45	199.22	204.67												
7/25/2007	XX	GW206X265	9.77	194.9	204.67												
9/11/2007	XX	GW206X28F	13.5	191.17	204.67	23.12											
5/20/2008	XX	GW206X2C9	5.83	198.84	204.67												
7/29/2008	XX	GW206X2FD	5.84	198.83	204.67												
10/27/2008	XX	GW206X2I3	4.8	199.87	204.67	23.08											
4/13/2009	XX	GW206X31B	5.11	199.56	204.67												
7/6/2009	XX	GW206X35F	5.49	199.18	204.67												
10/28/2009	XX	GW206X3DA	6.05	198.62	204.67	23.08											
4/26/2010	XX	GW206X3I9	5.3	199.37	204.67												
7/19/2010	XX	GW206X41D	10.4	194.27	204.67												
10/18/2010	XX	GW206X44H	6.85	197.82	204.67	23.08											
4/25/2011	XX	GW206X48I	4.56	200.11	204.67												
7/18/2011	XX	GW206X4CG	8	196.67	204.67												
10/24/2011	XX	GW206X4GB	4.67	200	204.67	23.1											
4/23/2012	XX	GW206X511	4.41	200.26	204.67												
7/23/2012	XX	GW206X560	8.35	196.32	204.67												
10/22/2012	XX	GW206X5CB	4.55	200.12	204.67	23.09											
4/22/2013	XX	GW206X5H2	4.8	199.87	204.67												
7/29/2013	XX	GW206X637	6.78	197.89	204.67												
10/28/2013	XX	GW206X660	8.05	196.62	204.67	23.15											
4/21/2014	XX	GW206X6E3	4.7	199.97	204.67												
7/28/2014	XX	GW206X6IB	6.95	197.72	204.67												
10/20/2014	XX	GW206X721	7.8	196.87	204.67	23.15											
4/27/2015	XX	GW206X77J	4.6	200.07	204.67												
7/13/2015	XX	GW206X7BB	7.65	197.02	204.67												
10/26/2015	XX	GW206X7H0	6.8	197.87	204.67	23.15											
4/4/2016	XX	GW206X85A	4.9	199.77	204.67												
7/25/2016	XX	GW206X8A0	9.5	195.17	204.67												
10/24/2016	XX	GW206X8HJ	13.95	190.72	204.67												
4/17/2017	XX	GW206X965	4.82	199.85	204.67												
7/24/2017	XX	GW206X9C3	9.6	195.07	204.67												
10/23/2017	XX	GW206X9FI	14.9	189.77	204.67	23.15											
4/2/2018	XX	GW206XA1G	4.6	200.07	204.67												
7/16/2018	XX	GW206XAAI	8.55	196.12	204.67												
10/1/2018	XX	GW206XAJG	13.2	191.47	204.67	23.15											
4/22/2019	XX	GW206XB4C	4.45	200.22	204.67												
7/17/2019	XX	GW206XBB5	6.6	198.07	204.67												
10/28/2019	XX	GW206XBGJ	4.5	200.17	204.67	23.15											
4/27/2020	XX	GW206XCC5	5.1	199.57	204.67												

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(MW-206) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/20/2020	XX	GW206XCGI	10.8	193.87	204.67												
10/26/2020	XX	GW206XD23	9.6	195.07	204.67	23.15											
4/5/2021	XX	GW206XDB4	4.65	200.02	204.67												
7/14/2021	XX	GW206XDIG	6.9	197.77	204.67												
10/4/2021	XX	GWXXXXE8D	5.8	198.87	204.67												
4/25/2022	XX	GWXXXXF2J	5.23	199.44	204.67												
7/18/2022	XX	GW206XF7E	12.2	192.47	204.67												
10/3/2022	XX	GWXXXXG0I	9.9	194.77	204.67	23.1											
4/17/2023	XX	GWXXXXH09	5.6	199.07	204.67												
7/10/2023	XX	GW206XH78	9.1	195.57	204.67												
10/2/2023	XX	GWXXXX07E	6.4	198.27	204.67	23.1											
4/1/2024	XX	GWXXXX143	4.6	200.07	204.67												
7/15/2024	XX	GW206X1C8	5	199.67	204.67												
10/7/2024	XX	GWXXXX20G	9.37	195.3	204.67	23.13											
MW-223A																	
11/12/1990	XX	MW-223AXX33189	0.23	176.31	176.54												
2/19/1991	XX	MW-223AXX33288	F														
6/3/1991	XX	MW-223AXX33392	0.81	175.73	176.54												
9/16/1991	XX	MW-223AXX33497	2.29	174.25	176.54												
12/17/1991	XX	MW-223AXX33589	F														
3/2/1992	XX	MW-223AXX33665	F														
6/23/1992	XX	MW-223AXX33778	1.67	174.87	176.54												
8/17/1992	XX	MW-223AXX33833	2.83	173.71	176.54												
1/26/1993	XX	MW-223AXX33995	F														
4/27/1993	XX	MW-223AXX34086	0.66	175.88	176.54												
7/21/1993	XX	MW-223AXX34171	3.41	173.13	176.54												
10/12/1993	XX	GW223X065	1.44	175.1	176.54	35.46											
10/12/1993	XX	MW-223AXX34254	6.71	169.83	176.54												
1/11/1994	XX	MW-223AXX34345	F														
5/27/1994	XX	MW-223AXX34481	0.87	175.67	176.54												
8/8/1994	XX	MW-223AXX34554	1.61	174.93	176.54												
11/15/1994	XX	MW-223AXX34653	0.98	175.56	176.54												
2/7/1995	XX	MW-223AXX34737	F														
5/23/1995	XX	MW-223AXX34842	0.64	175.9	176.54												
8/15/1995	XX	MW-223AXX34926	2.4	174.14	176.54												
11/30/1995	XX	MW-223AXX35033	0.97	175.57	176.54												
2/27/1996	XX	MW-223AXX35122	0.86	175.68	176.54												
5/21/1996	XX	MW-223AXX35206	0.62	175.92	176.54												
11/25/1996	XX	MW-223AXX35394	1.32	175.22	176.54												
3/24/1997	XX	MW-223A811-35513	F														
6/3/1997	XX	MW-223A812-35584	1.48	175.06	176.54												
9/10/1997	XX	MW-223A813-35683	1.42	175.12	176.54												
12/4/1997	XX	MW-223A814-35768	1.17	175.37	176.54												
6/11/1998	XX	MW-223A816-35957	1.58	174.96	176.54												
9/9/1998	XX	MW-223A817-36047	2.82	173.72	176.54												
12/15/1998	XX	MW-223A818-36144	1.36	175.18	176.54												
3/30/1999	XX	MW-223A819-36249	2.25	174.29	176.54												
6/9/1999	XX	MW-223A820-36320	0.84	175.7	176.54												
9/14/1999	XX	MW-223A821-36417	3.18	173.36	176.54												

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(MW-223A)

Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
12/2/1999	XX	MW-223A822-36496	0.88	175.66	176.54												
3/28/2000	XX	MW-223A823-36613	0.6	175.94	176.54												
6/13/2000	XX	MW-223A824-36690	0.97	175.57	176.54												
9/13/2000	XX	MW-223A825-36782	3.7	172.84	176.54												
12/12/2000	XX	MW-223A826-36872	2.21	174.33	176.54												
6/19/2001	XX	MW-223A827-37061	2.42	174.12	176.54												
9/11/2001	XX	MW-223A828-37145	3.67	172.87	176.54												
12/11/2001	XX	MW-223A829-37236	3.55	172.99	176.54												
3/14/2002	XX	MW-223A830-37329	0.88	175.66	176.54												
6/18/2002	XX	MW-223A831-37425	1.13	175.41	176.54												
9/19/2002	XX	MW-223A832-37518	4.04	172.5	176.54												
12/10/2002	XX	MW-223A833-37600	1.57	174.97	176.54												
5/5/2004	XX	GW223A014	0.98	175.56	176.54												
7/28/2004	XX	GW223A04A	1.95	174.59	176.54												
10/25/2004	XX	GW223A065	1.44	175.1	176.54	35.46											
5/10/2005	XX	GW223A126	0.6	175.94	176.54												
5/10/2005	XD	GWDP3X130			176.54												
7/26/2005	XX	GW223A15E	2.04	174.5	176.54												
9/21/2005	XX	GW223A18C	1.59	174.95	176.54	35.55											
5/24/2006	XX	GW223A1D7	1.1	175.44	176.54												
5/24/2006	XD	GWDP1X1DA			176.54												
7/26/2006	XX	GW223A1G4	1.25	175.29	176.54												
7/26/2006	XD	GWDP5X1I3			176.54												
9/13/2006	XX	GW223A1IH	1.6	174.94	176.54	35.65											
5/15/2007	XX	GW223A224	1.57	174.97	176.54												
7/24/2007	XX	GW223A268	2.05	174.49	176.54												
9/11/2007	XX	GW223A28I	3.5	173.04	176.54	35.45											
5/20/2008	XX	GW223A2CC	1.85	174.69	176.54												
7/30/2008	XX	GW223A2FG	1.87	174.67	176.54												
10/28/2008	XX	GW223A2I6	1.35	175.19	176.54	35.57											
4/14/2009	XX	GW223A31E	0.9	175.64	176.54												
7/7/2009	XX	GW223A35I	0.71	175.83	176.54												
10/27/2009	XX	GW223A3DD	1.35	175.19	176.54	35.44											
4/27/2010	XX	GW223A3IC	1.35	175.19	176.54												
7/20/2010	XX	GW223A41G	3.9	172.64	176.54												
10/19/2010	XX	GW223A450	2.2	174.34	176.54	35.42											
4/26/2011	XX	GW223A491	0.75	175.79	176.54												
7/19/2011	XX	GW223A4CJ	2.25	174.29	176.54												
10/25/2011	XX	GW223A4GE	0.7	175.84	176.54	35.56											
4/24/2012	XX	GW223A514	0.4	176.14	176.54												
7/24/2012	XX	GW223A563	2.1	174.44	176.54												
10/23/2012	XX	GW223A5CE	0.5	176.04	176.54	35.48											
4/23/2013	XX	GW223A5H5	0.31	176.23	176.54												
7/30/2013	XX	GW223A63A	1.09	175.45	176.54												
10/29/2013	XX	GW223A663	1.95	174.59	176.54	35.56											
4/22/2014	XX	GW223A6E6	0.4	176.14	176.54												
7/29/2014	XX	GW223A6ID	1.15	175.39	176.54												
10/21/2014	XX	GW223A723	2.43	174.11	176.54	35.57											
4/28/2015	XX	GW223A781	0.8	175.74	176.54												

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(MW-223A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/14/2015	XX	GW223A7BD	1.82	174.72	176.54												
10/27/2015	XX	GW223A7H2	1.4	175.14	176.54	35.57											
4/5/2016	XX	GW223A85CX	F														
4/27/2016	XX	GW223A85C	0.14	176.4	176.54												
7/26/2016	XX	GW223A8A2	2.75	173.79	176.54												
10/25/2016	XX	GW223A8I1	3.7	172.84	176.54	35.57											
4/18/2017	XX	GW223A967	1.3	175.24	176.54												
7/25/2017	XX	GW223A9C5	2.8	173.74	176.54												
10/24/2017	XX	GW223A9G0	4.5	172.04	176.54	35.57											
4/3/2018	XX	GW223AA1I	1.4	175.14	176.54												
7/17/2018	XX	GW223AAB0	3.6	172.94	176.54												
10/2/2018	XX	GW223AAJI	4.95	171.59	176.54	35.6											
4/23/2019	XX	GW223AB4E	2.03	174.51	176.54												
7/16/2019	XX	GW223ABB7	1.9	174.64	176.54												
10/29/2019	XX	GW223ABH0	0.93	175.61	176.54	35.57											
4/28/2020	XX	GW223ACC7	1.55	174.99	176.54												
7/21/2020	XX	GW223ACH0	3.42	173.12	176.54												
10/27/2020	XX	GW223AD24	2.8	173.74	176.54	35.57											
4/6/2021	XX	GW223ADB6	1.6	174.94	176.54												
7/13/2021	XX	GW223ADII	3.15	173.39	176.54												
10/5/2021	XX	GW223AE56	2.35	174.19	176.54												
4/26/2022	XX	GW223AEJI	1.9	174.64	176.54												
7/19/2022	XX	GW223AF7G	5	171.54	176.54												
10/4/2022	XX	GW223AFHH	3	173.54	176.54	35.57											
4/18/2023	XX	GW223AGH8	3.23	173.31	176.54												
7/11/2023	XX	GW223AH7A	4.1	172.44	176.54												
10/2/2023	XX	GW223A04H	4.72	171.82	176.54	35.57											
4/2/2024	XX	GW223A118	3.5	173.04	176.54												
7/15/2024	XX	GW223A1CA	4.4	172.14	176.54												
10/8/2024	XX	GW223A1I1	6.65	169.89	176.54	35.62											
MW-223B																	
11/12/1990	XX	MW-223BXX33189	2.36	173.57	175.93												
2/19/1991	XX	MW-223BXX33288	F														
6/3/1991	XX	MW-223BXX33392	0.69	175.24	175.93												
9/16/1991	XX	MW-223BXX33497	3.34	172.59	175.93												
12/17/1991	XX	MW-223BXX33589	F														
3/2/1992	XX	MW-223BXX33665	F														
6/23/1992	XX	MW-223BXX33778	2.27	173.66	175.93												
8/17/1992	XX	MW-223BXX33833	3.61	172.32	175.93												
1/26/1993	XX	MW-223BXX33995	F														
4/27/1993	XX	MW-223BXX34086	1.42	174.51	175.93												
7/21/1993	XX	MW-223BXX34171	4.38	171.55	175.93												
10/12/1993	XX	MW-223BXX34254	6.9	169.03	175.93												
1/11/1994	XX	MW-223BXX34345	F														
5/26/1994	XX	MW-223BXX34480	1.74	174.19	175.93												
8/8/1994	XX	MW-223BXX34554	2.53	173.4	175.93												
11/15/1994	XX	MW-223BXX34653	1.98	173.95	175.93												
2/7/1995	XX	MW-223BXX34737	F														
5/23/1995	XX	MW-223BXX34842	1.6	174.33	175.93												

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(MW-223B)

Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
8/15/1995	XX	MW-223BXX34926	3.4	172.53	175.93												
11/30/1995	XX	MW-223BXX35033	1.95	173.98	175.93												
2/27/1996	XX	MW-223BXX35122	1.66	174.27	175.93												
5/21/1996	XX	MW-223BXX35206	1.24	174.69	175.93												
11/25/1996	XX	MW-223BXX35394	2.82	173.11	175.93												
3/24/1997	XX	MW-223B812-35513	F														
6/3/1997	XX	MW-223B813-35584	2.51	173.42	175.93												
9/10/1997	XX	MW-223B814-35683	4.05	171.88	175.93												
12/4/1997	XX	MW-223B815-35768	2.76	173.17	175.93												
6/8/1998	XX	MW-223B817-35954	2.63	173.3	175.93												
9/9/1998	XX	MW-223B818-36047	5.06	170.87	175.93												
12/15/1998	XX	MW-223B819-36144	2.42	173.51	175.93												
3/30/1999	XX	MW-223B820-36249	1.71	174.22	175.93												
6/9/1999	XX	MW-223B821-36320	1.94	173.99	175.93												
9/14/1999	XX	MW-223B822-36417	4.18	171.75	175.93												
12/2/1999	XX	MW-223B823-36496	2.24	173.69	175.93												
3/28/2000	XX	MW-223B824-36613	1.62	174.31	175.93												
6/13/2000	XX	MW-223B825-36690	2.07	173.86	175.93												
9/13/2000	XX	MW-223B826-36782	4.41	171.52	175.93												
12/12/2000	XX	MW-223B827-36872	2.97	172.96	175.93												
6/19/2001	XX	MW-223B828-37061	3.62	172.31	175.93												
9/11/2001	XX	MW-223B829-37145	4.75	171.18	175.93												
12/11/2001	XX	MW-223B830-37236	4.5	171.43	175.93												
3/14/2002	XX	MW-223B831-37329	2.62	173.31	175.93												
6/18/2002	XX	MW-223B832-37425	2.32	173.61	175.93												
9/19/2002	XX	MW-223B833-37518	5.25	170.68	175.93												
12/10/2002	XX	MW-223B834-37600	2.72	173.21	175.93												
5/5/2004	XX	GW223B00A	1.98	173.95	175.93												
7/27/2004	XX	GW223B03I	3.26	172.67	175.93												
10/25/2004	XX	GW223B07E	2.71	173.22	175.93	19.95											
5/10/2005	XX	GW223B13F	2	173.93	175.93												
7/26/2005	XX	GW223B173	4.03	171.9	175.93												
9/21/2005	XX	GW223B1A1	2.85	173.08	175.93	20.1											
5/24/2006	XX	GW223B1EG	2.41	173.52	175.93												
7/26/2006	XX	GW223B1HD	2.52	173.41	175.93												
9/13/2006	XX	GW223B206	2.92	173.01	175.93	20.1											
5/15/2007	XX	GW223B23D	2.8	173.13	175.93												
7/24/2007	XX	GW223B27H	3.28	172.65	175.93												
9/11/2007	XX	GW223B2A7	4.46	171.47	175.93	19.93											
5/20/2008	XX	GW223B2E1	3.2	172.73	175.93												
7/30/2008	XX	GW223B2H5	3.17	172.76	175.93												
10/28/2008	XX	GW223B2JF	2.6	173.33	175.93	20.1											
4/14/2009	XX	GW223B333	2.5	173.43	175.93												
7/7/2009	XX	GW223B377	2	173.93	175.93												
10/27/2009	XX	GW223B3F2	2.65	173.28	175.93	19.95											
4/27/2010	XX	GW223B401	2.67	173.26	175.93												
7/20/2010	XX	GW223B435	4.92	171.01	175.93												
10/19/2010	XX	GW223B469	3.45	172.48	175.93	20											
4/26/2011	XX	GW223B4AA	2.2	173.73	175.93												

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(MW-223B) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/19/2011	XX	GW223B4E8	3.7	172.23	175.93												
10/25/2011	XX	GW223B4I3	2.2	173.73	175.93	19.93											
4/24/2012	XX	GW223B52D	1.95	173.98	175.93												
7/24/2012	XX	GW223B57C	3.8	172.13	175.93												
10/23/2012	XX	GW223B5E3	2.1	173.83	175.93	20.05											
4/23/2013	XX	GW223B5IE	2.18	173.75	175.93												
7/30/2013	XX	GW223B64J	2.77	173.16	175.93												
10/29/2013	XX	GW223B67C	3.3	172.63	175.93	20.07											
4/22/2014	XX	GW223B6FF	2	173.93	175.93												
7/29/2014	XX	GW223B700	2.7	173.23	175.93												
10/21/2014	XX	GW223B73C	3.5	172.43	175.93	20.07											
4/28/2015	XX	GW223B798	2.15	173.78	175.93												
7/14/2015	XX	GW223B7D0	3.4	172.53	175.93												
10/27/2015	XX	GW223B7I9	2.8	173.13	175.93	20.05											
4/5/2016	XX	GW223B86J	2.4	173.53	175.93												
7/26/2016	XX	GW223B8B9	4	171.93	175.93												
10/25/2016	XX	GW223B8J8	4.5	171.43	175.93	20.07											
4/18/2017	XX	GW223B97E	3.2	172.73	175.93												
7/25/2017	XX	GW223B9DC	4.17	171.76	175.93												
10/24/2017	XX	GW223B9H7	5.25	170.68	175.93	20.06											
4/3/2018	XX	GW223BA36	2.7	173.23	175.93												
7/17/2018	XX	GW223BAC7	4.71	171.22	175.93												
10/2/2018	XX	GW223BB15	5.7	170.23	175.93	20.07											
4/23/2019	XX	GW223BB62	2.45	173.48	175.93												
7/16/2019	XX	GW223BBCD	3.3	172.63	175.93												
10/29/2019	XX	GW223BBI6	2.4	173.53	175.93	20.07											
4/28/2020	XX	GW223BCDD	2.8	173.13	175.93												
7/21/2020	XX	GW223BCI6	4.5	171.43	175.93												
10/27/2020	XX	GW223BD3A	3.8	172.13	175.93	20.07											
4/6/2021	XX	GW223BDCC	2.9	173.03	175.93												
7/13/2021	XX	GW223BE04	3.4	172.53	175.93												
10/5/2021	XX	GW223BE6C	3.6	172.33	175.93												
4/26/2022	XX	GW223BF14	3.15	172.78	175.93												
7/19/2022	XX	GW223BF92	6.05	169.88	175.93												
10/4/2022	XX	GW223BFJ3	4.2	171.73	175.93	20.1											
4/18/2023	XX	GW223BGIE	4.35	171.58	175.93												
7/11/2023	XX	GW223BH8G	4.81	171.12	175.93												
10/2/2023	XX	GW223B063	6	169.93	175.93	20.1											
4/2/2024	XX	GW223B12D	4.3	171.63	175.93												
7/16/2024	XX	GW223B1DF	5.15	170.78	175.93												
10/8/2024	XX	GW223B1J6	7.2	168.73	175.93	20.21											
MW-227																	
11/13/1990	XX	MW-227XX33190	3.88	160.35	164.23												
2/19/1991	XX	MW-227XX33288	F														
6/3/1991	XX	MW-227XX33392	3.14	161.09	164.23												
9/16/1991	XX	MW-227XX33497	7.69	156.54	164.23												
12/17/1991	XX	MW-227XX33589	4.28	159.95	164.23												
3/2/1992	XX	MW-227XX33665	F														
6/23/1992	XX	MW-227XX33778	6.17	158.06	164.23												

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Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
8/17/1992	XX	MW-227XX33833	9.06	155.17	164.23												
1/26/1993	XX	MW-227XX33995	F														
4/27/1993	XX	MW-227XX34086	4.15	160.08	164.23												
7/21/1993	XX	MW-227XX34171	11.1	153.13	164.23												
10/12/1993	XX	MW-227XX34254	14.73	149.5	164.23												
1/11/1994	XX	MW-227XX34345	F														
5/26/1994	XX	MW-227XX34480	4.8	159.43	164.23												
8/8/1994	XX	MW-227XX34554	4.71	159.52	164.23												
11/15/1994	XX	MW-227XX34653	4.36	159.87	164.23												
2/7/1995	XX	MW-227XX34737	F														
5/23/1995	XX	MW-227XX34842	4.25	159.98	164.23												
8/15/1995	XX	MW-227XX34926	7.9	156.33	164.23												
11/30/1995	XX	MW-227XX35033	4.65	159.58	164.23												
2/27/1996	XX	MW-227XX35122	F														
5/21/1996	XX	MW-227XX35206	4.09	160.14	164.23												
11/25/1996	XX	MW-227XX35394	4.96	159.27	164.23												
3/24/1997	XX	MW-227813-35513	F														
6/3/1997	XX	MW-227814-35584	5.32	158.91	164.23												
9/9/1997	XX	MW-227815-35682	5.16	159.07	164.23												
12/4/1997	XX	MW-227816-35768	4.89	159.34	164.23												
3/25/1998	XX	MW-227817-35879	4.93	159.3	164.23												
6/8/1998	XX	MW-227818-35954	6.04	158.19	164.23												
9/9/1998	XX	MW-227819-36047	10.8	153.43	164.23												
12/15/1998	XX	MW-227820-36144	4.8	159.43	164.23												
3/29/1999	XX	MW-227821-36248	4.1	160.13	164.23												
6/8/1999	XX	MW-227822-36319	5.08	159.15	164.23												
9/13/1999	XX	MW-227823-36416	8.47	155.76	164.23												
12/1/1999	XX	MW-227824-36495	4.62	159.61	164.23												
3/27/2000	XX	MW-227825-36612	4.32	159.91	164.23												
6/12/2000	XX	MW-227826-36689	4.59	159.64	164.23												
9/12/2000	XX	MW-227827-36781	9.93	154.3	164.23												
12/11/2000	XX	MW-227828-36871	5.1	159.13	164.23												
3/12/2001	XX	MW-227829-36962	5.01	159.22	164.23												
6/18/2001	XX	MW-227830-37060	7.04	157.19	164.23												
9/10/2001	XX	MW-227831-37144	10.52	153.71	164.23												
12/12/2001	XX	MW-227832-37237	5.25	158.98	164.23												
3/14/2002	XX	MW-227833-37329	4.28	159.95	164.23												
6/17/2002	XX	MW-227834-37424	4.5	159.73	164.23												
9/18/2002	XX	MW-227835-37517	13.12	151.11	164.23												
12/9/2002	XX	MW-227836-37599	5.35	158.88	164.23												
5/5/2004	XX	GW227X015	3.96	160.27	164.23												
7/26/2004	XX	GW227X04B	5.73	158.5	164.23												
10/26/2004	XX	GW227X066	4.4	159.83	164.23	22.21											
5/9/2005	XX	GW227X127	3.9	160.33	164.23												
7/27/2005	XX	GW227X15F	7.14	157.09	164.23												
9/21/2005	XX	GW227X18D	4.34	159.89	164.23	22.34											
5/24/2006	XX	GW227X1D8	4.25	159.98	164.23												
7/26/2006	XX	GW227X1G5	4.33	159.9	164.23												
9/13/2006	XX	GW227X1II	4.9	159.33	164.23	22.35											

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Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
5/15/2007	XX	GW227X225	4.21	160.02	164.23												
7/24/2007	XX	GW227X269	4.6	159.63	164.23												
9/11/2007	XX	GW227X28J	6.04	158.19	164.23	22.33											
5/20/2008	XX	GW227X2CD	4.38	159.85	164.23												
7/30/2008	XX	GW227X2FH	4.36	159.87	164.23												
10/27/2008	XX	GW227X2I7	4	160.23	164.23	22.33											
4/14/2009	XX	GW227X31F	4.12	160.11	164.23												
7/7/2009	XX	GW227X35J	3.85	160.38	164.23												
10/27/2009	XX	GW227X3DE	4.1	160.13	164.23	22.2											
4/27/2010	XX	GW227X3ID	4.23	160	164.23												
7/20/2010	XX	GW227X41H	6.65	157.58	164.23												
10/19/2010	XX	GW227X451	4.42	159.81	164.23	22.3											
4/26/2011	XX	GW227X492	4.1	160.13	164.23												
7/19/2011	XX	GW227X4D0	5.75	158.48	164.23												
10/25/2011	XX	GW227X4GF	4.05	160.18	164.23	22.28											
4/24/2012	XX	GW227X515	3.64	160.59	164.23												
7/24/2012	XX	GW227X564	6.45	157.78	164.23												
10/23/2012	XX	GW227X5CF	4.23	160	164.23	22.3											
4/23/2013	XX	GW227X5H6	4.33	159.9	164.23												
7/30/2013	XX	GW227X63B	4.39	159.84	164.23												
10/29/2013	XX	GW227X664	4.65	159.58	164.23	22.28											
4/22/2014	XX	GW227X6E7	4.2	160.03	164.23												
7/29/2014	XX	GW227X6IE	4.43	159.8	164.23												
10/21/2014	XX	GW227X724	4.6	159.63	164.23	22.3											
4/28/2015	XX	GW227X782	4.3	159.93	164.23												
7/14/2015	XX	GW227X7BE	5.8	158.43	164.23												
10/27/2015	XX	GW227X7H3	4.6	159.63	164.23	22.3											
4/5/2016	XX	GW227X85D	4.5	159.73	164.23												
7/26/2016	XX	GW227X8A3	5.55	158.68	164.23												
10/25/2016	XX	GW227X8I2	4.61	159.62	164.23	22.3											
4/18/2017	XX	GW227X968	4.6	159.63	164.23												
7/25/2017	XX	GW227X9C6	6.2	158.03	164.23												
10/24/2017	XX	GW227X9G1	5.65	158.58	164.23	22.3											
4/3/2018	XX	GW227XA1J	4.2	160.03	164.23												
7/17/2018	XX	GW227XAB1	5.85	158.38	164.23												
10/2/2018	XX	GW227XAJJ	5.18	159.05	164.23	22.3											
4/23/2019	XX	GW227XB4F	4.13	160.1	164.23												
7/16/2019	XX	GW227XBB8	4.75	159.48	164.23												
10/29/2019	XX	GW227XBH1	4.19	160.04	164.23	22.3											
4/28/2020	XX	GW227XCC8	4.31	159.92	164.23												
7/21/2020	XX	GW227XCH1	5.05	159.18	164.23												
10/27/2020	XX	GW227XD25	4.45	159.78	164.23	22.31											
4/6/2021	XX	GW227XDB7	4.33	159.9	164.23												
7/13/2021	XX	GW227XDIJ	4.8	159.43	164.23												
10/5/2021	XX	GW227XE57	4.65	159.58	164.23												
4/26/2022	XX	GW227XEJJ	4.6	159.63	164.23												
7/19/2022	XX	GW227XF7H	5.9	158.33	164.23												
10/4/2022	XX	GW227XFHI	4.85	159.38	164.23	22.32											
4/18/2023	XX	GW227XGH9	4.7	159.53	164.23												

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(MW-227) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/11/2023	XX	GW227XH7B	4.5	159.73	164.23												
10/2/2023	XX	GW227X04I	4.7	159.53	164.23	22.32											
4/2/2024	XX	GW227X119	4.4	159.83	164.23												
7/16/2024	XX	GW227X1CB	4.25	159.98	164.23												
10/8/2024	XX	GW227X1I2	5.15	159.08	164.23	22.41											
MW-301																	
11/25/1996	XX	MW-301XX35394	*														
3/24/1997	XX	MW-301815-35513	F														
6/3/1997	XX	MW-301816-35584	0	166.36	166.36												
9/9/1997	XX	MW-301817-35682	0	166.36	166.36												
12/3/1997	XX	MW-301818-35767	0	166.36	166.36												
3/23/1998	XX	MW-301819-35877	0	166.36	166.36												
6/8/1998	XX	MW-301820-35954	0	166.36	166.36												
9/9/1998	XX	MW-301821-36047	0.1	166.26	166.36												
12/14/1998	XX	MW-301822-36143	0	166.36	166.36												
3/29/1999	XX	MW-301823-36248	0	166.36	166.36												
6/8/1999	XX	MW-301824-36319	0	166.36	166.36												
9/13/1999	XX	MW-301825-36416	0	166.36	166.36												
12/1/1999	XX	MW-301826-36495	0	166.36	166.36												
3/27/2000	XX	MW-301827-36612	0	166.36	166.36												
6/12/2000	XX	MW-301828-36689	0	166.36	166.36												
9/12/2000	XX	MW-301829-36781	0	166.36	166.36												
6/18/2001	XX	MW-301830-37060	0	166.36	166.36												
9/10/2001	XX	MW-301831-37144	0.88	165.48	166.36												
12/11/2001	XX	MW-301832-37236	0.9	165.46	166.36												
3/13/2002	XX	MW-301833-37328	0	166.36	166.36												
6/17/2002	XX	MW-301834-37424	0	166.36	166.36												
9/18/2002	XX	MW-301835-37517	1.29	165.07	166.36												
5/5/2004	XX	GW301X016	1.68	164.68	166.36												
7/26/2004	XX	GW301X04C	2.15	164.21	166.36												
10/25/2004	XX	GW301X067	1.81	164.55	166.36	185.13											
5/9/2005	XX	GW301X128	0.6	165.76	166.36												
8/1/2005	XX	GW301X15G	2.32	164.04	166.36												
9/22/2005	XX	GW301X18E	2.73	163.63	166.36	184.4											
5/22/2006	XX	GW301X1D9	4.25	162.11	166.36												
7/24/2006	XX	GW301X1G6	4.03	162.33	166.36												
9/11/2006	XX	GW301X1IJ	3.93	162.43	166.36	184.05											
5/14/2007	XX	GW301X226	4.7	161.66	166.36												
7/23/2007	XX	GW301X26A	4.3	162.06	166.36												
9/10/2007	XX	GW301X290	4.76	161.6	166.36	183.75											
5/19/2008	XX	GW301X2CE	4.53	161.83	166.36												
7/30/2008	XX	GW301X2FI	4.4	161.96	166.36												
10/28/2008	XX	GW301X2I8	4.3	162.06	166.36	185.05											
4/15/2009	XX	GW301X31G	4.84	161.52	166.36												
7/7/2009	XX	GW301X360	4.1	162.26	166.36												
10/26/2009	XX	GW301X3DF	4.25	162.11	166.36	185.15											
4/26/2010	XX	GW301X3IE	5.2	161.16	166.36												
7/19/2010	XX	GW301X41I	5.16	161.2	166.36												
10/19/2010	XX	GW301X452	4.96	161.4	166.36	182.45											

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(MW-301) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/27/2011	XX	GW301X493	4.31	162.05	166.36												
7/20/2011	XX	GW301X4D1	5.1	161.26	166.36												
10/26/2011	XX	GW301X4GG	4.11	162.25	166.36	185.1											
4/25/2012	XX	GW301X516	3.93	162.43	166.36												
7/25/2012	XX	GW301X565	5	161.36	166.36												
10/24/2012	XX	GW301X5CG	4.56	161.8	166.36	179.61											
4/22/2013	XX	GW301X5H7	!		166.36												
7/31/2013	XX	GW301X63C	0.04	165.87	165.91												
10/30/2013	XX	GW301X665	0.1	165.81	165.91	184.1											
4/23/2014	XX	GW301X6E8	F1	165.91	165.91												
7/30/2014	XX	GW301X6IF	F1	165.91	165.91												
10/22/2014	XX	GW301X725	0.3	165.61	165.91	184.1											
4/29/2015	XX	GW301X783	0.25	165.66	165.91												
7/15/2015	XX	GW301X7BF	0.2	165.71	165.91												
10/27/2015	XX	GW301X7H4	0.23	165.68	165.91	185.11											
4/6/2016	XX	GW301X85EX	F														
4/27/2016	XX	GW301X85E	0.3	165.61	165.91												
7/27/2016	XX	GW301X8A4	0.42	165.49	165.91												
10/26/2016	XX	GW301X8I3	0.38	165.53	165.91	185.11											
4/19/2017	XX	GW301X969	0.35	165.56	165.91												
7/26/2017	XX	GW301X9C7	0.3	165.61	165.91												
10/25/2017	XX	GW301X9G2	0.2	165.71	165.91	185.11											
4/4/2018	XX	GW301XA20	0.3	165.61	165.91												
7/18/2018	XX	GW301XAB2	F1														
10/1/2018	XX	GW301XB00	0.95	164.96	165.91	185.13											
4/24/2019	XX	GW301XB4G	0.35	165.56	165.91												
7/17/2019	XX	GW301XBB9	1.5	164.41	165.91												
10/28/2019	XX	GW301XBH2	F1		165.91	185.1											
4/27/2020	XX	GW301XCC9	0.31	165.6	165.91												
7/20/2020	XX	GW301XCH2	0.02	165.89	165.91												
10/26/2020	XX	GW301XD26	1.8	164.11	165.91	185.12											
4/5/2021	XX	GW301XDB8	0.5	165.41	165.91												
7/12/2021	XX	GW301XDJ0	0.77	165.14	165.91												
10/4/2021	XX	GW301XE58	0.9	165.01	165.91												
4/25/2022	XX	GW301XF00	0.15	165.76	165.91												
7/18/2022	XX	GW301XF7I	1.5	164.41	165.91												
10/3/2022	XX	GW301XFHJ	3	162.91	165.91	185.11											
4/17/2023	XX	GW301XGHA	0.1	165.81	165.91												
7/10/2023	XX	GW301XH7C	0.85	165.06	165.91												
10/2/2023	XX	GW301X04J	3.1	162.81	165.91	185.11											
4/1/2024	XX	GW301X11A	0.3	165.61	165.91												
7/15/2024	XX	GW301X1CC	0.53	165.38	165.91												
10/7/2024	XX	GW301X1I3	0.15	165.76	165.91	185.11											
MW-302 & MW-302R																	
5/20/2008	XX	GW302X2DJ	7.3	199.56	206.86												
7/29/2008	XX	GW302X2H3	8.27	198.59	206.86												
10/27/2008	XX	GW302X2JD	7.72	199.14	206.86	32.25											
4/13/2009	XX	GW302X331	5.75	201.11	206.86												
7/6/2009	XX	GW302X375	5	201.86	206.86												

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(MW-302 & MW-302R) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
10/27/2009	XX	GW302X3F0	8.46	198.4	206.86	32.25											
4/26/2010	XX	GW302X3JJ	7.53	199.33	206.86												
7/19/2010	XX	GW302X433	15.91	190.95	206.86												
10/18/2010	XX	GW302X467	8.05	198.81	206.86	32.22											
4/25/2011	XX	GW302X4A8	5.3	201.56	206.86												
7/18/2011	XX	GW302X4E6	11.2	195.66	206.86												
10/24/2011	XX	GW302X4I1	6.6	200.26	206.86	32.2											
4/23/2012	XX	GW302X52B	9.02	197.84	206.86												
7/23/2012	XX	GW302X57A	11.25	195.61	206.86												
10/22/2012	XX	GW302X5E1	4.12	202.74	206.86	32.2											
4/22/2013	XX	GW302X5IC	7.15	199.71	206.86												
7/29/2013	XX	GW302X64H	8.39	198.47	206.86												
10/28/2013	XX	GW302X67A	14.15	192.71	206.86	32.22											
4/21/2014	XX	GW302X6FD	5.55	201.31	206.86												
7/28/2014	XX	GW302X6JJ	9.48	197.38	206.86												
10/20/2014	XX	GW302X73A	15.75	191.11	206.86	32.22											
4/27/2015	XX	GW302X797	5.25	201.61	206.86												
7/13/2015	XX	GW302X7CJ	9.82	197.04	206.86												
10/26/2015	XX	GW302X7I8	9.2	197.66	206.86	32.22											
4/4/2016	XX	GW302X86I	5.62	201.24	206.86												
7/25/2016	XX	GW302X8B8	15.63	191.23	206.86												
10/24/2016	XX	GW302X8J7	18.5	188.36	206.86	32.22											
4/17/2017	XX	GW302X97D	5.4	201.46	206.86												
7/24/2017	XX	GW302X9DB	15.51	191.35	206.86												
10/23/2017	XX	GW302X9H6	19.35	187.51	206.86	32.25											
4/2/2018	XX	GW302XA35	4.5	202.36	206.86												
7/16/2018	XX	GW302XAC6	15.78	191.08	206.86												
10/1/2018	XX	GW302XB14	19.6	187.26	206.86	32.23											
4/22/2019	XX	GW302XB61	4.53	202.33	206.86												
7/17/2019	XX	GW302XBCC	8.55	198.31	206.86												
10/28/2019	XX	GW302XBI5	5.17	201.69	206.86	32.2											
4/27/2020	XX	GW302XCDC	6.97	199.89	206.86												
7/20/2020	XX	GW302XCI5	15.95	190.91	206.86												
10/26/2020	XX	GW302XD39	13.8	193.06	206.86	32.27											
4/5/2021	XX	GW302XDCB	6.3	200.56	206.86												
7/12/2021	XX	GW302XE03	14.45	192.41	206.86												
10/4/2021	XX	GW302XE6B	11.2	195.66	206.86												
4/25/2022	XX	GW302XF13	7.5	199.36	206.86												
7/18/2022	XX	GW302XF91	16.9	189.96	206.86												
10/3/2022	XX	GW302XFJ2	DE	DE	206.86	DE											
MW-303 & MW12-303R																	
11/26/1996	XX	MW-303XX35395	26.78	181.09	207.87												
3/26/1997	XX	MW-303828-35515	24.88	182.99	207.87												
6/2/1997	XX	MW-303829-35583	21.37	186.5	207.87												
9/8/1997	XX	MW-303830-35681	27.15	180.72	207.87												
12/3/1997	XX	MW-303831-35767	28.54	179.33	207.87												
3/25/1998	XX	MW-303832-35879	23.27	184.6	207.87												
6/9/1998	XX	MW-303833-35955	23.03	184.84	207.87												
9/8/1998	XX	MW-303834-36046	26.51	181.36	207.87												

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Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
12/14/1998	XX	MW-303835-36143	29.45	178.42	207.87												
3/29/1999	XX	MW-303836-36248	21.09	186.78	207.87												
6/8/1999	XX	MW-303837-36319	23.61	184.26	207.87												
9/13/1999	XX	MW-303838-36416	29.52	178.35	207.87												
12/1/1999	XX	MW-303839-36495	25.66	182.21	207.87												
3/27/2000	XX	MW-303840-36612	21.02	186.85	207.87												
6/12/2000	XX	MW-303841-36689	21.4	186.47	207.87												
9/13/2000	XX	MW-303842-36782	28.05	179.82	207.87												
12/11/2000	XX	MW-303843-36871	31	176.87	207.87												
3/13/2001	XX	MW-303844-36963	30.9	176.97	207.87												
6/19/2001	XX	MW-303845-37061	26.57	181.3	207.87												
9/11/2001	XX	MW-303846-37145	30.48	177.39	207.87												
12/12/2001	XX	MW-303847-37237	23.05	184.82	207.87												
3/13/2002	XX	MW-303848-37328	31.17	176.7	207.87												
6/17/2002	XX	MW-303849-37424	23.8	184.07	207.87												
9/18/2002	XX	MW-303850-37517	29.2	178.67	207.87												
12/9/2002	XX	MW-303851-37599	30.32	177.55	207.87												
5/6/2004	XX	GW303X00C	23.31	184.56	207.87												
7/28/2004	XX	GW303X040	25.3	182.57	207.87												
10/26/2004	XX	GW303X07G	27.93	179.94	207.87	46.83											
5/11/2005	XX	GW303X13H	19.75	188.12	207.87												
8/1/2005	XX	GW303X175	23.2	184.67	207.87												
8/1/2005	XD	GWDP1X15H			207.87												
9/19/2005	XX	GW303X1A3	25.3	182.57	207.87	46.93											
5/23/2006	XX	GW303X1EI	22.5	185.37	207.87												
7/24/2006	XX	GW303X1HF	22.45	185.42	207.87												
7/24/2006	XD	GWDP4X1H4			207.87												
9/12/2006	XX	GW303X208	23.36	184.51	207.87	46.9											
5/14/2007	XX	GW303X23F	21.48	186.39	207.87												
7/25/2007	XX	GW303X27J	25.9	181.97	207.87												
9/11/2007	XX	GW303X2A9	28.7	179.17	207.87	46.85											
5/19/2008	XX	GW303X2E3	21.18	186.69	207.87												
7/29/2008	XX	GW303X2H7	24.82	183.05	207.87												
10/27/2008	XX	GW303X2JH	26.2	181.67	207.87	46.9											
4/13/2009	XX	GW303X335	21	186.87	207.87												
7/6/2009	XX	GW303X379	21.6	186.27	207.87												
10/28/2009	XX	GW303X3F4	26.45	181.42	207.87	46.8											
4/26/2010	XX	GW303X403	21.6	186.27	207.87												
7/19/2010	XX	GW303X437	26.8	181.07	207.87												
10/18/2010	XX	GW303X46B	30.9	176.97	207.87	46.76											
4/25/2011	XX	GW303X4AC	21.1	186.77	207.87												
7/18/2011	XX	GW303X4EA	24.35	183.52	207.87												
10/24/2011	XX	GW303X4I5	26.4	181.47	207.87	46.82											
4/23/2012	XX	GW303X52F	24.95	182.92	207.87												
7/24/2012	XX	GW303X57E	!	!	207.87	!											
10/23/2012	XX	GW303X5EG	27.47	181.42	208.89	43.32											
4/22/2013	XX	GW303X5IG	25.63	183.26	208.89												
7/29/2013	XX	GW303X651	25.98	182.91	208.89												
10/28/2013	XX	GW303X67D	27.43	181.46	208.89	43.38											

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(MW-303 & MW12-303R) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/21/2014	XX	GW303X6FH	24.35	184.54	208.89												
7/28/2014	XX	GW303X701	26.08	182.81	208.89												
10/20/2014	XX	GW303X73D	30.08	178.81	208.89	43.38											
4/27/2015	XX	GW303X799	25.4	183.49	208.89												
6/18/2015	XX	42173-1	26.3	182.59	208.89												
7/13/2015	XX	GW303X7D1	26.82	182.07	208.89												
10/26/2015	XX	GW303X7IA	29.29	179.6	208.89	43.4											
4/4/2016	XX	GW303X870	24.55	184.34	208.89												
7/25/2016	XX	GW303X8BA	28.5	180.39	208.89												
10/24/2016	XX	GW303X8J9	32.5	176.39	208.89	43.4											
4/17/2017	XX	GW303X97F	26.6	182.29	208.89												
7/24/2017	XX	GW303X9DD	27.39	181.5	208.89												
10/23/2017	XX	GW303X9H8	31.95	176.94	208.89	43.4											
4/2/2018	XX	GW303XA37	27.25	181.64	208.89												
7/16/2018	XX	GW303XAC8	28.3	180.59	208.89												
10/1/2018	XX	GW303XB16	32.08	176.81	208.89	43.4											
4/22/2019	XX	GW303XB63	27.75	181.14	208.89												
7/17/2019	XX	GW303XBCE	27	181.89	208.89												
10/28/2019	XX	GW303XBI7	29.12	179.77	208.89	43.4											
4/27/2020	XX	GW303XCDE	28.6	180.29	208.89												
7/20/2020	XX	GW303XCI7	31.1	177.79	208.89												
10/26/2020	XX	GW303XD3B	33.4	175.49	208.89	43.4											
4/5/2021	XX	GW303XDCD	30.3	178.59	208.89												
7/12/2021	XX	GW303XE05	31.6	177.29	208.89												
10/4/2021	XX	GW303XE6D	31.77	177.12	208.89												
4/25/2022	XX	GW303XF15	27.65	181.24	208.89												
7/18/2022	XX	GW303XF93	30.6	178.29	208.89												
10/3/2022	XX	GW303XFJ4	33.15	175.74	208.89	43.4											
4/17/2023	XX	GW303XGIF	28	180.89	208.89												
7/10/2023	XX	GW303XH8H	28.5	180.39	208.89												
10/2/2023	XX	GW303X064	29.1	179.79	208.89	43.4											
4/1/2024	XX	GW303X12E	28	180.89	208.89												
7/15/2024	XX	GW303X1DG	29.1	179.79	208.89												
10/7/2024	XX	GW303X1J7	31.5	177.39	208.89	43.35											
MW-304A																	
7/29/2004	XX	GW304AHD0	28.55	188.77	217.32												
10/27/2004	XX	GW304A07B	30.2	187.12	217.32	42.28											
5/11/2005	XX	GW304A13C	23	194.32	217.32												
7/28/2005	XX	GW304A170	26.95	190.37	217.32												
9/19/2005	XX	GW304A19I	26.45	190.87	217.32	42.45											
5/24/2006	XX	GW304A1ED	27.1	190.21	217.31												
7/25/2006	XX	GW304A1HA	26.95	190.36	217.31												
9/12/2006	XX	GW304A203	27.7	189.61	217.31	42.4											
5/15/2007	XX	GW304A23A	25.8	191.51	217.31												
7/24/2007	XX	GW304A27E	29.25	188.06	217.31												
9/11/2007	XX	GW304A2A4	30.74	186.57	217.31	42.4											
5/20/2008	XX	GW304A2DI	25.3	192.01	217.31												
7/29/2008	XX	GW304A2H2	28.76	188.55	217.31												
10/27/2008	XX	GW304A2JC	29.2	188.11	217.31	42.26											

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(MW-304A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
4/13/2009	XX	GW304A330	25.62	191.69	217.31	
7/6/2009	XX	GW304A374	26.42	190.89	217.31	
10/27/2009	XX	GW304A3EJ	30.08	187.23	217.31	42.25
4/26/2010	XX	GW304A3JI	26.1	191.21	217.31	
7/19/2010	XX	GW304A432	29.9	187.41	217.31	
10/18/2010	XX	GW304A466	32.81	184.5	217.31	42.23
4/25/2011	XX	GW304A4A7	24.65	192.66	217.31	
7/18/2011	XX	GW304A4E5	28	189.31	217.31	
10/24/2011	XX	GW304A4I0	29.65	187.66	217.31	42.28
4/23/2012	XX	GW304A52A	29.3	188.01	217.31	
7/23/2012	XX	GW304A579	28.85	188.46	217.31	
10/22/2012	XX	GW304A5E0	29.75	187.56	217.31	42.28
4/22/2013	XX	GW304A5IB	29.65	187.66	217.31	
7/29/2013	XX	GW304A64G	29.46	187.85	217.31	
10/28/2013	XX	GW304A679	30.15	187.16	217.31	42.45
4/21/2014	XX	GW304A6FC	28.65	188.66	217.31	
7/28/2014	XX	GW304A6JI	29.65	187.66	217.31	
10/20/2014	XX	GW304A739	32.2	185.11	217.31	42.45
4/27/2015	XX	GW304A796	28.95	188.36	217.31	
7/13/2015	XX	GW304A7CI	30.25	187.06	217.31	
10/26/2015	XX	GW304A7I7	32.45	184.86	217.31	42.45
4/4/2016	XX	GW304A86H	29.35	187.96	217.31	
7/25/2016	XX	GW304A8B7	32.55	184.76	217.31	
10/24/2016	XX	GW304A8J6	39.1	178.21	217.31	42.44
4/17/2017	XX	GW304A97C	31	186.31	217.31	
7/24/2017	XX	GW304A9DA	31.46	185.85	217.31	
10/23/2017	XX	GW304A9H5	35.95	181.36	217.31	42.44
4/2/2018	XX	GW304AA34	34	183.31	217.31	
7/16/2018	XX	GW304AAC5	DE	DE		
MW-401A						
7/29/2004	XX	GW401A059	5.95	150.88	156.83	
10/27/2004	XX	GW401A071	5.28	151.55	156.83	111.98
5/10/2005	XX	GW401A132	0.87	155.96	156.83	
7/28/2005	XX	GW401A16A	5.85	150.98	156.83	
7/28/2005	XD	GWDP4X16E			156.83	
9/21/2005	XX	GW401A198	5.84	150.99	156.83	111.92
5/23/2006	XX	GW401A1E3	1.95	154.88	156.83	
7/25/2006	XX	GW401A1H0	3.15	153.68	156.83	
9/12/2006	XX	GW401A1JD	5.16	151.67	156.83	112.05
5/14/2007	XX	GW401A230	3.57	153.26	156.83	
7/24/2007	XX	GW401A274	6.71	150.12	156.83	
9/11/2007	XX	GW401A29E	8.23	148.6	156.83	111.99
5/20/2008	XX	GW401A2D8	4.15	152.68	156.83	
7/28/2008	XX	GW401A2GC	5.7	151.13	156.83	
10/27/2008	XX	GW401A2J2	4.75	152.08	156.83	112.02
4/13/2009	XX	GW401A32A	1.3	155.53	156.83	
7/7/2009	XX	GW401A36E	1.55	155.28	156.83	
10/28/2009	XX	GW401A3E9	4.12	152.71	156.83	111.98
4/27/2010	XX	GW401A3J8	4.45	152.38	156.83	

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(MW-401A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
7/20/2010	XX	GW401A42C	7.78	149.05	156.83	
10/20/2010	XX	GW401A45G	5.52	151.31	156.83	112.1
4/25/2011	XX	GW401A49H	1.6	155.23	156.83	
7/18/2011	XX	GW401A4DF	6.15	150.68	156.83	
10/24/2011	XX	GW401A4HA	3.62	153.21	156.83	112.02
4/23/2012	XX	GW401A520	4.42	152.41	156.83	
7/23/2012	XX	GW401A56J	6.03	150.8	156.83	
10/22/2012	XX	GW401A5DA	0.93	155.9	156.83	112.02
4/22/2013	XX	GW401A5I1	2.9	153.93	156.83	
7/29/2013	XX	GW401A646	5.6	151.23	156.83	
10/28/2013	XX	GW401A66J	6.1	150.73	156.83	112.04
4/21/2014	XX	GW401A6F2	1.14	155.69	156.83	
7/28/2014	XX	GW401A6J9	5.1	151.73	156.83	
10/20/2014	XX	GW401A730	7.15	149.68	156.83	112.04
4/27/2015	XX	GW401A78H	1.6	155.23	156.83	
7/13/2015	XX	GW401A7C9	5.36	151.47	156.83	
10/26/2015	XX	GW401A7HI	4.8	152.03	156.83	112.03
4/6/2016	XX	GW401A868X	F			
4/27/2016	XX	GW401A868	3.69	153.14	156.83	
7/25/2016	XX	GW401A8AI	7.26	149.57	156.83	
10/24/2016	XX	GW401A8IH	8.5	148.33	156.83	112.2
4/17/2017	XX	GW401A973	1.07	155.76	156.83	
7/24/2017	XX	GW401A9D1	7.15	149.68	156.83	
10/25/2017	XX	GW401A9GG	8.55	148.28	156.83	112.18
4/2/2018	XX	GW401AA2F	1.36	155.47	156.83	
7/16/2018	XX	GW401AABG	6.9	149.93	156.83	
10/1/2018	XX	GW401AB0E	8.72	148.11	156.83	112.2
4/22/2019	XX	GW401AB5B	1.91	154.92	156.83	
7/15/2019	XX	GW401ABC3	4.05	152.78	156.83	
10/28/2019	XX	GW401ABHG	2.21	154.62	156.83	112.21
4/27/2020	XX	GW401ACD3	2.92	153.91	156.83	
7/20/2020	XX	GW401ACHG	6.98	149.85	156.83	
10/26/2020	XX	GW401AD30	6.27	150.56	156.83	112.03
4/5/2021	XX	GW401ADC2	1.52	155.31	156.83	
7/12/2021	XX	GW401ADJE	6.11	150.72	156.83	
10/4/2021	XX	GW401AE62	3.41	153.42	156.83	
4/25/2022	XX	GW401AF0E	2.11	154.72	156.83	
7/18/2022	XX	GW401AF8C	7.35	149.48	156.83	
10/3/2022	XX	GW401AFID	6.6	150.23	156.83	111.96
4/17/2023	XX	GW401AGI4	2.42	154.41	156.83	
7/10/2023	XX	GW401AH86	3.02	153.81	156.83	
10/2/2023	XX	GW401A05E	4.28	152.55	156.83	111.96
4/1/2024	XX	GW401A124	0.61	156.22	156.83	
7/15/2024	XX	GW401A1D6	4.98	151.85	156.83	
10/7/2024	XX	GW401A1IH	6.78	150.05	156.83	112.06
MW-401B						
7/29/2004	XX	GW401B05A	7.81	149.51	157.32	
10/27/2004	XX	GW401B072	7.5	149.82	157.32	23.03
5/10/2005	XX	GW401B133	6.94	150.38	157.32	

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(MW-401B)

Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
7/27/2005	XX	GW401B16B	8.85	148.47	157.32	
9/21/2005	XX	GW401B199	7.55	149.77	157.32	23.1
9/21/2005	XD	GWDP4X19C			157.32	
5/23/2006	XX	GW401B1E4	6.67	150.65	157.32	
5/23/2006	XD	GWDP4X1E7			157.32	
7/25/2006	XX	GW401B1H1	6.38	150.94	157.32	
9/12/2006	XX	GW401B1JE	6.82	150.5	157.32	23.12
5/14/2007	XX	GW401B231	6.83	150.49	157.32	
7/24/2007	XX	GW401B275	7.14	150.18	157.32	
9/11/2007	XX	GW401B29F	7.73	149.59	157.32	23.12
5/20/2008	XX	GW401B2D9	6.8	150.52	157.32	
7/28/2008	XX	GW401B2GD	6.68	150.64	157.32	
10/27/2008	XX	GW401B2J3	6.5	150.82	157.32	23.1
4/13/2009	XX	GW401B32B	6.4	150.92	157.32	
7/7/2009	XX	GW401B36F	6.35	150.97	157.32	
10/28/2009	XX	GW401B3EA	6.6	150.72	157.32	23.2
4/27/2010	XX	GW401B3J9	6.7	150.62	157.32	
7/20/2010	XX	GW401B42D	7.55	149.77	157.32	
10/20/2010	XX	GW401B45H	6.82	150.5	157.32	23.1
4/25/2011	XX	GW401B49I	6.56	150.76	157.32	
7/18/2011	XX	GW401B4DG	7.33	149.99	157.32	
10/24/2011	XX	GW401B4HB	6.63	150.69	157.32	23.12
4/23/2012	XX	GW401B521	6.63	150.69	157.32	
7/23/2012	XX	GW401B570	7.4	149.92	157.32	
10/22/2012	XX	GW401B5DB	6.35	150.97	157.32	23.13
4/22/2013	XX	GW401B5I2	6.7	150.62	157.32	
7/29/2013	XX	GW401B647	6.94	150.38	157.32	
10/28/2013	XX	GW401B670	7.2	150.12	157.32	23.11
4/21/2014	XX	GW401B6F3	6.39	150.93	157.32	
7/28/2014	XX	GW401B6JA	6.92	150.4	157.32	
10/20/2014	XX	GW401B731	7.14	150.18	157.32	23.12
4/27/2015	XX	GW401B78I	6.52	150.8	157.32	
7/13/2015	XX	GW401B7CA	7.31	150.01	157.32	
10/26/2015	XX	GW401B7HJ	6.97	150.35	157.32	23.1
4/6/2016	XX	GW401B869	6.63	150.69	157.32	
7/25/2016	XX	GW401B8AJ	7.53	149.79	157.32	
10/24/2016	XX	GW401B8II	7.34	149.98	157.32	23.1
4/17/2017	XX	GW401B974	6.33	150.99	157.32	
7/24/2017	XX	GW401B9D2	7.66	149.72	157.32	
10/25/2017	XX	GW401B9GH	8.25	149.07	157.32	23.14
4/2/2018	XX	GW401BA2G	6.25	151.07	157.32	
7/16/2018	XX	GW401BABH	7.49	149.83	157.32	
10/1/2018	XX	GW401BB0F	7.9	149.42	157.32	23.14
4/22/2019	XX	GW401BB5C	6.32	151	157.32	
7/15/2019	XX	GW401BBC4	6.76	150.56	157.32	
10/28/2019	XX	GW401BBHH	6.2	151.12	157.32	23.14
4/27/2020	XX	GW401BCD4	6.68	150.64	157.32	
7/20/2020	XX	GW401BCHH	7.44	149.88	157.32	
10/26/2020	XX	GW401BD31	7.1	150.22	157.32	23.13

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(MW-401B) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/5/2021	XX	GW401BDC3	6.5	150.82	157.32												
7/12/2021	XX	GW401BDJF	7.18	150.14	157.32												
10/4/2021	XX	GW401BE63	6.68	150.64	157.32												
4/25/2022	XX	GW401BF0F	6.63	150.69	157.32												
7/18/2022	XX	GW401BF8D	8.03	149.29	157.32												
10/3/2022	XX	GW401BFIE	6.5	150.82	157.32	23.9											
4/17/2023	XX	GW401BGI5	6.63	150.69	157.32												
7/10/2023	XX	GW401BH87	6.89	150.43	157.32												
10/2/2023	XX	GW401B05F	7.03	150.29	157.32	23.9											
4/1/2024	XX	GW401B125	6.27	151.05	157.32												
7/15/2024	XX	GW401B1D7	6.72	150.6	157.32												
10/7/2024	XX	GW401B1II	7.65	149.67	157.32	23.15											
MW-402A																	
7/29/2004	XX	GW402A05B	F1														
10/27/2004	XX	GW402A073	0.05	152.15	152.2	108.21											
5/11/2005	XX	GW402A134	0	152.2	152.2												
8/1/2005	XX	GW402A16C	F1		152.2												
9/21/2005	XX	GW402A19A	F1		152.2	108.19											
5/23/2006	XX	GW402A1E5	F1		152.2												
7/26/2006	XX	GW402A1H2	F1		152.2												
9/12/2006	XX	GW402A1JF	F1		152.2	108.35											
5/15/2007	XX	GW402A232	F1		152.2												
7/25/2007	XX	GW402A276	F1		152.2												
9/12/2007	XX	GW402A29G	F1		152.2	108.25											
5/20/2008	XX	GW402A2DA	F1		152.2												
7/28/2008	XX	GW402A2GE	0	152.2	152.2												
10/27/2008	XX	GW402A2J4	F1		152.2	108.3											
4/14/2009	XX	GW402A32C	F1		152.2												
7/8/2009	XX	GW402A36G	F1		152.2												
10/28/2009	XX	GW402A3EB	F1		152.2	108.45											
4/27/2010	XX	GW402A3JA	F1		152.2												
7/21/2010	XX	GW402A42E	F1		152.2												
10/20/2010	XX	GW402A45I	F1		152.2	108.35											
4/27/2011	XX	GW402A49J	F1		152.2												
7/20/2011	XX	GW402A4DH	F1		152.2												
10/26/2011	XX	GW402A4HC	F1		152.2	108.35											
4/24/2012	XX	GW402A522	F1		152.2												
7/25/2012	XX	GW402A571	F1		152.2												
10/24/2012	XX	GW402A5DC	F1		152.2	108.35											
4/22/2013	XX	GW402A5I3	0.13	152.07	152.2												
7/31/2013	XX	GW402A648	0.05	152.15	152.2												
10/30/2013	XX	GW402A671	F1		152.2	108.35											
4/23/2014	XX	GW402A6F4	F1	152.2	152.2												
7/30/2014	XX	GW402A6JB	0.2	152	152.2												
10/22/2014	XX	GW402A732	0.25	151.95	152.2	108.3											
4/29/2015	XX	GW402A78J	0.15	152.05	152.2												
7/15/2015	XX	GW402A7CB	F1		152.2												
10/28/2015	XX	GW402A7I0	0.04	152.16	152.2	108.28											
4/6/2016	XX	GW402A86AX	F														

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(MW-402A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/27/2016	XX	GW402A86A	F1		152.2												
7/27/2016	XX	GW402A8B0	0.08	152.12	152.2												
10/26/2016	XX	GW402A8IJ	0.46	151.74	152.2	108.28											
4/19/2017	XX	GW402A975	0.06	152.14	152.2												
7/26/2017	XX	GW402A9D3	0.05	152.15	152.2												
10/26/2017	XX	GW402A9GI	0.05	152.15	152.2	108.28											
4/4/2018	XX	GW402AA2H	0.02	152.18	152.2												
7/18/2018	XX	GW402AABI	0.23	151.97	152.2												
10/3/2018	XX	GW402AB0G	0.45	151.75	152.2	108.3											
4/24/2019	XX	GW402AB5D	0.06	152.14	152.2												
7/17/2019	XX	GW402ABC5	F1		152.2												
10/30/2019	XX	GW402ABHI	0.05	152.15	152.2	108.35											
4/29/2020	XX	GW402ACD5	F1		152.2												
7/22/2020	XX	GW402ACHI	0.04	152.16	152.2												
10/28/2020	XX	GW402AD32	F1		152.2	108.55											
4/7/2021	XX	GW402ADC4	F1		152.2												
7/14/2021	XX	GW402ADJG	0.05	152.15	152.2												
10/4/2021	XX	GW402AE64	0.06	152.14	152.2												
4/25/2022	XX	GW402AF0G	2.08	150.12	152.2												
7/20/2022	XX	GW402AF8E	F1		152.2												
10/3/2022	XX	GW402AFIF	0.66	151.54	152.2	108.39											
4/17/2023	XX	GW402AGI6	2.35	149.85	152.2												
7/10/2023	XX	GW402AH88	0.18	152.02	152.2												
10/2/2023	XX	GW402A05G	0.08	152.12	152.2	108.39											
4/1/2024	XX	GW402A126	F1		152.2												
7/15/2024	XX	GW402A1D8	0.12	152.08	152.2												
10/7/2024	XX	GW402A1IJ	4.13	148.07	152.2	108.4											
MW-402B																	
7/29/2004	XX	GW402B05C	2.99	149.75	152.74												
10/27/2004	XX	GW402B074	2.65	150.09	152.74	25.12											
5/11/2005	XX	GW402B135	2.18	150.56	152.74												
8/1/2005	XX	GW402B16D	3.12	149.62	152.74												
9/21/2005	XX	GW402B19B	3.07	149.67	152.74	25.15											
9/21/2005	XD	GWDP3X196			152.74												
5/23/2006	XX	GW402B1E6	2.88	149.86	152.74												
7/26/2006	XX	GW402B1H3	3.24	149.5	152.74												
9/12/2006	XX	GW402B1JG	3.8	148.94	152.74	25.2											
5/15/2007	XX	GW402B233	3.05	149.69	152.74												
7/25/2007	XX	GW402B277	4.22	148.52	152.74												
9/12/2007	XX	GW402B29H	5.3	147.44	152.74	25.18											
5/20/2008	XX	GW402B2DB	3.3	149.44	152.74												
7/28/2008	XX	GW402B2GF	3.6	149.14	152.74												
10/27/2008	XX	GW402B2J5	3	149.74	152.74	25.18											
4/14/2009	XX	GW402B32D	2.9	149.84	152.74												
7/8/2009	XX	GW402B36H	2.9	149.84	152.74												
10/28/2009	XX	GW402B3EC	2.98	149.76	152.74	25.2											
4/27/2010	XX	GW402B3JB	3	149.74	152.74												
7/21/2010	XX	GW402B42F	5.11	147.63	152.74												
10/20/2010	XX	GW402B45J	3.4	149.34	152.74	25.18											

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(MW-402B) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
4/27/2011	XX	GW402B4A0	2.72	150.02	152.74	
7/20/2011	XX	GW402B4DI	4.55	148.19	152.74	
10/26/2011	XX	GW402B4HD	2.95	149.79	152.74	25.18
4/24/2012	XX	GW402B523	2.65	150.09	152.74	
7/25/2012	XX	GW402B572	4.62	148.12	152.74	
10/24/2012	XX	GW402B5DD	2.9	149.84	152.74	25.2
4/22/2013	XX	GW402B5I4	3	149.74	152.74	
7/31/2013	XX	GW402B649	3.92	148.82	152.74	
10/30/2013	XX	GW402B672	3.8	148.94	152.74	25.18
4/23/2014	XX	GW402B6F5	2.62	150.12	152.74	
7/30/2014	XX	GW402B6JC	3.71	149.03	152.74	
10/22/2014	XX	GW402B733	3.87	148.87	152.74	25.13
4/29/2015	XX	GW402B790	2.8	149.94	152.74	
7/15/2015	XX	GW402B7CC	4.38	148.36	152.74	
10/28/2015	XX	GW402B7I1	3.25	149.49	152.74	25.16
4/6/2016	XX	GW402B86BX	F			
4/27/2016	XX	GW402B86B	3.01	149.73	152.74	
7/27/2016	XX	GW402B8B1	4.93	147.81	152.74	
10/26/2016	XX	GW402B8J0	5.21	147.53	152.74	25.15
4/19/2017	XX	GW402B976	2.8	149.94	152.74	
7/26/2017	XX	GW402B9D4	4.98	147.76	152.74	
10/26/2017	XX	GW402B9GJ	4.58	148.16	152.74	25.16
4/4/2018	XX	GW402BA2I	2.45	150.29	152.74	
7/18/2018	XX	GW402BABJ	4.62	148.12	152.74	
10/3/2018	XX	GW402BB0H	5.82	146.92	152.74	25.16
4/24/2019	XX	GW402BB5E	2.44	150.3	152.74	
7/17/2019	XX	GW402BBC6	3.72	149.02	152.74	
10/30/2019	XX	GW402BBHJ	2.65	150.09	152.74	25.14
4/29/2020	XX	GW402BCD6	2.71	150.03	152.74	
7/22/2020	XX	GW402BCHJ	4.68	148.06	152.74	
10/28/2020	XX	GW402BD33	3.92	148.82	152.74	25.2
4/7/2021	XX	GW402BDC5	2.65	150.09	152.74	
7/14/2021	XX	GW402BDJH	3.75	148.99	152.74	
10/4/2021	XX	GW402BE65	3.15	149.59	152.74	
4/25/2022	XX	GW402BF0H	2.6	150.14	152.74	
7/20/2022	XX	GW402BF8F	4.49	148.25	152.74	
10/3/2022	XX	GW402BFIG	4.2	148.54	152.74	25.15
4/17/2023	XX	GW402BGI7	2.78	149.96	152.74	
7/10/2023	XX	GW402BH89	3.3	149.44	152.74	
10/2/2023	XX	GW402B05H	3.6	149.14	152.74	25.15
4/1/2024	XX	GW402B127	2.4	150.34	152.74	
7/15/2024	XX	GW402B1D9	2.85	149.89	152.74	
10/7/2024	XX	GW402B1J0	4.13	148.61	152.74	25.2
MW-501						
4/5/2018	XX	GW501XA6I	F1		166.19	47.6
6/4/2018	XX	GW501XA7F	F1		166.19	
7/19/2018	XX	GW501XAED	F1		166.19	
8/20/2018	XX	GW501XAFE	F1		166.19	
4/24/2019	XX	GW501XB7C	F1		166.19	

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(MW-501) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/17/2019	XX	GW501XBE0	F1		166.19												
10/30/2019	XX	GW501XBJ9	F1		166.19	47.6											
4/29/2020	XX	GW501XCF0	F1		166.19												
7/22/2020	XX	GW501XCJD	F1		166.19												
10/28/2020	XX	GW501XD4D	F1		166.19	47.6											
4/7/2021	XX	GW501XDDH	F1		166.19												
7/14/2021	XX	GW501XE18	F1		166.19												
10/6/2021	XX	GW501XE8A	F1		166.19												
4/27/2022	XX	GW501XF2G	F1		166.19												
7/20/2022	XX	GW501XFA6	F1		166.19												
10/5/2022	XX	GW501XG0F	F1		166.19	47.6											
4/19/2023	XX	GW501XH06	F1		166.19												
7/12/2023	XX	GW501X002	F1		166.19												
10/4/2023	XX	GW501X07B	F1		166.19	47.6											
4/10/2024	XX	GW501X140	F1		166.19												
7/17/2024	XX	GW501X1EJ	F1		166.19												
10/9/2024	XX	GW501X20D	F1		166.19	47.6											
MW-502																	
2/26/2020	XX	GW502XC55	F1			46.38											
4/30/2020	XX	GW502XCBJ	F1														
6/23/2020	XX	GW502XCGB	F1														
8/20/2020	XX	GW502XD1I	0.07	160.51	160.58												
7/14/2021	XX	GW502XE23	0.9	159.68	160.58												
10/7/2021	XX	GW502XE8B	0.15	160.43	160.58												
4/27/2022	XX	GW502XF2H	F1														
7/20/2022	XX	GW502XFAI	0.04	160.54	160.58												
10/5/2022	XX	GW502XG0G	0.47	160.11	160.58	46.38											
4/19/2023	XX	GW502XH07	F1														
7/12/2023	XX	GW502X00E	0.04	160.54	160.58												
10/4/2023	XX	GW502X07C	F1			46.38											
4/10/2024	XX	GW502X141	0.08	160.5	160.58												
7/18/2024	XX	GW502X1FD	F1		160.58												
10/9/2024	XX	GW502X20E	0.61	159.97	160.58	46.38											
MW-503																	
2/9/2021	XX	GW503XD9A	F1			73.02											
4/8/2021	XX	GW503XDA9	F1														
6/8/2021	XX	GW503XDGC	F1														
8/19/2021	XX	GW503XE46	F1														
10/7/2021	XX	GW503XE96	F1														
4/27/2022	XX	GW503XF3B	F1														
7/20/2022	XX	GW503XFB5	F1														
10/5/2022	XX	GW503XG1A	F1			73.02											
4/20/2023	XX	GW503XH11	F1														
7/13/2023	XX	GW503X011	F1														
10/4/2023	XX	GW503X086	0	163.715	163.715	73.02											
4/10/2024	XX	GW503X14F	F1		163.715												
7/18/2024	XX	GW503X1G0	F1		163.715												
10/9/2024	XX	GW503X218	F1		163.715	73.02											

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(MW-504) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
MW-504																	
2/9/2021	XX	GW504XD9B	18.15	157.459	175.609	84.38											
4/7/2021	XX	GW504XDAA	18	157.609	175.609												
6/9/2021	XX	GW504XDGD	18.64	156.969	175.609												
8/19/2021	XX	GW504XE47	18.93	156.679	175.609												
10/7/2021	XX	GW504XE97	18.35	157.259	175.609												
4/27/2022	XX	GW504XF3C	25.1	150.509	175.609												
7/21/2022	XX	GW504XFB6	!	!	175.609												
10/5/2022	XX	GW504XG1B	26.5	149.109	175.609	84.38											
4/20/2023	XX	GW504XH12	26.25	149.359	175.609												
7/13/2023	XX	GW504X012	26.1	149.509	175.609												
10/5/2023	XX	GW504X087	26.8	148.809	175.609												
4/11/2024	XX	GW504X14G	25.71	156.84	182.55												
7/18/2024	XX	GW504X1G1	25.52	157.03	182.55												
10/10/2024	XX	GW504X219	26.33	156.22	182.55	92.24											
MW-505																	
2/10/2021	XX	GW505XD9C	13.14	173.4	186.54	84.8											
4/8/2021	XX	GW505XDAB	11.78	174.76	186.54												
6/9/2021	XX	GW505XDGE	14.87	171.67	186.54												
8/18/2021	XX	GW505XE48	16.38	170.16	186.54												
10/7/2021	XX	GW505XE98	13.25	173.29	186.54												
4/27/2022	XX	GW505XF3D	11.78	174.76	186.54												
7/21/2022	XX	GW505XFB7	18.53	168.01	186.54												
10/5/2022	XX	GW505XG1C	17.45	169.09	186.54	84.8											
4/20/2023	XX	GW505XH13	14.11	172.43	186.54												
7/13/2023	XX	GW505X013	14.63	171.91	186.54												
10/4/2023	XX	GW505X088	15.65	170.89	186.54	84.8											
4/11/2024	XX	GW505X14H	13.58	172.96	186.54												
7/18/2024	XX	GW505X1G2	16.15	170.39	186.54												
10/9/2024	XX	GW505X21A	19.64	166.9	186.54	84.9											
MW-506																	
2/18/2021	XX	GW506XD9D	27.35	171.408	198.758	64.75											
4/8/2021	XX	GW506XDAC	25.5	173.258	198.758												
6/8/2021	XX	GW506XDGF	28.38	170.378	198.758												
7/14/2021	XX	GW506XE38	27.6	171.158	198.758												
9/1/2021	XX	GW506XE49	29.27	169.488	198.758												
10/7/2021	XX	GW506XE99	26.83	171.928	198.758												
4/27/2022	XX	GW506XF3E	26	172.758	198.758												
7/18/2022	XX	GW506XFB8	31.1	167.658	198.758												
10/5/2022	XX	GW506XG1D	29	169.758	198.758	64.75											
4/18/2023	XX	GW506XH14	33.56	165.198	198.758												
7/11/2023	XX	GW506X014	29.55	169.208	198.758												
10/4/2023	XX	GW506X089	27.3	171.458	198.758	64.75											
4/10/2024	XX	GW506X14I	10	188.758	198.758												
7/17/2024	XX	GW506X1G3	4.8	193.958	198.758												
10/9/2024	XX	GW506X21B	33.2	165.558	198.758	64.72											
MW-507																	

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(MW-507) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/5/2018	XX	GW507XA6J	2.2	174.63	176.83												
6/5/2018	XX	GW507XA7G	4.35	172.48	176.83												
7/18/2018	XX	GW507XAEE	5.85	170.98	176.83												
8/20/2018	XX	GW507XAFF	7.52	169.31	176.83												
7/14/2021	XX	GW507XE24	3.7	173.13	176.83												
10/7/2021	XX	GW507XE8C	3	173.83	176.83												
4/27/2022	XX	GW507XF2I	2.14	174.69	176.83												
7/20/2022	XX	GW507XFAJ	6.32	170.51	176.83												
10/5/2022	XX	GW507XG0H	4.85	171.98	176.83	35											
4/19/2023	XX	GW507XH08	2.3	174.53	176.83												
7/13/2023	XX	GW507X00F	2.8	174.03	176.83												
10/5/2023	XX	GW507X07D	3.4	173.43	176.83	35											
4/10/2024	XX	GW507X142	3.3	173.53	176.83												
7/17/2024	XX	GW507X1FE	5.22	171.61	176.83												
10/8/2024	XX	GW507X20F	9.1	167.73	176.83	35											
MW-508																	
10/5/2022	XX	GW508XG2E	1.8	187.47	189.27	38.78											
1/24/2023	XX	GW508XGBF	F			38.78											
3/30/2023	XX	GW508XGH2	0.37	188.9	189.27												
4/19/2023	XX	GW508XH1H	1.86	187.41	189.27												
6/19/2023	XX	GW508XH5H	1.2	188.07	189.27												
7/13/2023	XX	GW508X01I	2.15	187.12	189.27												
10/4/2023	XX	GW508X090	2.23	187.04	189.27	38.78											
4/10/2024	XX	GW508X157	1.62	187.65	189.27												
7/17/2024	XX	GW508X1GG	2.76	186.51	189.27												
10/10/2024	XX	GW508X220	4.84	184.43	189.27	38.77											
OW-06-03																	
4/10/2018	XX	GWXXXXA73	24.32	181.72	206.04	25.81											
6/5/2018	XX	GWXXXXA80	I														
7/19/2018	XX	GWXXXXAEI	I														
8/21/2018	XX	GWXXXXAFH	I	I	I												
4/23/2019	XX	GWXXXXB7B	20.5	185.54	206.04												
7/18/2019	XX	GWXXXXBDJ	I	I	206.04												
10/29/2019	XX	GWXXXXBJA	23.13	182.91	206.04	25.81											
4/29/2020	XX	GWXXXXCEJ	25.5	180.54	206.04												
7/20/2020	XX	GWXXXXCJC	I	I	206.04												
10/28/2020	XX	GWXXXXD4E	25.02	181.02	206.04	25.81											
4/7/2021	XX	GWXXXXDDG	22.8	183.24	206.04												
7/14/2021	XX	GWXXXXE17	23.5	182.54	206.04												
10/6/2021	XX	GWXXXXE7F	25.12	180.92	206.04												
4/28/2022	XX	GWXXXXF25	25.3	180.74	206.04												
7/20/2022	XX	GWXXXXFA5	24.15	181.89	206.04												
10/6/2022	XX	GWXXXXG04	24.92	181.12	206.04	25.8											
4/20/2023	XX	GWXXXXGJF	25.2	180.84	206.04												
7/12/2023	XX	GWXXXX001	D	D	206.04												
10/4/2023	XX	GWXXXX070	25.68	180.36	206.04	25.8											
4/2/2024	XX	GWXXXX139	20.1	185.94	206.04												
7/18/2024	XX	GWXXXX1EI	24.1	181.94	206.04												

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(OW-06-03) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
10/10/2024	XX	GWXXXX202	25.5	180.54	206.04	25.8											
OW-601A																	
4/11/2018	XX	GW601AA69	35.62	182.32	217.94	79.02											
6/6/2018	XX	GW601AA76	35.6	182.34	217.94												
7/19/2018	XX	GW601AAE4	37.4	180.54	217.94												
8/22/2018	XX	GW601AAF5	39.1	178.84	217.94												
4/24/2019	XX	GW601AB76	36.6	181.34	217.94												
7/18/2019	XX	GW601ABB6	36.2	181.74	217.94												
10/30/2019	XX	GW601ABJB	38.25	179.69	217.94	79.02											
4/29/2020	XX	GW601ACC6	37.9	180.04	217.94												
7/22/2020	XX	GW601ACGJ	40.35	177.59	217.94												
10/28/2020	XX	GW601AD4F	42.6	175.34	217.94	79.02											
4/7/2021	XX	GW601ADB5	39.4	178.54	217.94												
7/12/2021	XX	GW601ADIH	40.75	177.19	217.94												
10/5/2021	XX	GW601AE7G	41	176.94	217.94												
4/29/2022	XX	GW601AF26	36.75	181.19	217.94												
7/21/2022	XX	GW601AF7F	39.85	178.09	217.94												
10/6/2022	XX	GW601AG05	42.35	175.59	217.94	79.02											
4/20/2023	XX	GW601AGJG	37.3	180.64	217.94												
7/12/2023	XX	GW601AH79	37.7	180.24	217.94												
10/5/2023	XX	GW601A071	38.35	179.59	217.94	79.02											
4/1/2024	XX	GW601A13A	37.15	180.79	217.94												
7/18/2024	XX	GW601A1C9	38.35	179.59	217.94												
10/10/2024	XX	GW601A203	40.7	177.24	217.94	79.09											
OW-601B																	
4/11/2018	XX	GW601BA6A	35.55	181.95	217.5	59.2											
6/6/2018	XX	GW601BA77	35.6	181.9	217.5												
7/19/2018	XX	GW601BAE5	37.55	179.95	217.5												
8/22/2018	XX	GW601BAF6	39.08	178.42	217.5												
4/23/2019	XX	GW601BB77	36.58	180.92	217.5												
7/18/2019	XX	GW601BBDF	36.16	181.34	217.5												
10/30/2019	XX	GW601BBJC	38.3	179.2	217.5	59.19											
4/29/2020	XX	GW601BCEF	37.85	179.65	217.5												
7/22/2020	XX	GW601BCJ8	40.27	177.23	217.5												
10/28/2020	XX	GW601BD4G	42.55	174.95	217.5	59.2											
4/7/2021	XX	GW601BDDC	39.42	178.08	217.5												
7/12/2021	XX	GW601BE13	40.7	176.8	217.5												
10/5/2021	XX	GW601BE7H	40.8	176.7	217.5												
4/29/2022	XX	GW601BF27	36.8	180.7	217.5												
7/21/2022	XX	GW601BFA1	39.8	177.7	217.5												
10/6/2022	XX	GW601BG06	42.3	175.2	217.5	59.2											
4/20/2023	XX	GW601BGJH	37.2	180.3	217.5												
7/12/2023	XX	GW601BH9F	37.45	180.05	217.5												
10/5/2023	XX	GW601B072	38.3	179.2	217.5												
4/1/2024	XX	GW601B13B	37.1	180.4	217.5												
7/18/2024	XX	GW601B1ED	38.25	179.25	217.5												
10/10/2024	XX	GW601B204	40.65	176.85	217.5	59.37											

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(OW-602A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
OW-602A																	
4/11/2018	XX	GW602AA6B	29.92	183.25	213.17	240											
6/6/2018	XX	GW602AA78	31.5	181.67	213.17												
7/19/2018	XX	GW602AAE6	33.85	179.32	213.17												
8/21/2018	XX	GW602AAF7	35.25	177.92	213.17												
4/24/2019	XX	GW602AB78	34.45	178.72	213.17												
7/18/2019	XX	GW602ABDG	34.75	178.42	213.17												
10/29/2019	XX	GW602ABJD	35.8	177.37	213.17	239.4											
4/29/2020	XX	GW602ACEG	35.72	177.45	213.17												
7/22/2020	XX	GW602ACJ9	38	175.17	213.17												
10/28/2020	XX	GW602AD4H	39.9	173.27	213.17	239.4											
4/7/2021	XX	GW602ADDD	37.7	175.47	213.17												
7/12/2021	XX	GW602AE14	38.8	174.37	213.17												
10/6/2021	XX	GW602AE7I	38.7	174.47	213.17												
4/29/2022	XX	GW602AF28	35.4	177.77	213.17												
7/21/2022	XX	GW602AFA2	38	175.17	213.17												
10/6/2022	XX	GW602AG07	39.8	173.37	213.17	239.4											
4/20/2023	XX	GW602AGJI	35.7	177.47	213.17												
7/12/2023	XX	GW602AH9G	36	177.17	213.17												
10/4/2023	XX	GW602A073	36.6	176.57	213.17	239.4											
4/2/2024	XX	GW602A13C	35.8	177.37	213.17												
7/18/2024	XX	GW602A1EE	36.8	176.37	213.17												
10/10/2024	XX	GW602A205	38.85	174.32	213.17	239.4											
OW-603B																	
4/12/2018	XX	GW603BA6C	20.44	187.63	208.07	28.84											
6/5/2018	XX	GW603BA79	22.8	185.27	208.07												
7/19/2018	XX	GW603BAE7	24.65	183.42	208.07												
8/21/2018	XX	GW603BAF8	25.6	182.47	208.07												
4/23/2019	XX	GW603BB79	26.9	181.17	208.07												
7/18/2019	XX	GW603BBDH	25.4	182.67	208.07												
10/29/2019	XX	GW603BBJE	26.56	181.51	208.07	28.84											
4/29/2020	XX	GW603BCEH	25.95	182.12	208.07												
7/22/2020	XX	GW603BCJA	I	I	208.07												
10/28/2020	XX	GW603BD4I	28.7	179.37	208.07	28.84											
4/7/2021	XX	GW603BDDE	28.75	179.32	208.07												
7/13/2021	XX	GW603BE15	D	D	208.07												
10/6/2021	XX	GW603BE7J	D	D	208.07												
4/28/2022	XX	GW603BF29	28.7	179.37	208.07												
7/21/2022	XX	GW603BFA3	D	D	208.07												
10/6/2022	XX	GW603BG08	D		208.07	28.82											
4/20/2023	XX	GW603BGJJ	28.08	179.99	208.07												
7/12/2023	XX	GW603BH9H	I	I	208.07												
10/5/2023	XX	GW603B074	28.7	179.37	208.07	28.82											
4/2/2024	XX	GW603B13D	D	D	208.07												
7/18/2024	XX	GW603B1EF	D	D	208.07												
10/10/2024	XX	GW603B206	D	D	208.07	28.77											
OW-604A																	

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(OW-604A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/12/2018	XX	GW604AA6D	14.3	184.5	198.8	33.8											
6/4/2018	XX	GW604AA7A	18.5	180.3	198.8												
7/19/2018	XX	GW604AAE8	20.55	178.25	198.8												
8/21/2018	XX	GW604AAF9	23.07	175.73	198.8												
4/23/2019	XX	GW604AB7A	20.99	177.81	198.8												
7/18/2019	XX	GW604ABDI	19.85	178.95	198.8												
10/29/2019	XX	GW604ABJF	19.74	179.06	198.8	33.8											
4/29/2020	XX	GW604ACEI	19.77	179.03	198.8												
7/21/2020	XX	GW604ACJB	23.75	175.05	198.8												
10/28/2020	XX	GW604AD4J	25.9	172.9	198.8	33.71											
4/7/2021	XX	GW604ADDF	24.5	174.3	198.8												
7/14/2021	XX	GW604AE16	25.45	173.35	198.8												
10/6/2021	XX	GW604AE80	24.85	173.95	198.8												
4/28/2022	XX	GW604AF2A	21.6	177.2	198.8												
7/21/2022	XX	GW604AFA4	25	173.8	198.8												
10/6/2022	XX	GW604AG09	25.65	173.15	198.8	36.8											
4/20/2023	XX	GW604AH00	22.5	176.3	198.8												
7/12/2023	XX	GW604AH9I	22.75	176.05	198.8												
10/4/2023	XX	GW604A075	23.4	175.4	198.8	36.8											
4/2/2024	XX	GW604A13E	21.4	177.4	198.8												
7/18/2024	XX	GW604A1EG	22.55	176.25	198.8												
10/10/2024	XX	GW604A207	25.35	173.45	198.8	36.7											
OW-605A																	
4/10/2018	XX	GW605AA6E	24.55	162.21	186.76	260											
6/5/2018	XX	GW605AA7B	24.8	161.96	186.76												
7/19/2018	XX	GW605AAE9	25.07	161.69	186.76												
8/21/2018	XX	GW605AAFA	25.25	161.51	186.76												
7/14/2021	XX	GW605AE25	23.45	163.31	186.76												
10/7/2021	XX	GW605AE8G	23.22	163.54	186.76												
4/28/2022	XX	GW605AF31	21.5	165.26	186.76												
7/21/2022	XX	GW605AFB0	22.3	164.46	186.76												
10/6/2022	XX	GW605AG10	22.33	164.43	186.76	155											
4/20/2023	XX	GW605AH0B	20.65	166.11	186.76												
7/12/2023	XX	GW605A00G	21.6	165.16	186.76												
10/4/2023	XX	GW605A07G	21.4	165.36	186.76	155											
4/2/2024	XX	GW605A145	20.6	166.16	186.76												
7/18/2024	XX	GW605A1FF	21.47	165.29	186.76												
10/9/2024	XX	GW605A20I	21.9	164.86	186.76	160.45											
OW-606A																	
4/3/2018	XX	GW606AA6F	F1			240											
6/4/2018	XX	GW606AA7C	F1														
7/19/2018	XX	GW606AAEA	F1														
8/21/2018	XX	GW606AAFB	F1														
7/14/2021	XX	GW606AE06	F1														
10/7/2021	XX	GW606AE8H	F1														
4/28/2022	XX	GW606AF32	F1														
7/20/2022	XX	GW606AF94	F1														
10/6/2022	XX	GW606AG11	3.95	155.67	159.62	200 >											

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(OW-606A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/19/2023	XX	GW606AH0C	F1		159.62												
7/12/2023	XX	GW606AH8I	F1		159.62												
10/5/2023	XX	GW606A07H	F1		159.62	200 >											
4/9/2024	XX	GW606A146	F1		159.62												
7/17/2024	XX	GW606A1DH	F1		159.62												
10/9/2024	XX	GW606A20J	0.04	159.58	159.62	200 >											
OW-606B																	
2/9/2021	XX	GW606BD9E	3.03 F	162.846	165.876	17											
4/8/2021	XX	GW606BDAD	3.08	162.796	165.876												
6/8/2021	XX	GW606BDGG	4	161.876	165.876												
7/14/2021	XX	GW606BE37	3.42	162.456	165.876												
8/18/2021	XX	GW606BE4A	4.29	161.586	165.876												
10/7/2021	XX	GW606BE8I	3.14	162.736	165.876												
4/28/2022	XX	GW606BF33	3.3	162.576	165.876												
7/20/2022	XX	GW606BFB9	3.72	162.156	165.876												
10/6/2022	XX	GW606BG12	F1		165.876	17											
4/19/2023	XX	GW606BH0D	3.44	162.436	165.876												
7/12/2023	XX	GW606B015	3.6	162.276	165.876												
10/5/2023	XX	GW606B07I	4.02	161.856	165.876	17											
4/9/2024	XX	GW606B147	3.55	162.326	165.876												
7/17/2024	XX	GW606B1G4	3.82	162.056	165.876												
10/9/2024	XX	GW606B210	3.78	162.096	165.876	17											
OW-607B																	
2/9/2021	XX	GW607BD9F	10.12	165.057	175.177	54											
4/7/2021	XX	GW607BDAE	8.2	166.977	175.177												
6/9/2021	XX	GW607BDGH	10.7	164.477	175.177												
8/19/2021	XX	GW607BE4B	12.1	163.077	175.177												
10/7/2021	XX	GW607BE8J	10.25	164.927	175.177												
4/28/2022	XX	GW607BF34	16.4	158.777	175.177												
7/20/2022	XX	GW607BFBA	20.8	154.377	175.177												
10/6/2022	XX	GW607BG13	20.32	154.857	175.177	60.75											
4/20/2023	XX	GW607BH0E	19.35	155.827	175.177												
7/13/2023	XX	GW607B016	19.25	155.927	175.177												
10/5/2023	XX	GW607B07J	20.3	154.877	175.177												
4/10/2024	XX	GW607B148	18.6	163.2	181.8												
7/18/2024	XX	GW607B1G5	18.72	163.08	181.8												
10/10/2024	XX	GW607B211	19.88	161.92	181.8	61.05											
OW-608A																	
4/4/2018	XX	GW608AA6G	35.72	160.89	196.61	260											
6/4/2018	XX	GW608AA7D	36.5	160.11	196.61												
7/18/2018	XX	GW608AAEB	36.8	159.81	196.61												
8/20/2018	XX	GW608AAFC	37.17	159.44	196.61												
7/15/2021	XX	GW608AE26	37.45	159.16	196.61												
10/6/2021	XX	GW608AE90	37.46	159.15	196.61												
4/28/2022	XX	GW608AF35	37.1	159.51	196.61												
7/20/2022	XX	GW608AFB1	38	158.61	196.61												
10/5/2022	XX	GW608AG14	37.8	158.81	196.61	260											

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(OW-608A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/19/2023	XX	GW608AH0F	37.45	159.16	196.61												
8/2/2023	XX	GW608A00H	37.7	158.91	196.61												
10/5/2023	XX	GW608A080	37.75	158.86	196.61												
4/1/2024	XX	GW608A149	37.5	161.99	199.49												
7/17/2024	XX	GW608A1FG	37.7	161.79	199.49												
10/9/2024	XX	GW608A212	38.4	161.09	199.49	260											
OW-608B																	
2/10/2021	XX	GW608BD9G	5.15	196.254	201.404	46.09											
4/8/2021	XX	GW608BDAF	4.35	197.054	201.404												
6/8/2021	XX	GW608BDGI	6.53	194.874	201.404												
8/17/2021	XX	GW608BE4C	7.53	193.874	201.404												
10/6/2021	XX	GW608BE91	6.15	195.254	201.404												
4/28/2022	XX	GW608BF36	6.27	195.134	201.404												
7/20/2022	XX	GW608BFBB	9	192.404	201.404												
10/5/2022	XX	GW608BG15	8.3	193.104	201.404	46.09											
4/19/2023	XX	GW608BH0G	6.9	194.504	201.404												
7/13/2023	XX	GW608B017	6.45	194.954	201.404												
10/5/2023	XX	GW608B081	8.45	192.954	201.404	46.09											
4/1/2024	XX	GW608B14A	6.6	194.804	201.404												
7/17/2024	XX	GW608B1G6	7.8	193.604	201.404												
10/9/2024	XX	GW608B213	10.75	190.654	201.404	46.18											
OW-609B																	
2/10/2021	XX	GW609BD9H	14.46	198.467	212.927	51.61											
4/8/2021	XX	GW609BDAG	6.3	206.627	212.927												
6/8/2021	XX	GW609BDGJ	16.01	196.917	212.927												
8/17/2021	XX	GW609BE4D	18.23	194.697	212.927												
10/7/2021	XX	GW609BE92	16	196.927	212.927												
4/28/2022	XX	GW609BF37	12.8	200.127	212.927												
7/18/2022	XX	GW609BFBC	18.65	194.277	212.927												
10/5/2022	XX	GW609BG16	16.15	196.777	212.927	51.61											
4/18/2023	XX	GW609BH0H	15.34	197.587	212.927												
7/11/2023	XX	GW609B018	12.7	200.227	212.927												
10/4/2023	XX	GW609B082	13.2	199.727	212.927	51.61											
4/10/2024	XX	GW609B14B	6	195.77	201.77												
7/17/2024	XX	GW609B1G7	12.35	189.42	201.77												
10/9/2024	XX	GW609B214	17.25	184.52	201.77	51.65											
OW-610A																	
10/5/2022	XX	GW610AG2F	7.27	172.98	180.25	39.52											
1/24/2023	XX	GW610AGBG	6.32	173.93	180.25	39.52											
4/19/2023	XX	GW610AH1I	5.35	174.9	180.25												
6/19/2023	XX	GW610AH61	5.75	174.5	180.25												
7/13/2023	XX	GW610A01H	5.65	174.6	180.25												
10/5/2023	XX	GW610A091	6.2	174.05	180.25	39.52											
4/10/2024	XX	GW610A158	5.91	174.34	180.25												
7/17/2024	XX	GW610A1GF	6.9	173.35	180.25												
10/8/2024	XX	GW610A221	9.55	170.7	180.25	39.54											
OW-611A																	

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(OW-611A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
4/4/2018	XX	GW611AA6H	8.45	176.7	185.15	220											
6/5/2018	XX	GW611AA7E	9.9	175.25	185.15												
7/18/2018	XX	GW611AAEC	10.5	174.65	185.15												
8/20/2018	XX	GW611AAFD	11.03	174.12	185.15												
7/14/2021	XX	GW611AE27	8.7	176.45	185.15												
10/7/2021	XX	GW611AE93	8.3	176.85	185.15												
4/27/2022	XX	GW611AF38	7.54	177.61	185.15												
7/20/2022	XX	GW611AFB2	10.35	174.8	185.15												
10/6/2022	XX	GW611AG17	9.67	175.48	185.15	220											
4/20/2023	XX	GW611AH0I	9.2	175.95	185.15												
7/13/2023	XX	GW611A00I	9.69	175.46	185.15												
10/5/2023	XX	GW611A083	10.5	174.65	185.15	220											
4/1/2024	XX	GW611A14C	9.85	175.3	185.15												
7/17/2024	XX	GW611A1FH	11.28	173.87	185.15												
10/10/2024	XX	GW611A215	13.32	171.83	185.15	220											
P-04-02 & P-04-02R																	
2/5/2004	XX	GWXXXX03E	23.42	145.32	168.74												
2/11/2004	XX	GWXXXX03C	27.17	141.57	168.74												
5/5/2004	XX	GWXXXX00E	8.23	160.51	168.74												
7/26/2004	XX	GWXXXX042	8.78	159.96	168.74												
10/25/2004	XX	GWXXXX07I	8.9	159.84	168.74	37.14											
5/9/2005	XX	GWXXXX13J	7.02	161.72	168.74												
7/27/2005	XX	GWXXXX177	9.11	159.63	168.74												
9/22/2005	XX	GWXXXX1A5	9.16	159.58	168.74	27.9											
5/22/2006	XX	GWXXXX1F0	7.8	160.94	168.74												
7/24/2006	XX	GWXXXX1HH	8.55	160.19	168.74												
9/11/2006	XX	GWXXXX20A	8.38	160.36	168.74	37.18											
5/14/2007	XX	GWXXXX23H	8	160.74	168.74												
7/23/2007	XX	GWXXXX281	9.25	159.49	168.74												
9/10/2007	XX	GWXXXX2AB	9.8	158.94	168.74	37.2											
5/21/2008	XX	GWXXXX2E5	7.98	160.76	168.74												
7/30/2008	XX	GWXXXX2H9	9.63	159.11	168.74												
10/29/2008	XX	GWXXXX2JJ	8.73	160.01	168.74	37.2											
4/13/2009	XX	GWXXXX337	8.25	160.49	168.74												
7/6/2009	XX	GWXXXX37B	7.95	160.79	168.74												
10/27/2009	XX	GWXXXX3F6	7.55	161.19	168.74	37.2											
4/26/2010	XX	GWXXXX405	7.81	160.93	168.74												
7/21/2010	XX	GWXXXX439	8.25	160.49	168.74												
10/20/2010	XX	GWXXXX46D	8.5	160.24	168.74	37.15											
4/27/2011	XX	GWXXXX4AE	7.28	161.46	168.74												
7/20/2011	XX	GWXXXX4EC	7.81	160.93	168.74												
10/26/2011	XX	GWXXXX4I7	!		168.74	!											
4/25/2012	XX	GWXXXX52H	10.55	158.19	168.74												
7/25/2012	XX	GWXXXX57G	11.56	157.18	168.74												
10/24/2012	XX	GWXXXX5E7	6.65	162.09	168.74	39.98											
4/22/2013	XX	GWXXXX5II	!		168.74												
7/15/2015	XX	GWXXXX7DJ	12.01	158.71	170.72												
10/28/2015	XX	GWXXXX7J4	11.8	158.92	170.72	37.98											
4/6/2016	XX	GWXXXX87I	11.35	159.37	170.72												

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(P-04-02 & P-04-02R) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/27/2016	XX	GWXXXX8C7	12.8	157.92	170.72												
10/26/2016	XX	GWXXXX904	12.81	157.91	170.72	37.96											
4/19/2017	XX	GWXXXX98C	11.3	159.42	170.72												
7/26/2017	XX	GWXXXX9E8	13.1	157.62	170.72												
10/25/2017	XX	GWXXXX9I3	13.5	157.22	170.72	38											
4/4/2018	XX	GWXXXXA44	10.8	159.92	170.72												
7/18/2018	XX	GWXXXXAD3	13.24	157.48	170.72												
10/3/2018	XX	GWXXXXB21	13.25	157.47	170.72	38											
4/22/2019	XX	GWXXXXB70	10.86	159.86	170.72												
7/17/2019	XX	GWXXXXBDA	12.49	158.23	170.72												
10/30/2019	XX	GWXXXXBJ2	11.5	159.22	170.72	38											
4/29/2020	XX	GWXXXXCEA	11.97	158.75	170.72												
7/22/2020	XX	GWXXXXCJ3	13.9	156.82	170.72												
10/28/2020	XX	GWXXXXD46	13.18	157.54	170.72	37.88											
4/7/2021	XX	GWXXXXDD9	11.58	159.14	170.72												
7/12/2021	XX	GWXXXXE10	13.4	157.32	170.72												
10/6/2021	XX	GWXXXXE77	13.88	156.84	170.72												
4/26/2022	XX	GWXXXXF1I	11.55	159.17	170.72												
7/19/2022	XX	GWXXXXF9I	14.15	156.57	170.72												
10/4/2022	XX	GWXXXXFJH	13	157.72	170.72	38.02											
4/17/2023	XX	GWXXXXGJ8	12.2	158.52	170.72												
7/10/2023	XX	GWXXXXH9C	12.46	158.26	170.72												
10/2/2023	XX	GWXXXX06G	12.8	157.92	170.72	38.02											
4/1/2024	XX	GWXXXX135	11.2	159.52	170.72												
7/15/2024	XX	GWXXXX1EA	12.2	158.52	170.72												
10/7/2024	XX	GWXXXX1JI	13	157.72	170.72	37.98											
P-04-04																	
2/5/2004	XX	GWXXXX03F	23.52	145.83	169.35												
2/11/2004	XX	GWXXXX03D	29.17	140.18	169.35												
5/6/2004	XX	GWXXXX00F	8.86	160.49	169.35												
7/26/2004	XX	GWXXXX043	9.38	159.97	169.35												
10/25/2004	XX	GWXXXX07J	9.35	160	169.35	32.23											
5/9/2005	XX	GWXXXX140	7.5	161.85	169.35												
7/27/2005	XX	GWXXXX178	9.71	159.64	169.35												
9/22/2005	XX	GWXXXX1A6	9.6	159.75	169.35	32.32											
5/22/2006	XX	GWXXXX1F1	8.28	161.07	169.35												
7/24/2006	XX	GWXXXX1HI	8.88	160.47	169.35												
9/11/2006	XX	GWXXXX20B	8.85	160.5	169.35	32.35											
5/14/2007	XX	GWXXXX23I	8.47	160.88	169.35												
7/23/2007	XX	GWXXXX282	9.52	159.83	169.35												
9/10/2007	XX	GWXXXX2AC	10.03	159.32	169.35	32.33											
5/21/2008	XX	GWXXXX2E6	8.41	160.94	169.35												
7/30/2008	XX	GWXXXX2HA	9.34	160.01	169.35												
10/29/2008	XX	GWXXXX300	9.1	160.25	169.35	32.3											
4/13/2009	XX	GWXXXX338	8.8	160.55	169.35												
7/6/2009	XX	GWXXXX37C	8.4	160.95	169.35												
10/27/2009	XX	GWXXXX3F7	7.96	161.39	169.35	32.21											
4/26/2010	XX	GWXXXX406	8.45	160.9	169.35												
7/21/2010	XX	GWXXXX43A	8.9	160.45	169.35												

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(P-04-04) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet
10/20/2010	XX	GWXXXX46E	9	160.35	169.35	32.25
4/27/2011	XX	GWXXXX4AF	7.82	161.53	169.35	
7/20/2011	XX	GWXXXX4ED	8.44	160.91	169.35	
10/26/2011	XX	GWXXXX4I8	9.3	160.05	169.35	32.3
4/25/2012	XX	GWXXXX52I	9.62	159.73	169.35	
7/25/2012	XX	GWXXXX57H	10.05	159.3	169.35	
10/24/2012	XX	GWXXXX5E8	8.9	160.45	169.35	32.33
4/24/2013	XX	GWXXXX5IJ	9.05	160.3	169.35	
7/31/2013	XX	GWXXXX654	9.12	160.13	169.25	
10/30/2013	XX	GWXXXX67E	10.01	159.24	169.25	32.26
4/23/2014	XX	GWXXXX6G0	8.4	160.85	169.25	
7/30/2014	XX	GWXXXX703	8.96	160.29	169.25	
10/22/2014	XX	GWXXXX73E	9.35	159.9	169.25	32.28
4/29/2015	XX	GWXXXX79B	8.15	161.1	169.25	
7/15/2015	XX	GWXXXX7D3	9.11	160.14	169.25	
10/28/2015	XX	GWXXXX7IC	9.06	160.19	169.25	32.31
4/6/2016	XX	GWXXXX872	8.59	160.66	169.25	
7/27/2016	XX	GWXXXX8BC	9.96	159.29	169.25	
10/26/2016	XX	GWXXXX8JB	10.53	158.72	169.25	32.3
4/19/2017	XX	GWXXXX97H	8.5	160.75	169.25	
7/26/2017	XX	GWXXXX9DF	10.25	159	169.25	
10/25/2017	XX	GWXXXX9HA	10.8	158.45	169.25	32.34
4/4/2018	XX	GWXXXXA39	8.16	161.09	169.25	
7/18/2018	XX	GWXXXXACA	10.4	158.85	169.25	
10/3/2018	XX	GWXXXXB18	10.92	158.33	169.25	32.34
4/22/2019	XX	GWXXXXB65	8.87	160.38	169.25	
7/17/2019	XX	GWXXXXBCG	9.6	159.65	169.25	
10/30/2019	XX	GWXXXXBI9	9.2	160.05	169.25	32.34
4/29/2020	XX	GWXXXXCDG	7.96	161.29	169.25	
7/22/2020	XX	GWXXXXCI9	11.32	157.93	169.25	
10/28/2020	XX	GWXXXXD3D	10.8	158.45	169.25	37.1
4/7/2021	XX	GWXXXXDCF	9.24	160.01	169.25	
7/12/2021	XX	GWXXXXE07	11.6	157.65	169.25	
10/6/2021	XX	GWXXXXE6F	10.2	159.05	169.25	
4/26/2022	XX	GWXXXXF17	8.85	160.4	169.25	
7/19/2022	XX	GWXXXXF95	11.82	157.43	169.25	
10/4/2022	XX	GWXXXXFJ6	10.52	158.73	169.25	37.11
4/17/2023	XX	GWXXXXGIH	9.35	159.9	169.25	
7/10/2023	XX	GWXXXXH8J	9.93	159.32	169.25	
10/2/2023	XX	GWXXXX066	10.1	159.15	169.25	32.35
4/1/2024	XX	GWXXXX12G	9	160.25	169.25	
7/15/2024	XX	GWXXXX1DI	10.08	159.17	169.25	
10/7/2024	XX	GWXXXX1J9	11	158.25	169.25	32.35
P-04-07A						
10/3/2022	XX	GWXXXXG2G	3.63	173.49	177.12	28.22
1/24/2023	XX	GWX07AGBD	F		177.12	28.17
3/30/2023	XX	GWX07AGH0	1.06	176.06	177.12	
4/19/2023	XX	GWXXXXH1J	1.76	175.36	177.12	
6/19/2023	XX	GWX07AH5F	2.11	175.01	177.12	

(P-04-07A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
7/13/2023	XX	GWX07A01J	2.12	175	177.12												
10/5/2023	XX	GWXXXX092	2.98	174.14	177.12	28.22											
4/9/2024	XX	GWXXXX159	3.22	174.71	177.93												
7/17/2024	XX	GWX07A1GH	3.68	174.25	177.93												
10/10/2024	XX	GWXXXX222	5.73	172.2	177.93	28.12											
P-04-07B																	
1/25/2005	XX	GWX07B114	F1														
10/3/2022	XX	GWXXXXG2H	3.51	173.64	177.15	16.45											
1/24/2023	XX	GWX07BGBE	F		177.15	16.45											
3/30/2023	XX	GWX07BGH1	1.03	176.12	177.15												
4/19/2023	XX	GWXXXXH20	1.51	175.64	177.15												
6/19/2023	XX	GWX07BH5G	1.72	175.43	177.15												
7/13/2023	XX	GWX07B020	1.98	175.17	177.15												
10/5/2023	XX	GWXXXX093	2.83	174.32	177.15	16.54											
4/9/2024	XX	GWXXXX15A	2.15	175.69	177.84												
7/17/2024	XX	GWX07B1GI	3.55	174.29	177.84												
10/10/2024	XX	GWXXXX223	5.62	172.22	177.84	16.58											
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	11.22	175.86	187.08	52.66											
4/8/2021	XX	GWXXXXDAH	11.17	175.91	187.08												
6/9/2021	XX	GWXXXXDH0	13.4	173.68	187.08												
8/18/2021	XX	GWXXXXE4E	15.04	172.04	187.08												
10/6/2021	XX	GWX11AE94	14.53	172.55	187.08												
4/27/2022	XX	GWX11AF39	9.95	177.13	187.08												
7/21/2022	XX	GWXXXXFBE	17.87	169.21	187.08												
10/6/2022	XX	GWX11AG18	17.25	169.83	187.08	52.66											
4/20/2023	XX	GWX11AH0J	13.58	173.5	187.08												
7/12/2023	XX	GWXXXX01A	13.41	173.67	187.08												
10/5/2023	XX	GWX11A084	15.98	171.1	187.08	52.66											
4/11/2024	XX	GWX11A14D	13.61	173.47	187.08												
7/18/2024	XX	GWXXXX1G9	15.31	171.77	187.08												
10/9/2024	XX	GWX11A216	19.1	167.98	187.08	52.61											
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	12.06	175.08	187.14	13.03											
4/8/2021	XX	GWXXXXDAI	12.17	174.97	187.14												
6/9/2021	XX	GWXXXXDH1	7.92	179.22	187.14												
8/18/2021	XX	GWXXXXE4F	8.14	179	187.14												
10/6/2021	XX	GWX11BE95	10.5	176.64	187.14												
4/27/2022	XX	GWX11BF3A	10.72	176.42	187.14												
7/21/2022	XX	GWXXXXFBF	D														
10/6/2022	XX	GWX11BG19	D			13.03											
4/20/2023	XX	GWX11BH10	12.03	175.11	187.14												
7/12/2023	XX	GWXXXX01B	12.15	174.99	187.14												
10/5/2023	XX	GWX11B085	7.6	179.54	187.14	13.03											
4/11/2024	XX	GWX11B14E	12.17	174.97	187.14												
7/18/2024	XX	GWXXXX1GA	8.21	178.93	187.14												
10/9/2024	XX	GWX11B217	D			12.98											

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(P-206A) Date	Type	Sample ID	Water Level Depth Feet	Water Level Elevation Feet	Water Level Reference Point Feet	Well Depth Feet											
P-206A																	
7/31/2013	XX	GW206A64I	21.7	182.81	204.51												
10/28/2013	XX	GW206A67B	22.9	181.61	204.51	93.5											
4/21/2014	XX	GW206A6FJ	19.9	184.61	204.51												
7/28/2014	XX	GW206A702	21.8	182.71	204.51												
10/20/2014	XX	GW206A73B	25.7	178.81	204.51	93.48											
4/27/2015	XX	GW206A79A	21.2	183.31	204.51												
7/13/2015	XX	GW206A7D2	22.4	182.11	204.51												
10/26/2015	XX	GW206A7IB	24.9	179.61	204.51	93.45											
4/4/2016	XX	GW206A871	20.2	184.31	204.51												
4/26/2016	XX	GW206AHBC	20	184.51	204.51												
7/25/2016	XX	GW206A8BB	24	180.51	204.51												
10/24/2016	XX	GW206A8JA	28.2	176.31	204.51	93.43											
4/17/2017	XX	GW206A97G	23.5	181.01	204.51												
7/24/2017	XX	GW206A9DE	23	181.51	204.51												
10/23/2017	XX	GW206A9H9	27.6	176.91	204.51	93.45											
4/2/2018	XX	GW206AA38	22.85	181.66	204.51												
7/16/2018	XX	GW206AAC9	23.8	180.71	204.51												
10/1/2018	XX	GW206AB17	28.4	176.11	204.51	93.43											
4/22/2019	XX	GW206AB64	27	177.51	204.51												
7/17/2019	XX	GW206ABCF	22.6	181.91	204.51												
10/28/2019	XX	GW206ABI8	24.8	179.71	204.51	93.43											
4/27/2020	XX	GW206ACDF	24.1	180.41	204.51												
7/20/2020	XX	GW206ACI8	26.75	177.76	204.51												
10/26/2020	XX	GW206AD3C	34.7	169.81	204.51	93.15											
4/5/2021	XX	GW206ADCE	27	177.51	204.51												
7/14/2021	XX	GW206AE22	28.56	175.95	204.51												
10/4/2021	XX	GW206AE6E	27.3	177.21	204.51												
4/25/2022	XX	GW206AF16	26.87	177.64	204.51												
7/18/2022	XX	GW206AFAH	28.26	176.25	204.51												
10/3/2022	XX	GW206AFJ5	28.5	176.01	204.51	93.43											
4/17/2023	XX	GW206AGIG	23.3	181.21	204.51												
7/10/2023	XX	GW206A00D	24.2	180.31	204.51												
10/2/2023	XX	GW206A065	24.6	179.91	204.51	93.43											
4/1/2024	XX	GW206A12F	23.5	181.01	204.51												
7/15/2024	XX	GW206A1FC	24.7	179.81	204.51												
10/7/2024	XX	GW206A1J8	27.1	177.41	204.51	93.4											
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A		A	A											

SEVEE & MAHER ENGINEERS, INC.
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(PWS-4)			Water Level Depth	Water Level Elevation	Water Level Reference Point	Well Depth
			Feet	Feet	Feet	Feet
Date	Type	Sample ID				

Units Abbreviations:

Feet - FEET

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
* - Analysis not within control limits
> - Greater than specified amount.
A - The sampling location was inaccessible.
D - The sampling location was dry.
DE - Decommissioned Location
F - The sampling location was frozen.
F1 - Well was flowing
I - The sampling location yielded insufficient quantity to collect a sample.

WATER LEVEL SUMMARY

Water Levels

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
DP-4		Current ground surface elevation: 165.45 (feet)		
5/9/2005		13.25	169.37	156.12
10/26/2009		13.68		155.69
10/18/2010		14.98		154.39
10/24/2011		16.95		152.42
10/24/2012		14.08		155.29
10/30/2013		14.90		154.47
10/21/2014		14.67		154.70
10/28/2015		14.57		154.80
10/26/2016		15.00		154.37
10/23/2017		17.02		152.35
10/3/2018		15.25		154.12
10/28/2019		14.91		154.46
10/26/2020		15.10		154.27
10/4/2021		14.78		154.59
10/5/2022		14.35		155.02
10/3/2023		16.65		152.72
10/7/2024		15.30		154.07
MW04-102		Current ground surface elevation: 166.95 (feet)		
3/1/2005		4.86	170.22	165.36
5/9/2005		4.35		165.87
10/27/2009		5.27		164.95
10/19/2010		5.85		164.37
10/25/2011		6.50		163.72
10/22/2012		5.78		164.44
10/28/2013		7.10		163.12
10/21/2014		6.58		163.64
10/28/2015		6.75		163.47
10/25/2016		7.20		163.02
10/25/2017		8.20		162.02
10/3/2018		7.95		162.27
10/28/2019		6.55		163.67
10/26/2020		8.00		162.22
10/4/2021		8.00		162.22
10/3/2022		8.30		161.92
10/2/2023		7.30		162.92
10/7/2024		8.40		161.82
MW04-105		Current ground surface elevation: 162.24 (feet)		
3/1/2005		6.62	165.59	158.97
5/9/2005		5.90		159.69
10/26/2009		5.80		159.79
10/18/2010		6.90		158.69
10/25/2011		6.90		158.69
10/22/2012		6.60		158.99
10/29/2013		8.43		157.16
10/22/2014		7.28		158.31
10/28/2015		7.62		157.97
10/26/2016		8.31		157.28

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW04-105)				
10/23/2017		9.20	165.59	156.39
10/1/2018		8.61		156.98
10/28/2019		7.20		158.39
10/27/2020		8.30		157.29
10/5/2021		8.15		157.44
10/5/2022		8.50		157.09
10/2/2023		8.70		156.89
10/7/2024		8.22		157.37
10/28/2024		8.73		156.86
MW04-109R			Current ground surface elevation: 157.1 (feet)	
10/19/2010		6.60	160.13	153.53
10/25/2011		6.62		153.51
10/23/2012		6.40		153.73
10/29/2013		7.41		152.72
10/21/2014		7.07		153.06
10/27/2015		7.00		153.13
10/25/2016		7.35		152.78
10/24/2017		8.62		151.51
10/2/2018		7.85		152.28
10/28/2019		5.96		154.17
10/27/2020		7.08		153.05
10/5/2021		6.75		153.38
10/4/2022		7.05		153.08
10/3/2023		7.20		152.93
10/8/2024		7.80		152.33
MW04-111			Current ground surface elevation: 192.13 (feet)	
2/3/2005		5.24	194.93	189.69
2/10/2005		5.18		189.75
2/17/2005		3.99		190.94
3/2/2005		4.69		190.24
3/17/2005		4.24		190.69
3/29/2005		3.29		191.64
4/15/2005		3.98		190.95
4/28/2005		3.44		191.49
5/12/2005		4.00		190.93
5/25/2005		3.92		191.01
6/22/2005		4.43		190.50
7/20/2005		6.48		188.45
8/17/2005		6.79		188.14
9/21/2005		5.90		189.03
10/21/2005		4.20		190.73
11/21/2005		3.95		190.98
12/27/2005		3.94		190.99
4/27/2006		4.21		190.72
5/25/2006		4.21		190.72
12/18/2007		4.75		190.18
5/19/2008		5.04		189.89
7/30/2008		5.27		189.66
11/6/2014		3.95		190.98

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW04-111)				
10/28/2024		10.17	194.93	184.76
MW05-01			Current ground surface elevation: 191.77 (feet)	
2/3/2005		5.37	194.86	189.49
2/10/2005		5.32		189.54
2/17/2005		4.19		190.67
3/2/2005		4.83		190.03
3/17/2005		4.43		190.43
3/29/2005		3.48		191.38
4/15/2005		4.12		190.74
4/28/2005		3.61		191.25
5/12/2005		4.19		190.67
5/25/2005		4.10		190.76
6/22/2005		4.63		190.23
7/20/2005		6.59		188.27
8/17/2005		6.90		187.96
9/21/2005		5.60		189.26
10/21/2005		4.35		190.51
11/21/2005		4.12		190.74
12/27/2005		4.12		190.74
4/27/2006		4.40		190.46
5/25/2006		4.35		190.51
7/30/2008		5.46		189.40
11/6/2014		4.17		190.69
3/14/2024		3.84		191.02
5/14/2024		6.08		188.78
6/19/2024		5.97		188.89
8/13/2024		5.60		189.26
9/16/2024		9.08		185.78
10/8/2024		9.95		184.91
MW05-03			Current ground surface elevation: 192.21 (feet)	
2/3/2005		5.35	194.88	189.53
2/10/2005		5.30		189.58
2/17/2005		4.16		190.72
3/2/2005		4.81		190.07
3/17/2005		4.40		190.48
3/29/2005		3.49		191.39
4/15/2005		4.09		190.79
4/28/2005		3.62		191.26
5/12/2005		4.16		190.72
5/25/2005		4.07		190.81
6/22/2005		4.58		190.30
7/20/2005		6.55		188.33
8/17/2005		6.90		187.98
9/21/2005		6.05		188.83
10/21/2005		4.35		190.53
11/21/2005		4.08		190.80
12/27/2005		4.10		190.78
4/27/2006		4.34		190.54
5/25/2006		4.38		190.50

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW05-03)				
5/19/2008		5.20	194.88	189.68
7/30/2008		5.40		189.48
11/6/2014		4.02		190.86
10/28/2024		10.26		184.62
MW06-01			Current ground surface elevation: 163.324 (feet)	
3/1/2006		^		
3/15/2006		^		
4/27/2006		-0.40 ^	166.13	166.53
5/25/2006		-0.30 ^		166.43
6/13/2006		-0.50 ^		166.63
7/26/2006		-0.30 ^		166.43
8/16/2006		-0.32 ^		166.45
9/13/2006		-0.21 ^		166.34
10/19/2006		-0.20 ^		166.33
11/21/2006		-0.19 ^		166.32
12/7/2006		-0.22 ^		166.35
1/24/2007		-0.40 ^		166.53
2/22/2007		-1.60 ^		167.73
3/21/2007		-1.70 ^		167.83
4/26/2007		-0.58 ^		166.71
5/16/2007		-0.52 ^		166.65
6/20/2007		-0.06 ^		166.19
7/25/2007		-0.10 ^		166.23
8/16/2007		-0.31 ^		166.44
9/11/2007		1.10		165.03
10/24/2007		1.60		164.53
11/27/2007		-0.19 ^		166.32
12/18/2007		-0.14 ^		166.27
5/19/2008		-0.50 ^		166.63
7/30/2008		-0.20 ^		166.33
11/6/2014		-2.31 ^		168.44
10/28/2024		2.31		163.82
MW-08-01			Current ground surface elevation: 180.2 (feet)	
11/6/2014		12.42	176.01	163.59
10/28/2024		23.12	182.58	159.46
MW09-901			Current ground surface elevation: 161.88 (feet)	
10/19/2010		9.25	165.10	155.85
10/23/2012		8.80		156.30
10/29/2013		10.63		154.47
10/21/2014		9.70		155.40
10/27/2015		9.48		155.62
10/25/2016		10.50		154.60
10/24/2017		11.92		153.18
10/2/2018		11.00		154.10
10/29/2019		5.89		159.21
10/27/2020		8.15		156.95
10/5/2021		7.30		157.80
10/4/2022		7.80		157.30

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW09-901)				
10/3/2023		5.70	165.10	159.40
10/8/2024		10.05		155.05
MW12-303R			Current ground surface elevation: 206.13 (feet)	
10/23/2012		27.47	208.89	181.42
10/28/2013		27.43		181.46
10/20/2014		30.08		178.81
10/26/2015		29.29		179.60
10/24/2016		32.50		176.39
10/23/2017		19.35		189.54
10/1/2018		32.08		176.81
10/28/2019		29.12		179.77
10/26/2020		33.40		175.49
10/4/2021		31.77		177.12
10/3/2022		33.15		175.74
10/2/2023		29.10		179.79
10/7/2024		31.50		177.39
10/28/2024		31.20		177.69
MW-204			Current ground surface elevation: 164 (feet)	
5/21/1990		3.74	164.75	161.01
5/25/1990		3.88		160.87
5/29/1990		4.05		160.70
5/31/1990		3.83		160.92
6/6/1990		4.13		160.62
6/7/1990		4.01		160.74
6/8/1990		4.30		160.45
6/11/1990		3.92		160.83
6/15/1990		4.00		160.75
6/18/1990		4.21		160.54
6/22/1990		4.71		160.04
6/25/1990		4.00		160.75
6/28/1990		3.78		160.97
7/2/1990		3.64		161.11
7/5/1990		3.77		160.98
7/9/1990		4.19		160.56
7/13/1990		5.13		159.62
7/16/1990		5.59		159.16
7/30/1990		5.00		159.75
8/8/1990		6.92		157.83
8/13/1990		5.19		159.56
8/21/1990		6.67		158.08
8/30/1990		7.57		157.18
9/10/1990		7.71		157.04
9/18/1990		9.17		155.58
9/24/1990		8.96		155.79
10/2/1990		8.26		156.49
10/8/1990		8.11		156.64
10/17/1990		6.86		157.89
10/23/1990		6.01		158.74
11/13/1990		3.93		160.82

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-204)				
11/28/1990		3.83	164.75	160.92
12/11/1990		4.23		160.52
1/3/1991		4.07		160.68
2/19/1991		F		
3/20/1991		3.89	164.75	160.86
4/18/1991		4.00		160.75
5/3/1991		4.17		160.58
5/17/1991		4.50		160.25
6/3/1991		4.55		160.20
7/1/1991		6.82		157.93
8/5/1991		9.68		155.07
9/7/1991		6.25		158.50
10/4/1991		4.19		160.56
10/30/1991		3.86		160.89
12/18/1991		4.23		160.52
3/2/1992		F		
6/23/1992		6.55	164.75	158.20
8/17/1992		8.31		156.44
1/27/1993		5.84		158.91
4/27/1993		4.61		160.14
7/21/1993		9.52		155.23
10/12/1993		14.22		150.53
1/11/1994		6.88		157.87
5/26/1994		4.98		159.77
8/7/1994		5.23		159.52
11/15/1994		4.80		159.95
2/7/1995		5.38		159.37
5/23/1995		4.88		159.87
8/15/1995		8.03		156.72
6/5/1996		5.28		159.47
9/24/2003		11.51		153.24
9/10/2004		8.80		155.95
9/15/2004		8.96		155.79
9/22/2004		8.88		155.87
9/29/2004		9.25		155.50
3/1/2005		8.88		155.87
5/9/2005		8.35		156.40
10/26/2009		8.70		156.05
10/19/2010		9.32		155.43
10/26/2011		9.10		155.65
10/24/2012		9.05		155.70
10/30/2013		9.95		154.80
10/22/2014		9.45		155.30
10/26/2015		9.40		155.35
10/26/2016		10.05		154.70
10/23/2017		11.50		153.25
10/3/2018		10.17		154.58
10/28/2019		9.00		155.75
10/26/2020		10.10		154.65
10/4/2021		9.65		155.10
10/5/2022		9.90		154.85

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-204)				
10/2/2023		!		
10/7/2024		11.50	166.18	154.68
10/28/2024		11.77	164.75	152.98
MW-206			Current ground surface elevation: 200.87 (feet)	
5/14/1990		3.79	204.67	200.88
5/16/1990		3.76		200.91
5/17/1990		3.75		200.92
5/21/1990		3.76		200.91
5/23/1990		3.98		200.69
5/29/1990		4.26		200.41
5/31/1990		4.09		200.58
6/5/1990		4.25		200.42
6/6/1990		4.38		200.29
6/7/1990		4.48		200.19
6/8/1990		4.65		200.02
6/11/1990		4.57		200.10
6/15/1990		4.19		200.48
6/18/1990		4.67		200.00
6/22/1990		5.13		199.54
6/25/1990		4.40		200.27
6/28/1990		3.84		200.83
7/2/1990		3.77		200.90
7/5/1990		3.83		200.84
7/9/1990		4.53		200.14
7/13/1990		5.21		199.46
7/16/1990		5.73		198.94
7/30/1990		5.65		199.02
8/8/1990		6.96		197.71
8/13/1990		6.28		198.39
8/21/1990		7.25		197.42
8/30/1990		8.60		196.07
9/10/1990		8.89		195.78
9/18/1990		9.97		194.70
9/24/1990		11.05		193.62
10/2/1990		11.52		193.15
10/8/1990		11.84		192.83
10/17/1990		11.05		193.62
10/23/1990		9.65		195.02
11/27/1990		3.81		200.86
12/11/1990		3.99		200.68
1/3/1991		F		
2/20/1991		F		
3/20/1991		F		
4/18/1991		3.66	204.67	201.01
5/3/1991		4.09		200.58
5/17/1991		4.69		199.98
6/4/1991		5.11		199.56
7/1/1991		7.61		197.06
8/5/1991		11.77		192.90
9/7/1991		9.60		195.07

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-206)				
10/4/1991		8.11	204.67	196.56
10/30/1991		4.94		199.73
12/18/1991		4.01		200.66
3/2/1992		F		
6/23/1992		7.21	204.67	197.46
8/17/1992		11.06		193.61
1/27/1993		10.34		194.33
4/27/1993		3.90		200.77
7/21/1993		9.48		195.19
10/12/1993		17.02		187.65
1/11/1994		5.09		199.58
5/26/1994		4.50		200.17
8/7/1994		10.14		194.53
11/15/1994		10.39		194.28
2/7/1995		4.65		200.02
5/23/1995		4.21		200.46
8/15/1995		10.03		194.64
6/5/1996		4.44		200.23
9/24/2003		13.74		190.93
9/9/2004		6.49		198.18
9/14/2004		6.30		198.37
9/22/2004		6.62		198.05
9/29/2004		7.41		197.26
10/28/2009		6.05		198.62
10/18/2010		6.85		197.82
10/24/2011		4.67		200.00
10/22/2012		4.55		200.12
10/28/2013		8.05		196.62
10/20/2014		7.80		196.87
10/26/2015		6.80		197.87
10/24/2016		13.95		190.72
10/23/2017		14.90		189.77
10/1/2018		13.20		191.47
10/28/2019		4.50		200.17
10/26/2020		9.60		195.07
10/4/2021		5.80		198.87
10/5/2022		9.90		194.77
10/2/2023		6.40		198.27
10/7/2024		9.37		195.30
10/28/2024		10.80		193.87
MW-223A			Current ground surface elevation: 173.35 (feet)	
9/18/1990		2.88	176.54	173.66
9/24/1990		2.44		174.10
10/2/1990		2.69		173.85
10/8/1990		2.61		173.93
10/17/1990		1.88		174.66
10/23/1990		1.62		174.92
11/13/1990		0.23		176.31
11/28/1990		0.40		176.14
12/11/1990		F		

WATER LEVEL SUMMARY

Water Levels

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-223A)				
1/3/1991		F		
2/19/1991		F		
3/20/1991		0.23	176.54	176.31
4/18/1991		0.25		176.29
5/3/1991		0.18		176.36
5/17/1991		0.68		175.86
6/3/1991		0.67		175.87
8/5/1991		3.89		172.65
12/18/1991		F		
3/2/1992		F		
6/23/1992		1.67	176.54	174.87
8/17/1992		2.86		173.68
1/27/1993		F		
4/27/1993		0.68	176.54	175.86
7/21/1993		3.41		173.13
10/12/1993		6.71		169.83
1/11/1994		F		
5/26/1994		0.75	176.54	175.79
8/7/1994		1.61		174.93
11/15/1994		0.98		175.56
2/7/1995		F		
5/23/1995		0.64	176.54	175.90
8/15/1995		2.40		174.14
6/5/1996		1.45		175.09
9/24/2003		4.48		172.06
9/10/2004		1.10		175.44
9/14/2004		1.39		175.15
9/22/2004		1.34		175.20
9/29/2004		1.69		174.85
3/1/2005		F		
5/9/2005		0.53	176.54	176.01
5/19/2008		4.22		172.32
7/30/2008		1.87		174.67
10/27/2009		1.35		175.19
10/19/2010		2.20		174.34
10/25/2011		0.70		175.84
10/23/2012		0.50		176.04
10/29/2013		1.95		174.59
10/20/2014		2.43		174.11
11/6/2014		0.68		175.86
10/27/2015		1.40		175.14
10/25/2016		3.70		172.84
10/24/2017		4.50		172.04
10/2/2018		4.95		171.59
10/29/2019		0.93		175.61
10/27/2020		2.80		173.74
10/5/2021		2.35		174.19
10/4/2022		3.00		173.54
10/3/2023		4.72		171.82
10/8/2024		6.65		169.89
10/28/2024		6.74		169.80

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-223B)				
MW-223B		Current ground surface elevation: 173.32 (feet)		
9/18/1990		3.98	175.93	171.95
9/24/1990		3.51		172.42
10/2/1990		2.92		173.01
10/8/1990		3.57		172.36
10/17/1990		2.89		173.04
10/23/1990		2.63		173.30
11/13/1990		2.36		173.57
11/28/1990		1.51		174.42
12/11/1990		F		
1/3/1991		F		
2/19/1991		F		
3/20/1991		F		
4/18/1991		1.45	175.93	174.48
5/3/1991		1.52		174.41
5/17/1991		1.83		174.10
6/3/1991		1.89		174.04
7/1/1991		3.20		172.73
8/5/1991		3.92		172.01
12/18/1991		F		
3/2/1992		F		
6/23/1992		2.27	175.93	173.66
8/17/1992		3.65		172.28
1/27/1993		F		
4/27/1993		1.60	175.93	174.33
7/21/1993		4.38		171.55
10/12/1993		6.90		169.03
1/11/1994		F		
5/26/1994		1.74	175.93	174.19
8/7/1994		2.53		173.40
11/15/1994		1.98		173.95
2/7/1995		F		
5/23/1995		1.60	175.93	174.33
8/15/1995		3.40		172.53
6/5/1996		0.50		175.43
9/24/2003		5.68		170.25
9/10/2004		2.19		173.74
9/14/2004		2.64		173.29
9/22/2004		2.56		173.37
9/29/2004		2.96		172.97
3/1/2005		F		
5/9/2005		1.82	175.93	174.11
5/19/2008		3.70		172.23
7/30/2008		3.17		172.76
10/27/2009		2.65		173.28
10/19/2010		3.45		172.48
10/25/2011		2.20		173.73
10/23/2012		2.10		173.83
10/29/2013		3.30		172.63
10/20/2014		3.50		172.43

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-223B)				
11/6/2014		2.19	175.93	173.74
10/27/2015		2.80		173.13
10/25/2016		4.50		171.43
10/24/2017		5.25		170.68
10/2/2018		5.70		170.23
10/29/2019		2.40		173.53
10/27/2020		3.80		172.13
10/5/2021		3.60		172.33
10/4/2022		4.20		171.73
10/3/2023		6.00		169.93
10/8/2024		7.20		168.73
10/28/2024		7.16		168.77
MW-227			Current ground surface elevation: 160.79 (feet)	
9/24/1990		9.72	164.23	154.51
10/2/1990		8.59		155.64
10/8/1990		8.02		156.21
10/17/1990		5.48		158.75
10/23/1990		4.88		159.35
11/13/1990		3.88		160.35
11/28/1990		3.82		160.41
1/3/1991		4.00		160.23
2/19/1991		F		
3/20/1991		3.75	164.23	160.48
4/18/1991		3.91		160.32
5/3/1991		3.85		160.38
5/17/1991		4.13		160.10
6/3/1991		5.82		158.41
7/1/1991		7.55		156.68
8/5/1991		11.89		152.34
9/7/1991		5.73		158.50
10/4/1991		4.05		160.18
10/30/1991		4.21		160.02
12/18/1991		4.28		159.95
3/2/1992		F		
6/23/1992		6.17	164.23	158.06
8/17/1992		9.10		155.13
1/27/1993		F		
4/27/1993		4.13	164.23	160.10
7/21/1993		11.10		153.13
10/12/1993		14.73		149.50
1/11/1994		F		
5/26/1994		4.30	164.23	159.93
8/7/1994		4.71		159.52
11/15/1994		4.36		159.87
2/7/1995		F		
5/23/1995		4.25	164.23	159.98
8/15/1995		7.90		156.33
6/5/1996		4.48		159.75
9/24/2003		11.15		153.08
9/10/2004		3.98		160.25

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-227)				
9/14/2004		4.60	164.23	159.63
9/22/2004		4.39		159.84
9/29/2004		5.09		159.14
3/1/2005		F		
5/9/2005		3.90	164.23	160.33
10/27/2009		4.10		160.13
10/19/2010		4.42		159.81
10/25/2011		4.05		160.18
10/23/2012		4.23		160.00
10/29/2013		4.65		159.58
10/20/2014		4.60		159.63
10/27/2015		4.60		159.63
10/25/2016		4.61		159.62
10/24/2017		5.65		158.58
10/2/2018		5.18		159.05
10/29/2019		4.19		160.04
10/27/2020		4.45		159.78
10/5/2021		4.65		159.58
10/4/2022		8.45		155.78
10/3/2023		4.70		159.53
10/8/2024		5.15		159.08
10/28/2024		5.68		158.55
MW-301			Current ground surface elevation: 163.48 (feet)	
9/24/2003		2.59	166.36	163.77
9/10/2004		7.72		158.64
9/15/2004		1.49		164.87
9/22/2004		1.40		164.96
9/29/2004		1.44		164.92
3/1/2005		F		
5/9/2005		0.60	166.36	165.76
10/26/2009		4.25		162.11
10/19/2010		4.96		161.40
10/26/2011		4.11		162.25
10/24/2012		4.56		161.80
10/30/2013		0.10	165.91	165.81
10/22/2014		0.30		165.61
10/27/2015		0.23		165.68
10/26/2016		0.38		165.53
10/25/2017		0.20		165.71
10/1/2018		0.95		164.96
10/28/2019		F1		
10/26/2020		1.80	165.91	164.11
10/4/2021		0.90		165.01
10/3/2022		3.00		162.91
10/2/2023		3.10		162.81
10/7/2024		0.15		165.76
MW-302R			Current ground surface elevation: 204.49 (feet)	
5/19/2008		7.08	206.86	199.78
7/29/2008		8.27		198.59

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(MW-302R)				
10/27/2009		8.46	206.86	198.40
10/18/2010		8.05		198.81
10/24/2011		6.60		200.26
10/22/2012		4.12		202.74
10/28/2013		14.15		192.71
10/20/2014		15.75		191.11
11/6/2014		6.53		200.33
10/26/2015		9.20		197.66
10/24/2016		18.50		188.36
10/23/2017		19.35		187.51
10/1/2018		19.60		187.26
10/28/2019		5.17		201.69
10/26/2020		13.80		193.06
10/4/2021		11.20		195.66
MW-303			Current ground surface elevation: 205.26 (feet)	
9/24/2003		29.36	207.87	178.51
9/9/2004		26.71		181.16
9/14/2004		26.97		180.90
9/22/2004		27.19		180.68
9/29/2004		27.29		180.58
MW-304A			Current ground surface elevation: 214.67 (feet)	
7/16/2004		28.03	217.32	189.29
7/20/2004		28.25		189.07
7/21/2004		28.25		189.07
8/5/2004		28.79		188.53
9/8/2004		29.36		187.96
9/14/2004		29.41		187.91
9/22/2004		29.45		187.87
9/29/2004		29.60		187.72
10/28/2004		30.19		187.13
12/17/2004		28.65		188.67
1/4/2005		27.69		189.63
5/25/2006		27.10	217.31	190.21
6/13/2006		30.78		186.53
7/26/2006		26.95		190.36
8/16/2006		26.48		190.83
9/13/2006		27.20		190.11
10/19/2006		28.71		188.60
11/21/2006		25.77		191.54
12/7/2006		25.70		191.61
1/24/2007		26.50		190.81
2/22/2007		27.30		190.01
3/21/2007		28.80		188.51
4/26/2007		25.10		192.21
5/16/2007		25.80		191.51
6/20/2007		27.55		189.76
7/25/2007		29.25		188.06
8/16/2007		30.05		187.26
9/11/2007		29.74		187.57

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-304A)				
10/24/2007		32.25	217.31	185.06
11/27/2007		30.44		186.87
12/18/2007		30.79		186.52
5/19/2008		25.08		192.23
7/29/2008		28.76		188.55
11/6/2014		32.20		185.11
MW-401A			Current ground surface elevation: 153.56 (feet)	
7/13/2004		5.11	156.83	151.72
7/14/2004		5.23		151.60
7/15/2004		5.11		151.72
7/16/2004		5.15		151.68
7/19/2004		5.29		151.54
8/6/2004		6.12		150.71
9/8/2004		4.79		152.04
9/15/2004		4.36		152.47
9/22/2004		4.42		152.41
9/30/2004		5.26		151.57
10/28/2004		5.34		151.49
12/17/2004		F		
1/4/2005		F		
3/1/2005		A		
5/9/2005		0.86	156.83	155.97
10/28/2009		4.12		152.71
10/20/2010		5.52		151.31
10/24/2011		3.62		153.21
10/22/2012		0.93		155.90
10/28/2013		6.10		150.73
10/20/2014		7.15		149.68
10/26/2015		4.80		152.03
10/24/2016		8.50		148.33
10/25/2017		8.55		148.28
10/1/2018		8.72		148.11
10/28/2019		2.21		154.62
10/26/2020		6.27		150.56
10/4/2021		3.41		153.42
10/3/2022		6.60		150.23
10/2/2023		4.28		152.55
10/7/2024		6.78		150.05
10/28/2024		7.22		149.61
MW-401B			Current ground surface elevation: 154.23 (feet)	
7/13/2004		7.40	157.32	149.92
7/14/2004		7.53		149.79
7/15/2004		7.45		149.87
7/16/2004		7.51		149.81
7/19/2004		7.67		149.65
8/6/2004		7.93		149.39
9/8/2004		7.66		149.66
9/15/2004		7.50		149.82
9/22/2004		7.36		149.96

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-401B)				
10/28/2004		7.63	157.32	149.69
12/17/2004		7.15		150.17
1/4/2005		7.21		150.11
3/1/2005		A		
5/9/2005		6.95	157.32	150.37
10/28/2009		6.60		150.72
10/20/2010		6.82		150.50
10/24/2011		6.63		150.69
10/22/2012		6.35		150.97
10/28/2013		7.20		150.12
10/20/2014		7.14		150.18
10/26/2015		6.97		150.35
10/24/2016		7.34		149.98
10/25/2017		8.25		149.07
10/1/2018		7.90		149.42
10/28/2019		6.20		151.12
10/26/2020		7.10		150.22
10/4/2021		6.68		150.64
10/3/2022		6.50		150.82
10/2/2023		7.03		150.29
10/7/2024		7.65		149.67
10/28/2024		7.77		149.55
MW-402A			Current ground surface elevation: 149.27 (feet)	
6/30/2004		0.20	152.20	152.00
7/7/2004		0.10		152.10
7/12/2004		F1		
7/13/2004		F1		
8/5/2004		F1		
9/9/2004		F1		
9/10/2004		-5.11 ^	152.20	157.31
9/22/2004		F1		
10/1/2004		F1		
10/28/2004		-5.05	152.20	157.25
12/17/2004		F1		
1/4/2005		F		
5/9/2005		F1		
10/28/2009		F1		
10/20/2010		F1		
10/26/2011		0.00	152.20	152.20
10/24/2012		F1		
10/30/2013		0.00	152.20	152.20
10/22/2014		0.25		151.95
10/28/2015		0.04		152.16
10/26/2016		0.46		151.74
10/26/2017		0.05		152.15
10/3/2018		0.45		151.75
10/30/2019		0.05	152.74	152.69
10/28/2020		F1		
10/4/2021		0.06	152.20	152.14
10/3/2022		0.66		151.54

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(MW-402A)				
10/2/2023		0.08	152.20	152.12
10/7/2024		4.13		148.07
10/28/2024		0.00		152.20
MW-402B			Current ground surface elevation: 149.73 (feet)	
7/7/2004		3.52	152.74	149.22
7/12/2004		2.56		150.18
7/13/2004		2.74		150.00
7/15/2004		2.61		150.13
8/5/2004		3.00		149.74
9/9/2004		2.89		149.85
9/22/2004		2.86		149.88
9/30/2004		7.72		145.02
10/1/2004		3.17		149.57
10/28/2004		2.70		150.04
12/17/2004		F		
1/4/2005		F		
5/9/2005		2.02	152.74	150.72
10/28/2009		2.98		149.76
10/20/2010		3.40		149.34
10/26/2011		2.95		149.79
10/24/2012		2.90		149.84
10/30/2013		3.80		148.94
10/22/2014		3.87		148.87
10/28/2015		3.25		149.49
10/26/2016		5.21		147.53
10/26/2017		4.58		148.16
10/3/2018		5.82		146.92
10/30/2019		2.65	152.20	149.55
10/28/2020		3.92	152.74	148.82
10/4/2021		3.15		149.59
10/3/2022		4.20		148.54
10/2/2023		3.60		149.14
10/7/2024		20.15		132.59
10/28/2024		4.26		148.48
MW-501			Current ground surface elevation: 163.2 (feet)	
10/28/2024		-1.58 ^	166.19	167.77
MW-502			Current ground surface elevation: 157.42 (feet)	
6/19/2024		46.38	160.58	114.20
8/13/2024		F1		
9/16/2024		0.63	160.58	159.95
10/9/2024		0.61		159.97
10/28/2024		0.83		159.75
MW-503			Current ground surface elevation: 160.715 (feet)	
10/9/2024		F1		
MW-504			Current ground surface elevation: 180.2 (feet)	
3/14/2024		25.79	182.55	156.76

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(MW-504)				
4/23/2024		16.63	182.55	165.92
5/14/2024		25.98		156.57
6/19/2024		25.73		156.82
8/13/2024		25.50		157.05
9/16/2024		26.39		156.16
10/10/2024		26.33		156.22
10/28/2024		26.59		155.96
MW-505			Current ground surface elevation: 184.1 (feet)	
3/14/2024		13.84	186.54	172.70
4/23/2024		10.86		175.68
5/14/2024		15.75		170.79
6/19/2024		15.97		170.57
8/13/2024		16.00		170.54
9/16/2024		18.88		167.66
10/9/2024		19.64		166.90
10/28/2024		20.33		166.21
MW-506			Current ground surface elevation: 195.758 (feet)	
3/14/2024		3.88	198.76	194.88
5/14/2024		9.54		189.22
6/19/2024		6.72		192.04
8/13/2024		30.06		168.70
9/16/2024		32.46		166.30
10/9/2024		33.22		165.54
10/28/2024		33.78		164.98
MW-507			Current ground surface elevation: 174.72 (feet)	
6/19/2024		200.00	176.83	-23.17
8/13/2024		4.91		171.92
9/16/2024		8.18		168.65
10/8/2024		9.10		167.73
10/28/2024		9.63		167.20
MW-508			Current ground surface elevation: 186.51 (feet)	
10/10/2024		4.84	189.27	184.43
OW06-05			Current ground surface elevation: 187.627 (feet)	
4/27/2006		6.42	190.53	184.11
5/25/2006		6.00		184.53
6/13/2006		5.60		184.93
7/26/2006		6.60		183.93
8/16/2006		7.70		182.83
9/13/2006		8.60		181.93
10/19/2006		6.80		183.73
11/21/2006		5.80		184.73
12/7/2006		6.17		184.36
1/24/2007		6.73		183.80
2/22/2007		8.60		181.93
3/21/2007		6.03		184.50
4/26/2007		5.94		184.59

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW06-05)				
5/16/2007		6.87	190.53	183.66
6/20/2007		9.20		181.33
7/25/2007		10.14		180.39
8/16/2007		12.17		178.36
9/11/2007		13.75		176.78
10/24/2007		14.94		175.59
11/27/2007		6.00		184.53
12/18/2007		6.12		184.41
7/30/2008		8.49		182.04
11/6/2014		7.43		183.10
OW06-06			Current ground surface elevation: 187.278 (feet)	
4/27/2006		6.35	190.12	183.77
5/25/2006		5.97		184.15
6/13/2006		5.28		184.84
7/26/2006		6.45		183.67
8/16/2006		7.39		182.73
9/13/2006		8.45		181.67
10/19/2006		7.10		183.02
11/21/2006		5.70		184.42
12/7/2006		6.20		183.92
1/24/2007		6.68		183.44
2/22/2007		8.43		181.69
3/21/2007		5.91		184.21
4/26/2007		5.80		184.32
5/16/2007		6.77		183.35
6/20/2007		8.98		181.14
7/25/2007		9.94		180.18
8/16/2007		12.04		178.08
9/11/2007		13.60		176.52
10/24/2007		14.80		175.32
11/27/2007		6.48		183.64
12/18/2007		6.62		183.50
7/30/2008		7.78		182.34
11/6/2014		7.69		182.43
3/14/2024		7.61		182.51
4/23/2024		5.05		185.07
5/14/2024		10.12		180.00
6/19/2024		9.73		180.39
8/13/2024		10.43		179.69
9/16/2024		13.36		176.76
10/9/2024		14.79		175.33
OW-601A			Current ground surface elevation: 214.89 (feet)	
10/28/2024		41.40	217.94	176.54
OW-601B			Current ground surface elevation: 214.5 (feet)	
10/28/2024		41.25	217.50	176.25
OW-602A			Current ground surface elevation: 211.69 (feet)	
10/28/2024		39.47	213.17	173.70

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW-603B)				
OW-603B		Current ground surface elevation: 205.07 (feet)		
10/28/2024		D		
OW-604A		Current ground surface elevation: 195.8 (feet)		
10/28/2024		25.82	198.80	172.98
OW-605A		Current ground surface elevation: 184.71 (feet)		
4/23/2024		F1		
6/19/2024		200.00	186.76	-13.24
8/13/2024		21.02		165.74
9/16/2024		21.82		164.94
10/9/2024		21.90		164.86
10/28/2024		22.22		164.54
OW-606A		Current ground surface elevation: 156.98 (feet)		
3/14/2024		F1		
5/14/2024		F1		
6/19/2024		F1		
8/13/2024		F1		
9/16/2024		0.62	159.62	159.00
10/9/2024		0.04		159.58
10/28/2024		0.48		159.14
OW-606B		Current ground surface elevation: 162.876 (feet)		
4/23/2024		19.23	165.88	146.65
6/19/2024		14.62		151.26
8/13/2024		3.71		162.17
9/16/2024		4.88		161.00
10/9/2024		3.87		162.01
10/28/2024		4.10		161.78
OW-607B		Current ground surface elevation: 180.3 (feet)		
3/14/2024		19.08	181.80	162.72
4/23/2024		37.66		144.14
5/14/2024		19.65		162.15
6/19/2024		19.43		162.37
8/13/2024		18.30		163.50
9/16/2024		20.55		161.25
10/10/2024		19.88		161.92
10/28/2024		21.03		160.77
OW-608A		Current ground surface elevation: 196.1 (feet)		
3/14/2024		37.58	199.49	161.91
4/23/2024		7.46		192.03
5/14/2024		37.74		161.75
6/19/2024		37.80		161.69
8/13/2024		37.84		161.65
9/16/2024		38.60		160.89
10/9/2024		38.40		161.09

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW-608A)				
10/28/2024		38.85	199.49	160.64
OW-608B			Current ground surface elevation: 198.404 (feet)	
3/14/2024		6.85	201.40	194.55
4/23/2024		8.74		192.66
5/14/2024		8.09		193.31
6/19/2024		8.21		193.19
8/13/2024		7.99		193.41
9/16/2024		10.07		191.33
10/9/2024		10.75		190.65
10/28/2024		11.43		189.97
OW-609B			Current ground surface elevation: 199 (feet)	
3/14/2024		4.68	201.77	197.09
4/23/2024		6.23		195.54
5/14/2024		14.02		187.75
6/19/2024		13.22		188.55
8/13/2024		13.04		188.73
9/16/2024		16.39		185.38
10/9/2024		17.25		184.52
10/28/2024		17.63		184.14
OW-610A			Current ground surface elevation: 178.35 (feet)	
3/14/2024		5.74	180.25	174.51
4/23/2024		8.38		171.87
5/14/2024		7.20		173.05
6/19/2024		7.39		172.86
8/13/2024		6.78		173.47
9/16/2024		9.44		170.81
10/8/2024		9.55		170.70
10/28/2024		10.41		169.84
OW-611A			Current ground surface elevation: 183.07 (feet)	
10/28/2024		13.87	185.15	171.28
P-04-02			Current ground surface elevation: 166.05 (feet)	
9/10/2004		8.76	168.74	159.98
9/15/2004		8.69		160.05
9/22/2004		8.51		160.23
9/29/2004		8.74		160.00
5/9/2005		7.02		161.72
10/27/2009		7.55		161.19
10/20/2010		8.50		160.24
10/26/2011		!		
10/24/2012		6.65	168.74	162.09
P-04-02R			Current ground surface elevation: 167.97 (feet)	
10/28/2015		11.80	170.72	158.92
10/26/2016		12.81		157.91
10/25/2017		13.50	168.74	155.24
10/3/2018		13.25		155.49

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-02R)				
10/30/2019		11.50	170.72	159.22
10/28/2020		13.18		157.54
10/6/2021		13.88		156.84
10/4/2022		13.00		157.72
10/2/2023		12.80		157.92
10/7/2024		13.00		157.72
10/28/2024		13.41		157.31
P-04-04			Current ground surface elevation: 166.67 (feet)	
9/10/2004		9.29	169.35	160.06
9/15/2004		9.21		160.14
9/22/2004		9.07		160.28
9/29/2004		9.35		160.00
5/9/2005		7.50		161.85
10/27/2009		7.96		161.39
10/20/2010		9.00		160.35
10/26/2011		9.30		160.05
10/24/2012		8.90		160.45
10/30/2013		10.01	169.25	159.24
10/22/2014		9.35		159.90
10/28/2015		9.06		160.19
10/26/2016		10.53		158.72
10/25/2017		10.80		158.45
10/3/2018		10.92		158.33
10/30/2019		9.20		160.05
10/28/2020		10.80		158.45
10/6/2021		10.20		159.05
10/4/2022		10.52		158.73
10/2/2023		10.00		159.25
10/7/2024		11.00		158.25
10/28/2024		11.05		158.20
P-04-07A			Current ground surface elevation: 174.27 (feet)	
8/5/2004		-1.28 ^	177.12	178.40
9/9/2004		F1		
9/10/2004		-1.46 ^	177.12	178.58
9/15/2004		1.47		175.65
9/22/2004		-1.54 ^		178.66
10/28/2004		1.54		175.58
11/15/2004		1.27		175.85
12/17/2004		-1.77 ^		178.89
1/4/2005		-1.85 ^		178.97
2/21/2005		-0.60 ^		177.72
3/24/2005		1.60		175.52
4/27/2005		F1		
5/25/2005		0.40	177.12	176.72
6/22/2005		1.43		175.69
7/26/2005		1.33		175.79
8/29/2005		1.95		175.17
9/19/2005		1.73		175.39
10/21/2005		1.46		175.66

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-07A)				
11/21/2005		1.11	177.12	176.01
12/27/2005		F		
1/23/2006		F1		
2/23/2006		1.50	177.12	175.62
3/15/2006		2.03		175.09
4/27/2006		-1.72 ^		178.84
5/25/2006		-1.49 ^		178.61
6/13/2006		-1.80 ^		178.92
7/26/2006		-1.60 ^		178.72
8/16/2006		0.23		176.89
9/13/2006		0.20		176.92
10/19/2006		-1.70 ^		178.82
11/21/2006		0.26		176.86
12/7/2006		0.30		176.82
1/24/2007		-1.50 ^		178.62
2/22/2007		-1.90 ^		179.02
3/21/2007		0.20		176.92
4/26/2007		-1.78 ^		178.90
5/16/2007		-1.42 ^		178.54
6/20/2007		-1.10 ^		178.22
7/25/2007		0.29		176.83
8/16/2007		-2.10 ^		179.22
9/11/2007		1.10		176.02
10/24/2007		1.10		176.02
11/27/2007		-1.58 ^		178.70
12/18/2007		-1.60 ^		178.72
5/19/2008		-1.30 ^		178.42
7/30/2008		-1.15 ^		178.27
11/6/2014		F1		
6/9/2021		1.90	177.12	175.22
3/14/2024		3.92	177.93	174.01
5/14/2024		3.54		174.39
6/19/2024		3.64		174.29
8/13/2024		4.06		173.87
9/16/2024		5.64		172.29
10/10/2024		5.73		172.20
10/28/2024		6.34		171.59
P-04-07B			Current ground surface elevation: 174.27 (feet)	
8/5/2004		-1.21 ^	177.15	178.36
9/9/2004		F1		
9/10/2004		-1.44 ^	177.15	178.59
9/15/2004		1.42		175.73
9/22/2004		-1.44 ^		178.59
9/30/2004		1.07		176.08
10/28/2004		1.63		175.52
11/15/2004		1.30		175.85
12/17/2004		-1.79 ^		178.94
1/4/2005		-1.72 ^		178.87
2/21/2005		-0.78 ^		177.93
3/24/2005		-0.50 ^		177.65

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-07B)				
4/27/2005		2.40	177.15	174.75
5/25/2005		Q		
6/22/2005		0.60	177.15	176.55
7/26/2005		0.30		176.85
8/29/2005		1.93		175.22
9/19/2005		0.92		176.23
10/21/2005		0.30		176.85
11/21/2005		0.28		176.87
12/27/2005		0.60		176.55
1/23/2006		0.11		177.04
2/23/2006		0.84		176.31
3/15/2006		0.72		176.43
4/27/2006		2.72		174.43
5/25/2006		-1.60 ^		178.75
6/13/2006		-1.72 ^		178.87
7/26/2006		-1.60 ^		178.75
8/16/2006		0.30		176.85
9/13/2006		0.28		176.87
10/19/2006		-1.60 ^		178.75
11/21/2006		0.32		176.83
12/7/2006		0.38		176.77
1/24/2007		-1.38 ^		178.53
2/22/2007		-1.80 ^		178.95
3/21/2007		0.38		176.77
4/26/2007		-1.59 ^		178.74
5/16/2007		-1.42 ^		178.57
6/20/2007		-1.15 ^		178.30
7/25/2007		0.35		176.80
8/16/2007		-2.35 ^		179.50
9/11/2007		1.15		176.00
10/24/2007		1.00		176.15
11/27/2007		-1.45 ^		178.60
12/18/2007		-1.52 ^		178.67
5/19/2008		-1.13 ^		178.28
7/30/2008		-1.05 ^		178.20
11/6/2014		F1		
6/9/2021		1.73	177.15	175.42
3/14/2024		3.24	177.84	174.60
5/14/2024		3.36		174.48
6/19/2024		3.49		174.35
8/13/2024		3.95		173.89
9/16/2024		5.53		172.31
10/10/2024		5.62		172.22
10/28/2024		8.22		169.62
P-04-07C			Current ground surface elevation: 174.02 (feet)	
8/5/2004		3.29	177.00	173.71
9/9/2004		3.04		173.96
9/10/2004		2.99		174.01
9/15/2004		3.05		173.95
9/22/2004		3.04		173.96

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-07C)				
9/30/2004		3.04	177.00	173.96
10/28/2004		3.05		173.95
11/15/2004		3.05		173.95
12/17/2004		F		
1/4/2005		F		
2/21/2005		F		
3/24/2005		3.00	177.00	174.00
4/27/2005		2.93		174.07
5/25/2005		2.98		174.02
6/22/2005		2.80		174.20
7/26/2005		3.11		173.89
8/29/2005		3.33		173.67
9/19/2005		3.06		173.94
10/21/2005		3.15		173.85
11/21/2005		3.13		173.87
12/27/2005		3.25		173.75
1/23/2006		F		
2/23/2006		F		
3/15/2006		3.09	177.00	173.91
4/27/2006		3.23		173.77
5/25/2006		3.25		173.75
6/13/2006		3.13		173.87
7/26/2006		3.37		173.63
8/16/2006		3.82		173.18
9/13/2006		3.78		173.22
10/19/2006		3.20		173.80
11/21/2006		3.00		174.00
12/7/2006		3.20		173.80
1/24/2007		F		
2/22/2007		2.20	177.00	174.80
3/21/2007		3.45		173.55
4/26/2007		3.18		173.82
5/16/2007		3.30		173.70
6/20/2007		3.33		173.67
7/25/2007		3.51		173.49
8/16/2007		3.53		173.47
9/11/2007		4.74		172.26
10/24/2007		3.20		173.80
11/27/2007		3.20		173.80
12/18/2007		3.22		173.78
5/19/2008		3.37		173.63
7/30/2008		3.34		173.66
11/6/2014		3.20		173.80
6/9/2021		4.93		172.07
3/14/2024		4.09		172.91
4/23/2024		12.10		164.90
5/14/2024		4.78		172.22
6/19/2024		5.33		171.67
8/13/2024		4.95		172.05
9/16/2024		6.94		170.06
10/28/2024		5.59		171.41

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(P-04-08A)				
P-04-08A			Current ground surface elevation: 188.44 (feet)	
8/5/2004		13.59	191.55	177.96
9/8/2004		12.01		179.54
9/14/2004		11.89		179.66
9/22/2004		12.15		179.40
9/29/2004		12.56		178.99
10/12/2004		13.15		178.40
10/28/2004		12.46		179.09
1/4/2005		9.95		181.60
2/21/2005		11.40		180.15
3/23/2005		11.00		180.55
4/27/2005		10.27		181.28
5/25/2005		10.43		181.12
6/22/2005		11.25		180.30
7/26/2005		13.88		177.67
8/29/2005		14.90		176.65
9/19/2005		13.75		177.80
10/21/2005		10.65		180.90
11/21/2005		10.32		181.23
12/27/2005		10.85		180.70
1/23/2006		10.38		181.17
2/23/2006		11.88		179.67
3/15/2006		11.60		179.95
4/27/2006		10.90		180.65
5/25/2006		10.70		180.85
6/13/2006		10.26		181.29
7/26/2006		10.80		180.75
8/16/2006		11.90		179.65
9/13/2006		12.30		179.25
10/19/2006		10.80		180.75
11/21/2006		10.12		181.43
12/7/2006		10.60		180.95
1/24/2007		11.30		180.25
2/22/2007		13.00		178.55
3/21/2007		10.20		181.35
4/26/2007		10.40		181.15
5/16/2007		11.30		180.25
6/20/2007		13.10		178.45
7/25/2007		13.50		178.05
8/16/2007		15.31		176.24
9/11/2007		17.20		174.35
10/24/2007		17.70		173.85
11/27/2007		10.52		181.03
12/18/2007		11.47		180.08
5/19/2008		11.70		179.85
7/29/2008		12.10		179.45
11/6/2014		10.85		180.70
7/19/2023		5.85		185.70
10/2/2023		6.30		185.25
3/14/2024		11.28	191.34	180.06

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-08A)				
4/23/2024		5.17	191.34	186.17
5/14/2024		13.60		177.74
6/19/2024		13.90		177.44
8/13/2024		13.18		178.16
9/16/2024		17.10		174.24
10/9/2024		18.70		172.64
10/28/2024		19.62		171.72
P-04-08B			Current ground surface elevation: 188.44 (feet)	
8/5/2004		6.65	191.56	184.91
9/8/2004		6.15		185.41
9/14/2004		5.65		185.91
9/22/2004		5.64		185.92
9/29/2004		6.25		185.31
10/12/2004		7.59		183.97
10/28/2004		9.08		182.48
11/15/2004		5.91		185.65
1/4/2005		4.96		186.60
2/21/2005		4.30		187.26
3/23/2005		4.15		187.41
4/27/2005		5.40		186.16
5/25/2005		4.47		187.09
6/22/2005		4.12		187.44
7/26/2005		7.50		184.06
8/29/2005		8.53		183.03
9/19/2005		6.15		185.41
10/21/2005		4.80		186.76
11/21/2005		4.65		186.91
12/27/2005		4.40		187.16
1/23/2006		4.57		186.99
2/23/2006		5.75		185.81
3/15/2006		4.43		187.13
4/27/2006		4.85		186.71
5/25/2006		4.90		186.66
6/13/2006		4.48		187.08
7/26/2006		4.91		186.65
8/16/2006		6.10		185.46
9/13/2006		6.12		185.44
10/19/2006		4.32		187.24
11/21/2006		4.64		186.92
12/7/2006		4.90		186.66
1/24/2007		5.51		186.05
2/22/2007		6.90		184.66
3/21/2007		4.40		187.16
4/26/2007		4.75		186.81
5/16/2007		5.25		186.31
6/20/2007		6.75		184.81
7/25/2007		6.90		184.66
8/16/2007		8.90		182.66
9/11/2007		11.22		180.34
10/24/2007		12.83		178.73

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-08B)				
11/27/2007		3.85	191.56	187.71
12/18/2007		4.65		186.91
5/19/2008		5.70		185.86
7/29/2008		6.04		185.52
11/6/2014		3.92		187.64
7/19/2023		6.70		184.86
10/2/2023		12.30		179.26
3/14/2024		4.10	191.39	187.29
4/23/2024		5.00		186.39
5/14/2024		6.36		185.03
6/19/2024		6.19		185.20
8/13/2024		5.43		185.96
9/16/2024		9.40		181.99
10/9/2024		11.78		179.61
10/28/2024		13.19		178.20
P-04-09A			Current ground surface elevation: 167.01 (feet)	
8/5/2004		6.95	169.89	162.94
9/8/2004		6.57		163.32
9/14/2004		6.19		163.70
9/22/2004		6.14		163.75
10/1/2004		7.00		162.89
10/12/2004		6.97		162.92
10/28/2004		6.26		163.63
11/15/2004		6.16		163.73
12/16/2004		5.56		164.33
1/4/2005		5.59		164.30
2/21/2005		6.10		163.79
3/23/2005		5.40		164.49
4/27/2005		5.25		164.64
5/25/2005		5.18		164.71
6/22/2005		5.79		164.10
7/26/2005		8.00		161.89
8/29/2005		9.00		160.89
9/19/2005		7.19		162.70
10/21/2005		5.50		164.39
11/21/2005		5.20		164.69
12/27/2005		5.33		164.56
1/23/2006		5.30		164.59
2/23/2006		6.32		163.57
3/15/2006		5.75		164.14
4/27/2006		5.45		164.44
5/25/2006		5.48		164.41
6/13/2006		5.16		164.73
7/26/2006		5.68		164.21
8/16/2006		6.74		163.15
9/13/2006		6.50		163.39
10/19/2006		5.22		164.67
11/21/2006		5.30		164.59
12/7/2006		5.50		164.39
1/24/2007		5.82		164.07

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-09A)				
2/22/2007		6.43	169.89	163.46
3/21/2007		5.12		164.77
4/26/2007		5.35		164.54
5/16/2007		5.82		164.07
6/20/2007		7.05		162.84
7/25/2007		7.10		162.79
8/16/2007		8.40		161.49
9/11/2007		9.88		160.01
10/24/2007		8.20		161.69
11/27/2007		5.00		164.89
12/18/2007		5.15		164.74
5/19/2008		6.00		163.89
7/29/2008		6.45		163.44
11/6/2014		5.39		164.50
3/14/2024		4.61		165.28
4/23/2024		4.98		164.91
5/14/2024		5.48		164.41
6/19/2024		5.81		164.08
8/13/2024		5.34		164.55
9/16/2024		7.64		162.25
10/9/2024		7.40		162.49
10/28/2024		7.67		162.22
P-04-09B			Current ground surface elevation: 167.01 (feet)	
8/5/2004		6.32	169.93	163.61
9/8/2004		6.20		163.73
9/14/2004		5.70		164.23
9/22/2004		5.63		164.30
10/1/2004		6.58		163.35
10/12/2004		6.57		163.36
10/28/2004		5.73		164.20
11/15/2004		5.58		164.35
12/16/2004		4.85		165.08
1/4/2005		4.91		165.02
2/21/2005		5.11		164.82
3/23/2005		4.40		165.53
4/27/2005		4.34		165.59
5/25/2005		4.43		165.50
6/22/2005		5.20		164.73
7/26/2005		7.60		162.33
8/29/2005		8.50		161.43
9/19/2005		6.70		163.23
10/21/2005		4.75		165.18
11/21/2005		4.56		165.37
12/27/2005		4.44		165.49
1/23/2006		4.55		165.38
2/23/2006		6.11		163.82
3/15/2006		4.90		165.03
4/27/2006		4.74		165.19
5/25/2006		4.80		165.13
6/13/2006		4.42		165.51

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-09B)				
7/26/2006		5.02	169.93	164.91
8/16/2006		6.30		163.63
9/13/2006		6.12		163.81
10/19/2006		4.44		165.49
11/21/2006		4.51		165.42
12/7/2006		4.81		165.12
1/24/2007		5.28		164.65
2/22/2007		5.98		163.95
3/21/2007		4.40		165.53
4/26/2007		4.60		165.33
5/16/2007		5.30		164.63
6/20/2007		6.69		163.24
7/25/2007		6.53		163.40
8/16/2007		8.01		161.92
9/11/2007		9.50		160.43
10/24/2007		7.80		162.13
11/27/2007		4.23		165.70
12/18/2007		4.50		165.43
5/19/2008		5.37		164.56
7/29/2008		5.97		163.96
11/6/2014		4.52		165.41
3/14/2024		4.48		165.45
4/23/2024		6.05		163.88
5/14/2024		5.55		164.38
6/19/2024		5.95		163.98
8/13/2024		5.43		164.50
9/16/2024		7.71		162.22
10/9/2024		7.40		162.53
10/28/2024		7.72		162.21
P-04-10A			Current ground surface elevation: 165.97 (feet)	
9/8/2004		9.11	169.94	160.83
9/14/2004		8.90		161.04
9/22/2004		8.75		161.19
9/29/2004		9.29		160.65
10/12/2004		9.69		160.25
11/15/2004		8.90		161.04
12/21/2004		8.55		161.39
1/4/2005		8.40		161.54
2/21/2005		8.20		161.74
3/23/2005		8.35		161.59
4/27/2005		8.04		161.90
5/25/2005		8.13		161.81
6/22/2005		8.20		161.74
7/26/2005		10.40		159.54
8/29/2005		11.30		158.64
9/19/2005		9.75		160.19
10/21/2005		8.20		161.74
11/21/2005		7.91		162.03
12/27/2005		8.18		161.76
1/23/2006		8.08		161.86

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-10A)				
2/23/2006		8.86	169.94	161.08
3/15/2006		8.42		161.52
4/27/2006		8.32		161.62
5/25/2006		8.21		161.73
6/13/2006		8.02		161.92
7/26/2006		8.35		161.59
8/16/2006		9.10		160.84
9/13/2006		8.96		160.98
10/19/2006		8.20		161.74
11/21/2006		8.00		161.94
12/7/2006		8.10		161.84
1/24/2007		8.50		161.44
2/22/2007		9.10		160.84
3/21/2007		8.05		161.89
4/26/2007		8.10		161.84
5/16/2007		8.50		161.44
6/20/2007		9.35		160.59
7/25/2007		9.30		160.64
8/16/2007		10.37		159.57
9/11/2007		12.10		157.84
10/24/2007		10.52		159.42
11/27/2007		8.15		161.79
12/18/2007		8.90		161.04
5/19/2008		8.65		161.29
7/29/2008		8.92		161.02
11/6/2014		8.16		161.78
4/23/2024		5.52		164.42
5/14/2024		6.74		163.20
6/19/2024		6.19		163.75
8/13/2024		5.54		164.40
9/16/2024		7.98		161.96
10/9/2024		8.20		161.74
10/28/2024		8.68		161.26
P-04-10B			Current ground surface elevation: 165.97 (feet)	
9/8/2004		6.35	169.90	163.55
9/14/2004		5.90		164.00
9/22/2004		5.71		164.19
9/29/2004		6.48		163.42
10/12/2004		6.72		163.18
11/15/2004		5.87		164.03
12/21/2004		6.10		163.80
1/4/2005		5.64		164.26
2/21/2005		5.20		164.70
3/23/2005		F		
4/27/2005		5.10	169.90	164.80
5/25/2005		5.14		164.76
6/22/2005		5.12		164.78
7/26/2005		7.86		162.04
8/29/2005		8.91		160.99
9/19/2005		6.55		163.35

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-10B)				
10/21/2005		5.60	169.90	164.30
11/21/2005		5.31		164.59
12/27/2005		5.30		164.60
1/23/2006		5.11		164.79
2/23/2006		7.20		162.70
3/15/2006		5.55		164.35
4/27/2006		5.48		164.42
5/25/2006		5.45		164.45
6/13/2006		5.08		164.82
7/26/2006		5.40		164.50
8/16/2006		6.81		163.09
9/13/2006		6.30		163.60
10/19/2006		5.00		164.90
11/21/2006		5.20		164.70
12/7/2006		5.35		164.55
1/24/2007		6.25		163.65
2/22/2007		7.45		162.45
3/21/2007		5.10		164.80
4/26/2007		5.35		164.55
5/16/2007		5.70		164.20
6/20/2007		6.93		162.97
7/25/2007		6.60		163.30
8/16/2007		8.02		161.88
9/11/2007		9.70		160.20
10/24/2007		7.59		162.31
11/27/2007		5.40		164.50
12/18/2007		6.80		163.10
5/19/2008		6.20		163.70
7/29/2008		6.39		163.51
11/6/2014		5.47		164.43
4/23/2024		13.46		156.44
5/14/2024		6.30		163.60
6/19/2024		6.69		163.21
8/13/2024		6.02		163.88
9/16/2024		10.95		158.95
10/9/2024		8.11		161.79
10/28/2024		8.71		161.19
P-04-11A			Current ground surface elevation: 184.01 (feet)	
9/10/2004		9.15	187.08	177.93
9/14/2004		9.64		177.44
9/22/2004		9.59		177.49
9/30/2004		10.70		176.38
10/12/2004		11.69		175.39
10/28/2004		10.26		176.82
11/15/2004		9.61		177.47
12/16/2004		8.83		178.25
1/4/2005		8.94		178.14
2/21/2005		9.12		177.96
3/24/2005		8.47		178.61
4/27/2005		8.41		178.67

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-11A)				
5/25/2005		8.49	187.08	178.59
6/22/2005		9.00		178.08
7/26/2005		12.30		174.78
8/29/2005		13.60		173.48
9/19/2005		12.70		174.38
10/21/2005		9.10		177.98
11/21/2005		9.13		177.95
12/27/2005		9.03		178.05
1/23/2006		8.56		178.52
2/23/2006		F		
3/15/2006		9.54	187.08	177.54
4/27/2006		8.95		178.13
5/25/2006		8.87		178.21
6/13/2006		8.55		178.53
7/26/2006		8.68		178.40
8/16/2006		10.00		177.08
9/13/2006		9.90		177.18
10/19/2006		8.75		178.33
11/21/2006		8.50		178.58
12/7/2006		8.60		178.48
1/24/2007		9.20		177.88
2/22/2007		11.00		176.08
3/21/2007		8.40		178.68
4/26/2007		8.60		178.48
5/16/2007		9.22		177.86
6/20/2007		11.35		175.73
7/25/2007		11.95		175.13
8/16/2007		11.52		175.56
9/11/2007		16.30		170.78
10/24/2007		17.20		169.88
11/27/2007		9.00		178.08
12/18/2007		9.20		177.88
5/19/2008		10.00		177.08
7/29/2008		10.52		176.56
11/6/2014		9.35		177.73
3/14/2024		12.56		174.52
4/23/2024		4.95		182.13
5/14/2024		15.32		171.76
6/19/2024		14.93		172.15
8/13/2024		15.15		171.93
9/16/2024		18.02		169.06
10/9/2024		19.10		167.98
10/28/2024		19.97		167.11
P-04-11B			Current ground surface elevation: 184.01 (feet)	
9/10/2004		3.69	187.14	183.45
9/14/2004		3.94		183.20
9/22/2004		3.83		183.31
9/30/2004		4.79		182.35
10/12/2004		5.09		182.05
10/28/2004		3.94		183.20

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-04-11B)					
11/15/2004		3.70	187.14		183.44
12/16/2004		3.38			183.76
1/4/2005		F			
2/21/2005		F			
3/24/2005		F			
4/27/2005		3.31	187.14		183.83
5/25/2005		3.27			183.87
6/22/2005		3.50			183.64
7/26/2005		6.20			180.94
8/29/2005		7.50			179.64
9/19/2005		5.83			181.31
10/21/2005		3.60			183.54
11/21/2005		3.40			183.74
12/27/2005		3.45			183.69
1/23/2006		F			
2/23/2006		10.28	187.14		176.86
3/15/2006		F			
4/27/2006		3.90	187.14		183.24
5/25/2006		3.50			183.64
6/13/2006		3.42			183.72
7/26/2006		3.41			183.73
8/16/2006		4.40			182.74
9/13/2006		4.75			182.39
10/19/2006		3.63			183.51
11/21/2006		3.30			183.84
12/7/2006		3.30			183.84
1/24/2007		F			
2/22/2007		F			
3/21/2007		F			
4/26/2007		3.34	187.14		183.80
5/16/2007		3.61			183.53
6/20/2007		5.55			181.59
7/25/2007		6.23			180.91
8/16/2007		7.81			179.33
9/11/2007		12.19			174.95
10/24/2007		12.75			174.39
11/27/2007		3.65			183.49
12/18/2007		3.68			183.46
5/19/2008		4.35			182.79
7/29/2008		4.63			182.51
11/6/2014		4.10			183.04
7/19/2023		12.15			174.99
10/2/2023		7.60			179.54
3/14/2024		12.13			175.01
4/23/2024		2.90			184.24
5/14/2024		6.98			180.16
6/19/2024		6.75			180.39
8/13/2024		8.90			178.24
9/16/2024		12.75			174.39
10/9/2024		D		Below 173.51	173.51
10/28/2024		D		Below 173.51	173.51

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-12A)				
P-04-12A		Current ground surface elevation: 166.33 (feet)		
9/22/2004		4.46	169.17	164.71
10/1/2004		5.30		163.87
10/12/2004		5.59		163.58
10/28/2004		4.59		164.58
11/15/2004		4.25		164.92
12/16/2004		3.81		165.36
1/4/2005		3.80		165.37
2/21/2005		F		
3/23/2005		F		
4/27/2005		3.45	169.17	165.72
5/25/2005		3.51		165.66
6/22/2005		3.47		165.70
7/26/2005		6.20		162.97
8/29/2005		6.87		162.30
9/19/2005		5.80		163.37
10/21/2005		3.15		166.02
11/21/2005		3.50		165.67
12/27/2005		3.61		165.56
1/23/2006		F		
2/23/2006		F		
3/15/2006		F		
4/27/2006		4.45	169.17	164.72
5/25/2006		3.90		165.27
6/13/2006		4.12		165.05
7/26/2006		4.00		165.17
8/16/2006		4.88		164.29
9/13/2006		4.80		164.37
10/19/2006		3.72		165.45
11/21/2006		3.58		165.59
12/7/2006		3.50		165.67
1/24/2007		4.00		165.17
2/22/2007		5.98		163.19
3/21/2007		3.70		165.47
4/26/2007		3.70		165.47
5/16/2007		4.10		165.07
6/20/2007		5.29		163.88
7/25/2007		5.00		164.17
8/16/2007		6.80		162.37
9/11/2007		8.60		160.57
10/24/2007		6.70		162.47
11/27/2007		3.40		165.77
12/18/2007		4.08		165.09
5/19/2008		4.30		164.87
7/30/2008		4.61		164.56
11/6/2014		3.80		165.37
3/14/2024		2.60		166.57
4/23/2024		3.11		166.06
5/14/2024		3.49		165.68
6/19/2024		3.75		165.42

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-12A)				
8/13/2024		3.22	169.17	165.95
9/16/2024		6.06		163.11
10/8/2024		5.60		163.57
10/28/2024		6.96		162.21
P-04-12B			Current ground surface elevation: 166.33 (feet)	
9/22/2004		3.91	169.27	165.36
10/1/2004		4.85		164.42
10/12/2004		5.25		164.02
10/28/2004		4.05		165.22
11/15/2004		3.96		165.31
12/16/2004		3.74		165.53
1/4/2005		3.70		165.57
2/21/2005		3.82		165.45
3/23/2005		4.40		164.87
4/27/2005		3.43		165.84
5/25/2005		3.48		165.79
6/22/2005		3.27		166.00
7/26/2005		5.33		163.94
8/29/2005		5.86		163.41
9/19/2005		6.55		162.72
10/21/2005		4.00		165.27
11/21/2005		4.10		165.17
12/27/2005		3.70		165.57
1/23/2006		3.51		165.76
2/23/2006		F		
3/15/2006		F		
4/27/2006		3.61	169.27	165.66
5/25/2006		3.55		165.72
6/13/2006		3.38		165.89
7/26/2006		4.05		165.22
8/16/2006		4.00		165.27
9/13/2006		4.30		164.97
10/19/2006		4.30		164.97
11/21/2006		3.60		165.67
12/7/2006		3.56		165.71
1/24/2007		3.60		165.67
2/22/2007		4.20		165.07
3/21/2007		3.53		165.74
4/26/2007		3.41		165.86
5/16/2007		3.63		165.64
6/20/2007		4.32		164.95
7/25/2007		4.85		164.42
8/16/2007		5.71		163.56
9/11/2007		7.12		162.15
10/24/2007		7.61		161.66
11/27/2007		4.00		165.27
12/18/2007		3.83		165.44
5/19/2008		3.60		165.67
7/30/2008		4.66		164.61
11/6/2014		5.61		163.66

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-04-12B)					
3/14/2024		3.58	169.27		165.69
4/23/2024		3.51			165.76
5/14/2024		3.42			165.85
6/19/2024		3.45			165.82
8/13/2024		3.71			165.56
9/16/2024		4.22			165.05
10/8/2024		6.37			162.90
10/28/2024		5.60			163.67
P-04-12C			Current ground surface elevation: 166.31 (feet)		
9/22/2004		3.90	169.51		165.61
10/1/2004		4.82			164.69
10/28/2004		3.67			165.84
11/15/2004		3.51			166.00
12/16/2004		F			
1/4/2005		F			
2/21/2005		F			
3/23/2005		F			
4/27/2005		3.14	169.51		166.37
5/25/2005		3.21			166.30
6/22/2005		3.19			166.32
7/26/2005		5.65			163.86
8/29/2005		6.11			163.40
9/19/2005		4.65			164.86
10/21/2005		2.45			167.06
11/21/2005		3.11			166.40
12/27/2005		F			
1/23/2006		F			
2/23/2006		F			
3/15/2006		F			
4/27/2006		3.31	169.51		166.20
5/25/2006		3.35			166.16
6/13/2006		3.00			166.51
7/26/2006		3.41			166.10
8/16/2006		4.63			164.88
9/13/2006		4.15			165.36
10/19/2006		3.30			166.21
11/21/2006		3.41			166.10
12/7/2006		3.38			166.13
1/24/2007		F			
2/22/2007		F			
3/21/2007		F			
4/26/2007		3.32	169.51		166.19
5/16/2007		3.30			166.21
6/20/2007		4.48			165.03
7/25/2007		4.13			165.38
8/16/2007		5.90			163.61
9/11/2007		D		Below 160.81	160.81
10/24/2007		5.51	169.51		164.00
11/27/2007		3.00			166.51
12/18/2007		F			

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-12C)				
5/19/2008		3.65	169.51	165.86
7/30/2008		3.96		165.55
11/6/2014		3.41		166.10
3/14/2024		3.87		165.64
5/14/2024		3.76		165.75
6/19/2024		4.07		165.44
8/13/2024		3.65		165.86
9/16/2024		6.28		163.23
10/8/2024		5.15		164.36
10/28/2024		6.22		163.29
P-04-13A			Current ground surface elevation: 144.38 (feet)	
10/1/2004		6.54	147.27	140.73
11/15/2004		5.53		141.74
12/14/2004		5.50		141.77
1/4/2005		5.35		141.92
2/21/2005		5.42		141.85
3/24/2005		6.10		141.17
4/27/2005		5.49		141.78
5/25/2005		5.43		141.84
6/22/2005		5.79		141.48
7/26/2005		6.67		140.60
8/29/2005		7.25		140.02
9/19/2005		8.50		138.77
10/21/2005		5.65		141.62
11/21/2005		6.20		141.07
12/27/2005		5.40		141.87
1/23/2006		5.26		142.01
2/23/2006		5.12		142.15
3/15/2006		5.14		142.13
4/27/2006		1.10		146.17
5/25/2006		3.62		143.65
6/13/2006		3.30		143.97
7/26/2006		4.20		143.07
8/16/2006		1.98		145.29
9/13/2006		2.00		145.27
10/19/2006		1.00		146.27
11/21/2006		1.00		146.27
12/7/2006		1.10		146.17
1/24/2007		5.10		142.17
2/22/2007		6.00		141.27
3/21/2007		5.90		141.37
4/26/2007		3.60		143.67
5/16/2007		4.10		143.17
6/20/2007		5.44		141.83
7/25/2007		6.00		141.27
8/16/2007		7.48		139.79
9/11/2007		9.60		137.67
10/24/2007		8.75		138.52
11/27/2007		4.00		143.27
12/18/2007		4.15		143.12

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-13A)				
5/19/2008		4.10	147.27	143.17
7/29/2008		5.10		142.17
11/6/2014		4.61		142.66
6/19/2024		128.46		18.81
8/13/2024		4.06		143.21
9/16/2024		8.47		138.80
10/8/2024		9.58		137.69
10/28/2024		9.75		137.52
P-04-13B			Current ground surface elevation: 144.38 (feet)	
10/1/2004		4.19	147.30	143.11
10/12/2004		6.40		140.90
10/28/2004		5.25		142.05
11/15/2004		5.10		142.20
12/14/2004		4.42		142.88
1/4/2005		4.07		143.23
2/21/2005		4.96		142.34
3/24/2005		3.95		143.35
4/27/2005		3.65		143.65
5/25/2005		3.66		143.64
6/22/2005		3.60		143.70
7/26/2005		6.48		140.82
8/29/2005		7.05		140.25
9/19/2005		7.20		140.10
10/21/2005		4.28		143.02
11/21/2005		3.51		143.79
12/27/2005		4.11		143.19
1/23/2006		3.85		143.45
2/23/2006		4.95		142.35
3/15/2006		4.96		142.34
4/27/2006		3.72		143.58
5/25/2006		3.70		143.60
6/13/2006		3.41		143.89
7/26/2006		4.50		142.80
8/16/2006		4.20		143.10
9/13/2006		4.50		142.80
10/19/2006		3.52		143.78
11/21/2006		3.46		143.84
12/7/2006		3.40		143.90
1/24/2007		4.20		143.10
2/22/2007		4.75		142.55
3/21/2007		3.92		143.38
4/26/2007		3.60		143.70
5/16/2007		4.22		143.08
6/20/2007		5.48		141.82
7/25/2007		6.00		141.30
8/16/2007		7.70		139.60
9/11/2007		9.70		137.60
10/24/2007		8.70		138.60
11/27/2007		3.90		143.40
12/18/2007		4.38		142.92

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-13B)				
5/19/2008		4.20	147.30	143.10
7/29/2008		5.09		142.21
11/6/2014		4.00		143.30
6/19/2024		68.81		78.49
8/13/2024		3.95		143.35
9/16/2024		8.70		138.60
10/8/2024		9.66		137.64
10/28/2024		9.55		137.75
P-04-13C			Current ground surface elevation: 144.78 (feet)	
10/1/2004		3.95	147.93	143.98
10/12/2004		4.31		143.62
10/28/2004		3.05		144.88
11/15/2004		3.71		144.22
12/14/2004		3.40		144.53
1/4/2005		F		
2/21/2005		F		
3/24/2005		F		
4/27/2005		3.47	147.93	144.46
5/25/2005		3.53		144.40
6/22/2005		3.48		144.45
7/26/2005		5.16		142.77
8/29/2005		5.62		142.31
9/19/2005		4.51		143.42
10/21/2005		2.25		145.68
11/21/2005		3.55		144.38
12/27/2005		F		
1/23/2006		F		
2/23/2006		F		
3/15/2006		F		
4/27/2006		3.64	147.93	144.29
5/25/2006		3.70		144.23
6/13/2006		3.56		144.37
7/26/2006		4.35		143.58
8/16/2006		3.98		143.95
9/13/2006		4.53		143.40
10/19/2006		3.50		144.43
11/21/2006		3.40		144.53
12/7/2006		3.38		144.55
1/24/2007		F		
2/22/2007		F		
3/21/2007		F		
4/26/2007		3.41	147.93	144.52
5/16/2007		3.80		144.13
6/20/2007		4.36		143.57
7/25/2007		4.05		143.88
8/16/2007		7.48		140.45
9/11/2007		6.91		141.02
10/24/2007		4.50		143.43
11/27/2007		3.68		144.25
12/18/2007		3.92		144.01

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-04-13C)					
5/19/2008		3.96	147.93		143.97
7/29/2008		3.99			143.94
11/6/2014		3.82			144.11
6/19/2024		11.90			136.03
8/13/2024		4.95			142.98
9/16/2024		6.17			141.76
10/8/2024		6.19			141.74
10/28/2024		D		Below 135.28	135.28
P-04-14A			Current ground surface elevation: 150.21 (feet)		
10/13/2004		3.51	153.26		149.75
11/15/2004		2.33			150.93
12/16/2004		F			
1/4/2005		F			
2/21/2005		F			
3/24/2005		F			
4/27/2005		1.01	153.26		152.25
5/25/2005		1.13			152.13
6/22/2005		2.24			151.02
7/26/2005		2.85			150.41
8/29/2005		3.43			149.83
9/19/2005		4.75			148.51
10/21/2005		2.00			151.26
11/21/2005		1.10			152.16
12/27/2005		F			
1/23/2006		F			
2/23/2006		F			
3/15/2006		F			
4/27/2006		2.22	153.26		151.04
5/25/2006		1.40			151.86
6/13/2006		2.11			151.15
7/26/2006		1.80			151.46
8/16/2006		3.10			150.16
9/13/2006		3.20			150.06
10/19/2006		2.15			151.11
11/21/2006		2.02			151.24
12/7/2006		2.00			151.26
1/24/2007		F			
2/22/2007		F			
3/21/2007		F			
4/26/2007		2.60	153.26		150.66
5/16/2007		2.65			150.61
6/20/2007		3.10			150.16
7/25/2007		3.15			150.11
8/16/2007		7.41			145.85
9/11/2007		9.28			143.98
10/24/2007		7.63			145.63
11/27/2007		1.50			151.76
12/18/2007		F			
5/19/2008		3.50	153.26		149.76
7/30/2008		2.63			150.63

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-14A)				
11/6/2014		2.05	153.26	151.21
10/28/2024		5.81		147.45
P-04-14B			Current ground surface elevation: 150.21 (feet)	
10/13/2004		3.42	153.28	149.86
11/15/2004		2.85		150.43
12/16/2004		F		
1/4/2005		F		
2/21/2005		F		
3/24/2005		F		
4/27/2005		1.15	153.28	152.13
5/25/2005		2.21		151.07
6/22/2005		1.50		151.78
7/26/2005		1.76		151.52
8/29/2005		2.11		151.17
9/19/2005		4.00		149.28
10/21/2005		1.45		151.83
11/21/2005		2.27		151.01
12/27/2005		F		
1/23/2006		F		
2/23/2006		F		
3/15/2006		F		
4/27/2006		3.05	153.28	150.23
5/25/2006		2.61		150.67
6/13/2006		2.85		150.43
7/26/2006		2.65		150.63
8/16/2006		3.75		149.53
9/13/2006		3.97		149.31
10/19/2006		2.95		150.33
11/21/2006		2.78		150.50
12/7/2006		2.70		150.58
1/24/2007		F		
2/22/2007		F		
3/21/2007		F		
4/26/2007		2.95	153.28	150.33
5/16/2007		3.60		149.68
6/20/2007		3.85		149.43
7/25/2007		3.85		149.43
8/16/2007		8.52		144.76
9/11/2007		10.13		143.15
10/24/2007		4.63		148.65
11/27/2007		2.20		151.08
12/18/2007		F		
5/19/2008		4.10	153.28	149.18
7/30/2008		3.13		150.15
11/6/2014		2.76		150.52
10/28/2024		6.55		146.73
P-08-03A			Current ground surface elevation: 168.9 (feet)	
11/6/2014		4.05	171.56	167.51
6/19/2024		18.57		152.99

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-03A)				
8/13/2024		5.33	171.56	166.23
9/16/2024		8.51		163.05
10/9/2024		8.57		162.99
10/28/2024		8.60		162.96
P-08-03B			Current ground surface elevation: 168.9 (feet)	
11/6/2014		4.21	171.75	167.54
6/19/2024		8.17		163.58
8/13/2024		5.23		166.52
9/16/2024		8.02		163.73
10/9/2024		8.10		163.65
10/28/2024		D		
P-201A			Current ground surface elevation: 147.74 (feet)	
7/12/1990		-4.36 ^	151.61	155.97
7/13/1990		-4.15 ^		155.76
7/16/1990		-3.10 ^		154.71
7/30/1990		-2.95 ^		154.56
8/8/1990		-1.82 ^		153.43
8/13/1990		-0.67 ^		152.28
8/21/1990		-1.59 ^		153.20
8/30/1990		^		
9/10/1990		-0.33 ^	151.61	151.94
9/18/1990		-0.05 ^		151.66
9/24/1990		-0.05 ^		151.66
10/2/1990		0.07		151.54
10/8/1990		0.10		151.51
10/17/1990		-0.46 ^		152.07
10/23/1990		-0.68 ^		152.29
11/13/1990		-5.07 ^		156.68
11/27/1990		-5.51 ^		157.12
12/11/1990		-6.43		158.04
1/3/1991		-5.28 ^		156.89
2/20/1991		-4.82 ^		156.43
3/20/1991		-4.13 ^		155.74
4/18/1991		-3.44 ^		155.05
5/3/1991		-2.98 ^		154.59
5/17/1991		-5.51 ^		157.12
6/4/1991		-3.44 ^		155.05
7/1/1991		-1.00 ^		152.61
8/5/1991		0.05		151.56
9/7/1991		-2.23		153.84
10/4/1991		1.10 ^		150.51
10/30/1991		-4.13 ^		155.74
12/18/1991		-4.36		155.97
3/2/1992		-3.45 ^		155.06
6/23/1992		^		
8/17/1992		0.00	151.61	151.61
1/27/1993		-0.40 ^		152.01
4/27/1993		-5.05 ^		156.66
7/22/1993		-0.12		151.73

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SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-201A)				
10/12/1993		1.51	151.61	150.10
1/11/1994		F		
5/26/1994		1.39 ^	151.61	150.22
8/7/1994		0.20		151.41
11/15/1994		-0.85 ^		152.46
2/7/1995		-5.05 ^		156.66
5/23/1995		-3.90 ^		155.51
8/15/1995		3.07		148.54
6/5/1996		0.00		151.61
9/24/2003		2.39		149.22
5/19/2008		1.65	149.55	147.90
7/30/2008		0.00		149.55
10/29/2008		F1		
10/27/2009		F1		
10/19/2010		2.46	149.55	147.09
10/25/2011		1.92		147.63
10/23/2012		1.80		147.75
10/30/2013		2.65		146.90
10/21/2014		2.99		146.56
11/6/2014		2.28		147.27
10/28/2015		2.45		147.10
10/25/2016		3.18		146.37
10/26/2017		2.72		146.83
10/2/2018		3.40		146.15
10/29/2019		1.99		147.56
10/27/2020		2.86		146.69
10/7/2021		2.21		147.34
10/4/2022		3.02		146.53
10/3/2023		7.35		142.20
10/8/2024		2.94		146.61
10/28/2024		2.58		146.97
P-201D			Current ground surface elevation: 147.74 (feet)	
7/13/1990		0.17	151.33	151.16
7/16/1990		0.30		151.03
7/30/1990		0.40		150.93
8/8/1990		0.88		150.45
8/13/1990		0.64		150.69
8/21/1990		1.05		150.28
8/30/1990		1.21		150.12
9/10/1990		1.41		149.92
9/18/1990		1.54		149.79
9/24/1990		1.41		149.92
10/2/1990		1.41		149.92
10/8/1990		1.38		149.95
10/17/1990		1.07		150.26
10/23/1990		0.95		150.38
11/13/1990		-0.37 ^		151.70
11/27/1990		-0.11 ^		151.44
12/11/1990		-5.51 ^		156.84
1/3/1991		0.00		151.33

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-201D)				
2/20/1991		0.55	151.33	150.78
3/20/1991		-0.09 ^		151.42
4/18/1991		-0.36 ^		151.69
5/3/1991		-0.01 ^		151.34
5/17/1991		0.01		151.32
6/4/1991		0.11		151.22
7/1/1991		0.89		150.44
8/5/1991		1.37		149.96
10/4/1991		-0.10		151.43
10/30/1991		-0.17		151.50
12/18/1991		-0.15 ^		151.48
3/2/1992		0.28		151.05
6/23/1992		0.64		150.69
8/17/1992		1.25		150.08
1/27/1993		F		
4/27/1993		-0.18 ^	151.33	151.51
7/22/1993		1.42		149.91
10/12/1993		2.09		149.24
1/11/1994		-4.00 ^		155.33
5/26/1994		2.45 ^		148.88
8/7/1994		1.44		149.89
11/15/1994		0.67		150.66
2/7/1995		0.10		151.23
5/23/1995		-0.15 ^		151.48
6/5/1996		0.00		151.33
9/24/2003		3.05		148.28
5/19/2008		0.35		150.98
7/30/2008		0.20		151.13
10/27/2009		0.05		151.28
10/19/2010		0.70		150.63
10/25/2011		F1		
10/23/2012		3.10	151.33	148.23
10/30/2013		2.57		148.76
10/21/2014		3.02		148.31
11/6/2014		2.14		149.19
10/28/2015		2.15		149.18
10/25/2016		3.57		147.76
10/26/2017		3.05		148.28
10/2/2018		3.75		147.58
10/29/2019		2.11		149.22
10/27/2020		3.22		148.11
10/7/2021		0.78		150.55
10/4/2022		3.34		147.99
10/3/2023		2.50		148.83
10/8/2024		3.31		148.02
10/28/2024		7.13		144.20
P-202A			Current ground surface elevation: 146.2 (feet)	
7/9/1990		^		
7/10/1990		-0.17 ^	149.38	149.55
7/12/1990		0.05		149.33

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)			Water Level Elevation (feet)
(P-202A)						
7/16/1990		0.33	149.38			149.05
7/30/1990		0.33				149.05
8/8/1990		0.88				148.50
8/13/1990		0.50				148.88
8/21/1990		1.04				148.34
8/30/1990		1.12				148.26
9/10/1990		1.33				148.05
9/18/1990		1.59				147.79
9/24/1990		1.28				148.10
10/2/1990		1.32				148.06
10/8/1990		1.33				148.05
10/17/1990		0.86				148.52
10/23/1990		0.75				148.63
11/13/1990		-0.27 ^				149.65
11/28/1990		-0.36 ^				149.74
12/11/1990		-0.20 ^				149.58
1/3/1991		-0.20 ^				149.58
2/19/1991		F				
3/20/1991		-0.20 ^	149.38			149.58
4/19/1991		-0.94 ^				150.32
5/3/1991		-0.40 ^				149.78
5/17/1991		0.09				149.29
6/4/1991		0.18				149.20
7/1/1991		1.15				148.23
8/5/1991		1.62				147.76
9/7/1991		0.70				148.68
10/4/1991		0.20				149.18
10/30/1991		-0.05				149.43
12/18/1991		F				
3/2/1992		F				
6/23/1992		0.95	149.38			148.43
8/17/1992		1.83				147.55
1/27/1993		D			Below 108.3	108.30
4/27/1993		0.05	149.38			149.33
7/22/1993		2.11				147.27
10/12/1993		2.85				146.53
1/11/1994		F				
5/26/1994		0.85	149.38			148.53
8/7/1994		2.04				147.34
11/15/1994		1.16				148.22
2/7/1995		F				
5/23/1995		0.50	149.38			148.88
8/15/1995		2.71				146.67
9/10/2004		0.20				149.18
5/9/2005		1.02				148.36
5/19/2008		1.00				148.38
7/30/2008		1.58				147.80
10/27/2009		2.55				146.83
10/19/2010		3.10				146.28
10/26/2011		1.98				147.40
10/22/2012		2.10				147.28

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-202A)				
10/28/2013		2.20	149.38	147.18
10/20/2014		3.16		146.22
11/6/2014		2.20		147.18
10/27/2015		2.25		147.13
10/26/2016		3.59		145.79
10/26/2017		2.90		146.48
10/2/2018		4.50		144.88
10/30/2019		1.94		147.44
10/28/2020		2.98		146.40
10/4/2021		F21		
10/3/2022		F21		
10/2/2023		2.56	149.38	146.82
10/7/2024		2.48		146.90
10/28/2024		2.10		147.28
P-202B			Current ground surface elevation: 146.2 (feet)	
7/9/1990		-0.07 ^	149.37	149.44
7/10/1990		0.07		149.30
7/12/1990		0.25		149.12
7/16/1990		0.43		148.94
7/30/1990		0.47		148.90
8/8/1990		1.00		148.37
8/13/1990		0.69		148.68
8/21/1990		1.07		148.30
8/30/1990		1.23		148.14
9/10/1990		1.42		147.95
9/18/1990		1.62		147.75
9/24/1990		1.39		147.98
10/2/1990		1.39		147.98
10/8/1990		1.39		147.98
10/17/1990		0.99		148.38
10/23/1990		0.86		148.51
11/13/1990		-0.07 ^		149.44
11/28/1990		-0.17 ^		149.54
12/11/1990		-0.01 ^		149.38
1/3/1991		0.00 ^		149.37
2/19/1991		F		
3/20/1991		-0.14 ^	149.37	149.51
4/19/1991		-0.85 ^		150.22
5/3/1991		0.00 ^		149.37
5/17/1991		0.28		149.09
6/4/1991		0.41		148.96
7/1/1991		1.29		148.08
8/5/1991		1.60		147.77
9/7/1991		0.86		148.51
10/4/1991		0.38		148.99
10/30/1991		0.10		149.27
12/18/1991		F		
3/2/1992		F		
6/23/1992		1.12	149.37	148.25
8/17/1992		1.96		147.41

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-202B)					
1/27/1993		D		Below 127.6	127.60
4/27/1993		0.37	149.37		149.00
7/22/1993		2.38			146.99
10/12/1993		3.04			146.33
1/11/1994		F			
5/26/1994		1.35	149.37		148.02
8/7/1994		2.42			146.95
11/15/1994		1.70			147.67
2/7/1995		F			
5/23/1995		1.12	149.37		148.25
8/15/1995		2.79			146.58
9/10/2004		0.55			148.82
5/9/2005		0.05			149.32
5/19/2008		2.00			147.37
7/30/2008		2.41			146.96
10/27/2009		2.20			147.17
10/19/2010		2.35			147.02
10/26/2011		2.90			146.47
10/22/2012		2.25			147.12
10/28/2013		2.25			147.12
10/20/2014		2.29			147.08
11/6/2014		2.75			146.62
10/27/2015		2.85			146.52
10/26/2016		2.97			146.40
10/26/2017		3.63			145.74
10/2/2018		3.15			146.22
10/30/2019		2.29			147.08
10/28/2020		2.31			147.06
10/4/2021		F21			
10/3/2022		F21			
7/19/2023		F12			
10/2/2023		2.18	149.37		147.19
10/7/2024		2.13			147.24
10/28/2024		2.67			146.70
P-206A			Current ground surface elevation: 201.51 (feet)		
5/10/1990		17.29	204.51		187.22
5/14/1990		16.79			187.72
5/16/1990		16.52			187.99
5/17/1990		16.46			188.05
5/21/1990		16.54			187.97
5/23/1990		16.67			187.84
5/29/1990		16.79			187.72
5/31/1990		16.82			187.69
6/5/1990		17.00			187.51
6/6/1990		17.04			187.47
6/7/1990		16.97			187.54
6/8/1990		17.23			187.28
6/11/1990		17.11			187.40
6/15/1990		17.37			187.14
6/18/1990		17.23			187.28

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-206A)				
6/22/1990		17.71	204.51	186.80
6/25/1990		17.62		186.89
6/28/1990		17.02		187.49
7/2/1990		16.93		187.58
7/5/1990		16.98		187.53
7/9/1990		17.04		187.47
7/13/1990		17.65		186.86
7/16/1990		17.88		186.63
7/30/1990		18.84		185.67
8/8/1990		19.79		184.72
8/21/1990		20.71		183.80
8/30/1990		21.44		183.07
9/10/1990		22.15		182.36
9/18/1990		22.81		181.70
9/24/1990		23.23		181.28
10/2/1990		23.60		180.91
10/8/1990		24.00		180.51
10/17/1990		24.40		180.11
10/23/1990		24.53		179.98
11/13/1990		23.42		181.09
11/27/1990		22.52		181.99
12/11/1990		21.93		182.58
1/3/1991		18.87		185.64
2/20/1991		19.79		184.72
3/20/1991		19.29		185.22
4/18/1991		16.69		187.82
5/3/1991		16.71		187.80
5/17/1991		17.46		187.05
6/4/1991		18.77		185.74
7/1/1991		20.72		183.79
8/5/1991		23.47		181.04
9/7/1991		24.73		179.78
10/4/1991		25.50		179.01
10/30/1991		23.90		180.61
12/18/1991		21.69		182.82
3/2/1992		21.20		183.31
3/30/1992		19.39		185.12
6/23/1992		20.45		184.06
8/17/1992		23.28		181.23
1/27/1993		27.47		177.04
4/27/1993		22.79		181.72
7/22/1993		23.01		181.50
10/12/1993		27.36		177.15
1/11/1994		24.97		179.54
5/26/1994		18.22		186.29
8/7/1994		21.95		182.56
11/15/1994		26.12		178.39
2/7/1995		23.50		181.01
5/23/1995		18.28		186.23
8/15/1995		22.68		181.83
6/5/1996		17.28		187.23

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-206A)				
9/24/2003		25.84	204.51	178.67
9/9/2004		23.22		181.29
9/14/2004		23.42		181.09
9/22/2004		23.65		180.86
9/29/2004		23.75		180.76
10/28/2013		22.90		181.61
10/20/2014		25.70		178.81
10/26/2015		24.90		179.61
10/24/2016		28.20		176.31
10/23/2017		27.60		176.91
10/1/2018		28.40		176.11
10/28/2019		24.80		179.71
10/26/2020		30.00 A6		174.51
10/4/2021		27.30		177.21
10/3/2022		28.50		176.01
10/2/2023		24.60		179.91
10/7/2024		27.18		177.33
10/28/2024		26.54		177.97
P-209A			Current ground surface elevation: 175.4 (feet)	
6/6/1990		^		
6/8/1990		^		
6/11/1990		^		
6/15/1990		-0.10 ^	178.79	178.89
6/22/1990		1.14		177.65
6/25/1990		-2.55 ^		181.34
6/28/1990		-2.07 ^		180.86
7/2/1990		-2.92 ^		181.71
7/5/1990		^		
7/9/1990		-0.93 ^	178.79	179.72
7/12/1990		0.23		178.56
7/16/1990		2.44		176.35
7/30/1990		6.01		172.78
8/8/1990		8.52		170.27
8/21/1990		11.72		167.07
8/30/1990		14.21		164.58
9/10/1990		17.18		161.61
9/18/1990		18.95		159.84
9/24/1990		19.95		158.84
10/2/1990		21.04		157.75
10/8/1990		21.88		156.91
10/17/1990		21.20		157.59
10/23/1990		19.02		159.77
11/13/1990		-4.15 ^		182.94
11/27/1990		-4.36 ^		183.15
1/3/1991		-4.13 ^		182.92
2/20/1991		F		
3/20/1991		-4.13 ^	178.79	182.92
4/18/1991		-2.98 ^		181.77
5/3/1991		-5.05 ^		183.84
5/17/1991		0.38		178.41

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-209A)				
6/4/1991		4.30	178.79	174.49
7/1/1991		11.02		167.77
8/5/1991		19.67		159.12
9/7/1991		6.63		172.16
10/4/1991		2.91		175.88
10/30/1991		-0.40		179.19
12/18/1991		-1.12 ^		179.91
3/2/1992		F		
6/23/1992		41.20	178.79	137.59
8/17/1992		20.11		158.68
1/27/1993		F		
4/27/1993		-5.28 ^	178.79	184.07
7/22/1993		15.27		163.52
10/12/1993		26.50		152.29
1/11/1994		F		
5/26/1994		0.21	178.79	178.58
8/7/1994		16.15		162.64
11/15/1994		9.30		169.49
2/7/1995		^		
5/23/1995		-3.44 ^	178.79	182.23
8/15/1995		17.35		161.44
9/9/2004		8.59		170.20
9/14/2004		8.10		170.69
9/22/2004		8.13		170.66
9/29/2004		9.55		169.24
5/21/2008		L		
7/30/2008		L		
10/27/2009		3.85	178.79	174.94
10/19/2010		6.58		172.21
10/25/2011		F1		
10/23/2012		F1		
10/29/2013		9.30	178.79	169.49
10/21/2014		22.21		156.58
11/6/2014		3.25		175.54
10/28/2015		41.20		137.59
10/25/2016		25.92		152.87
10/26/2017		22.11		156.68
10/3/2018		25.65		153.14
10/29/2019		F1		
10/27/2020		23.73	178.79	155.06
10/5/2021		1.89		176.90
10/3/2022		21.95		156.84
10/2/2023		2.71		176.08
10/7/2024		20.55		158.24
10/28/2024		22.91		155.88
P-209B			Current ground surface elevation: 175.4 (feet)	
6/6/1990		1.50	178.82	177.32
6/8/1990		1.28		177.54
6/11/1990		2.61		176.21
6/15/1990		2.51		176.31

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Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-209B)				
6/18/1990		3.50	178.82	175.32
6/22/1990		4.78		174.04
6/25/1990		4.67		174.15
6/28/1990		3.27		175.55
7/2/1990		3.00		175.82
7/5/1990		2.51		176.31
7/9/1990		3.72		175.10
7/12/1990		4.53		174.29
7/16/1990		6.40		172.42
7/30/1990		9.88		168.94
8/8/1990		11.56		167.26
8/13/1990		12.35		166.47
8/21/1990		12.27		166.55
8/30/1990		14.43		164.39
9/10/1990		17.12		161.70
9/18/1990		18.87		159.95
9/24/1990		19.82		159.00
10/2/1990		20.94		157.88
10/8/1990		21.68		157.14
10/17/1990		21.02		157.80
10/23/1990		19.88		158.94
11/13/1990		6.44		172.38
11/27/1990		4.88		173.94
1/3/1991		4.80		174.02
2/20/1991		8.17		170.65
3/20/1991		5.09		173.73
4/18/1991		4.86		173.96
5/3/1991		5.46		173.36
5/17/1991		6.23		172.59
7/1/1991		13.42		165.40
8/5/1991		17.98		160.84
9/7/1991		12.22		166.60
10/4/1991		10.53		168.29
10/30/1991		5.44		173.38
12/18/1991		5.63		173.19
3/2/1992		7.69		171.13
6/23/1992		13.85		164.97
8/17/1992		18.59		160.23
1/27/1993		12.23		166.59
4/27/1993		4.88		173.94
7/22/1993		14.63		164.19
10/12/1993		24.39		154.43
1/11/1994		F		
5/26/1994		1.60	178.82	177.22
8/7/1994		16.22		162.60
11/15/1994		10.22		168.60
2/7/1995		F		
5/23/1995		0.40	178.82	178.42
8/15/1995		17.37		161.45
9/9/2004		8.60		170.22
9/14/2004		7.79		171.03

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-209B)					
9/22/2004		8.19	178.82		170.63
9/29/2004		9.60			169.22
5/21/2008		L			
7/30/2008		L			
10/27/2009		4.25	178.82		174.57
10/19/2010		6.85			171.97
10/25/2011		0.15			178.67
10/23/2012		F1			
10/29/2013		9.40	178.82		169.42
10/21/2014		22.35			156.47
11/6/2014		4.28			174.54
10/28/2015		3.62			175.20
10/25/2016		26.17			152.65
10/26/2017		22.85			155.97
10/3/2018		25.84			152.98
10/29/2019		0.12			178.70
10/27/2020		23.95			154.87
10/5/2021		1.92			176.90
10/3/2022		22.03			156.79
10/2/2023		2.26			176.56
10/7/2024		23.90			154.92
10/28/2024		23.01			155.81
P-209C			Current ground surface elevation: 175.4 (feet)		
6/6/1990		4.69	178.88		174.19
6/8/1990		5.59			173.29
6/11/1990		5.03			173.85
6/15/1990		5.30			173.58
6/18/1990		5.82			173.06
6/22/1990		6.90			171.98
6/25/1990		5.30			173.58
6/28/1990		3.80			175.08
7/2/1990		3.79			175.09
7/5/1990		3.77			175.11
7/9/1990		3.77			175.11
7/12/1990		4.59			174.29
7/16/1990		8.39			170.49
7/30/1990		11.09			167.79
8/8/1990		11.65			167.23
8/13/1990		11.80			167.08
8/21/1990		11.81			167.07
8/30/1990		11.81			167.07
9/10/1990		11.88			167.00
9/18/1990		11.90			166.98
9/24/1990		D		Below 165.6	165.60
10/2/1990		12.00	178.88		166.88
10/8/1990		12.02			166.86
10/17/1990		12.10			166.78
10/23/1990		11.92			166.96
11/13/1990		3.47			175.41
11/27/1990		3.61			175.27

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-209C)					
1/3/1991		3.89	178.88		174.99
2/20/1991		9.56			169.32
3/20/1991		3.46			175.42
4/18/1991		4.55			174.33
5/3/1991		5.48			173.40
5/17/1991		6.71			172.17
6/4/1991		10.38			168.50
7/1/1991		D		Below 165.6	165.60
8/5/1991		12.30	178.88		166.58
9/7/1991		D		Below 165.6	165.60
10/4/1991		D		Below 165.6	165.60
10/30/1991		3.39	178.88		175.49
12/18/1991		3.77			175.11
3/2/1992		8.81			170.07
6/23/1992		12.39			166.49
8/17/1992		D		Below 165.6	165.60
1/27/1993		F			
4/27/1993		3.65	178.88		175.23
7/22/1993		D		Below 165.6	165.60
10/12/1993		D		Below 165.6	165.60
1/11/1994		6.00	178.88		172.88
5/26/1994		5.42			173.46
8/7/1994		12.55			166.33
11/15/1994		D		Below 165.6	165.60
2/7/1995		4.00	178.88		174.88
5/23/1995		3.59			175.29
8/15/1995		D		Below 165.6	165.60
9/9/2004		12.59	178.88		166.29
9/14/2004		12.55			166.33
9/22/2004		D		Below 165.6	165.60
9/29/2004		D		Below 165.6	165.60
5/21/2008		L			
7/30/2008		L			
10/27/2009		D		Below 165.6	165.60
10/19/2010		D		Below 165.6	165.60
10/25/2011		3.15	178.88		175.73
10/23/2012		3.20			175.68
10/29/2013		12.61			166.27
10/21/2014		D		Below 165.6	165.60
11/6/2014		D		Below 165.6	165.60
10/28/2015		D		Below 165.6	165.60
10/25/2016		D		Below 165.6	165.60
10/26/2017		D		Below 165.6	165.60
10/3/2018		D		Below 165.6	165.60
10/29/2019		2.85	178.88		176.03
10/27/2020		D		Below 165.6	165.60
10/5/2021		D		Below 165.6	165.60
10/3/2022		D		Below 165.6	165.60
10/2/2023		D		Below 165.6	165.60
10/7/2024		D		Below 165.6	165.60
10/28/2024		D		Below 165.6	165.60

SME SEVEE & MAHER ENGINEERS
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4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-211A)				
P-211A		Current ground surface elevation: 180.56 (feet)		
6/11/1990		3.32	183.57	180.25
6/15/1990		4.00		179.57
6/18/1990		4.36		179.21
6/22/1990		4.67		178.90
6/26/1990		3.18		180.39
6/28/1990		3.27		180.30
7/2/1990		3.23		180.34
7/5/1990		3.56		180.01
7/9/1990		3.88		179.69
7/13/1990		4.65		178.92
7/16/1990		5.21		178.36
7/30/1990		5.55		178.02
8/8/1990		7.00		176.57
8/13/1990		5.69		177.88
8/21/1990		7.28		176.29
8/30/1990		8.25		175.32
9/10/1990		9.52		174.05
9/18/1990		10.22		173.35
9/24/1990		10.00		173.57
10/2/1990		10.22		173.35
10/8/1990		10.34		173.23
10/17/1990		8.84		174.73
10/23/1990		8.02		175.55
11/13/1990		4.61		178.96
11/27/1990		4.19		179.38
12/11/1990		4.19		179.38
1/3/1991		F		
2/20/1991		5.98	183.57	177.59
3/20/1991		3.18		180.39
4/18/1991		3.44		180.13
5/3/1991		3.80		179.77
5/17/1991		4.38		179.19
6/4/1991		4.86		178.71
7/1/1991		7.80		175.77
8/5/1991		11.40		172.17
9/7/1991		8.21		175.36
10/4/1991		6.61		176.96
10/30/1991		5.40		178.17
12/18/1991		4.55		179.02
3/2/1992		F		
6/23/1992		8.85	183.57	174.72
8/17/1992		10.57		173.00
1/27/1993		8.92		174.65
4/27/1993		3.88		179.69
7/22/1993		10.19		173.38
10/12/1993		15.35		168.22
1/11/1994		5.09		178.48
5/26/1994		5.19		178.38
8/7/1994		8.26		175.31

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-211A)					
11/15/1994		7.32	183.57		176.25
2/7/1995		4.38			179.19
5/23/1995		3.91			179.66
8/15/1995		9.75			173.82
6/5/1996		4.48			179.09
9/24/2003		13.99			169.58
9/8/2004		7.07			176.50
9/9/2004		6.79			176.78
9/14/2004		6.59			176.98
9/22/2004		6.75			176.82
9/29/2004		7.75			175.82
5/12/2005		D		Below 157.96	157.96
5/21/2008		D		Below 157.96	157.96
7/30/2008		5.87	183.57		177.70
10/27/2009		5.50			178.07
10/18/2010		6.00			177.57
10/25/2011		5.40			178.17
10/22/2012		3.80			179.77
10/29/2013		7.40			176.17
10/21/2014		5.50			178.07
11/6/2014		4.21			179.36
10/26/2015		4.70			178.87
10/24/2016		8.30			175.27
10/23/2017		8.35			175.22
10/2/2018		9.20			174.37
10/29/2019		5.30			178.27
10/28/2020		6.42			177.15
10/6/2021		7.08			176.49
10/5/2022		7.40			176.17
10/3/2023		8.30			175.27
10/9/2024		10.30			173.27
10/28/2024		10.90			172.67
P-211B			Current ground surface elevation: 180.56 (feet)		
6/11/1990		3.77	183.97		180.20
6/15/1990		4.32			179.65
6/18/1990		4.67			179.30
6/22/1990		4.96			179.01
6/26/1990		3.57			180.40
6/28/1990		3.67			180.30
7/2/1990		3.58			180.39
7/5/1990		3.86			180.11
7/9/1990		4.13			179.84
7/13/1990		4.96			179.01
7/16/1990		5.50			178.47
7/30/1990		5.80			178.17
8/8/1990		7.23			176.74
8/13/1990		8.75			175.22
8/21/1990		7.51			176.46
8/30/1990		8.47			175.50
9/10/1990		9.72			174.25

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)		Water Level Elevation (feet)
(P-211B)					
9/18/1990		10.43	183.97		173.54
9/24/1990		10.10			173.87
10/2/1990		10.39			173.58
10/8/1990		10.51			173.46
10/17/1990		8.97			175.00
10/23/1990		8.30			175.67
11/13/1990		4.82			179.15
11/27/1990		4.44			179.53
12/11/1990		4.09			179.88
1/3/1991		9.05			174.92
2/20/1991		8.67			175.30
3/20/1991		8.82			175.15
4/18/1991		3.78			180.19
5/3/1991		4.03			179.94
5/17/1991		4.65			179.32
6/4/1991		5.23			178.74
7/1/1991		8.44			175.53
8/5/1991		11.65			172.32
9/7/1991		8.42			175.55
10/4/1991		6.82			177.15
10/30/1991		5.59			178.38
12/18/1991		4.88			179.09
3/2/1992		5.34			178.63
6/23/1992		8.61			175.36
8/17/1992		10.89			173.08
1/27/1993		8.64			175.33
4/27/1993		8.72			175.25
7/22/1993		10.52			173.45
10/12/1993		D		Below 170.06	170.06
1/11/1994		5.36	183.97		178.61
5/26/1994		4.61			179.36
8/7/1994		8.64			175.33
11/15/1994		7.69			176.28
2/7/1995		4.88			179.09
5/23/1995		4.44			179.53
8/15/1995		10.19			173.78
6/5/1996		4.01			179.96
9/24/2003		D		Below 170.06	170.06
9/8/2004		7.56	183.97		176.41
9/9/2004		7.07			176.90
9/14/2004		7.02			176.95
9/22/2004		7.22			176.75
9/29/2004		8.21			175.76
5/12/2005		21.70			162.27
5/21/2008		20.81			163.16
7/30/2008		6.28			177.69
10/27/2009		6.10			177.87
10/18/2010		6.40			177.57
10/25/2011		6.10			177.87
10/22/2012		4.30			179.67
10/29/2013		7.80			176.17

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4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-211B)				
10/21/2014		5.70	183.97	178.27
11/6/2014		4.36		179.61
10/26/2015		5.40		178.57
10/24/2016		7.80		176.17
10/23/2017		8.20		175.77
10/2/2018		9.15		174.82
10/29/2019		5.40		178.57
10/28/2020		6.40		177.57
10/6/2021		6.75		177.22
10/5/2022		7.30		176.67
10/3/2023		7.80		176.17
10/9/2024		9.90		174.07
10/28/2024		11.21		172.76
PW-08-03			Current ground surface elevation: 169.4 (feet)	
11/6/2014		10.98	171.12	160.14
7/19/2023		10.62		160.50
10/2/2023		11.12		160.00
3/14/2024		7.25		163.87
4/23/2024		6.95		164.17
5/14/2024		8.60		162.52
6/19/2024		8.74		162.38
10/28/2024		12.49		158.63
PW-08-04			Current ground surface elevation: 172.52 (feet)	
11/6/2014		8.65	174.44	165.79
7/19/2023		8.15		166.29
10/2/2023		8.75		165.69
3/14/2024		6.42		168.02
4/23/2024		2.64		171.80
5/14/2024		7.66		166.78
6/19/2024		7.85		166.59
9/16/2024		10.58		163.86
10/28/2024		11.84		162.60

SME
SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)

(PW-08-04)

Measurement Qualifier Notes:

- !- The sampling location was damaged or destroyed.
- !1- The sampling location was damaged or destroyed, and has been discontinued.
- ^- Artesian condition - the associated value was measured using one of several apparatus.
- A- The sampling location was inaccessible.
- A6- Approximate value.
- D- The sampling location was dry.
- DE- Decommissioned Location
- F- The sampling location was frozen.
- F1- Well was flowing
- F12- Pipe under water, no sample taken.
- F21- Area flooded by water. Beaver dam in area.
- L- Could not locate sampling location.
- M- Results are missing or not reliable due to a meter malfunction.
- Q- An obstruction prevented the collection of data.

APPENDIX G

SLUG TEST RESULTS

SME
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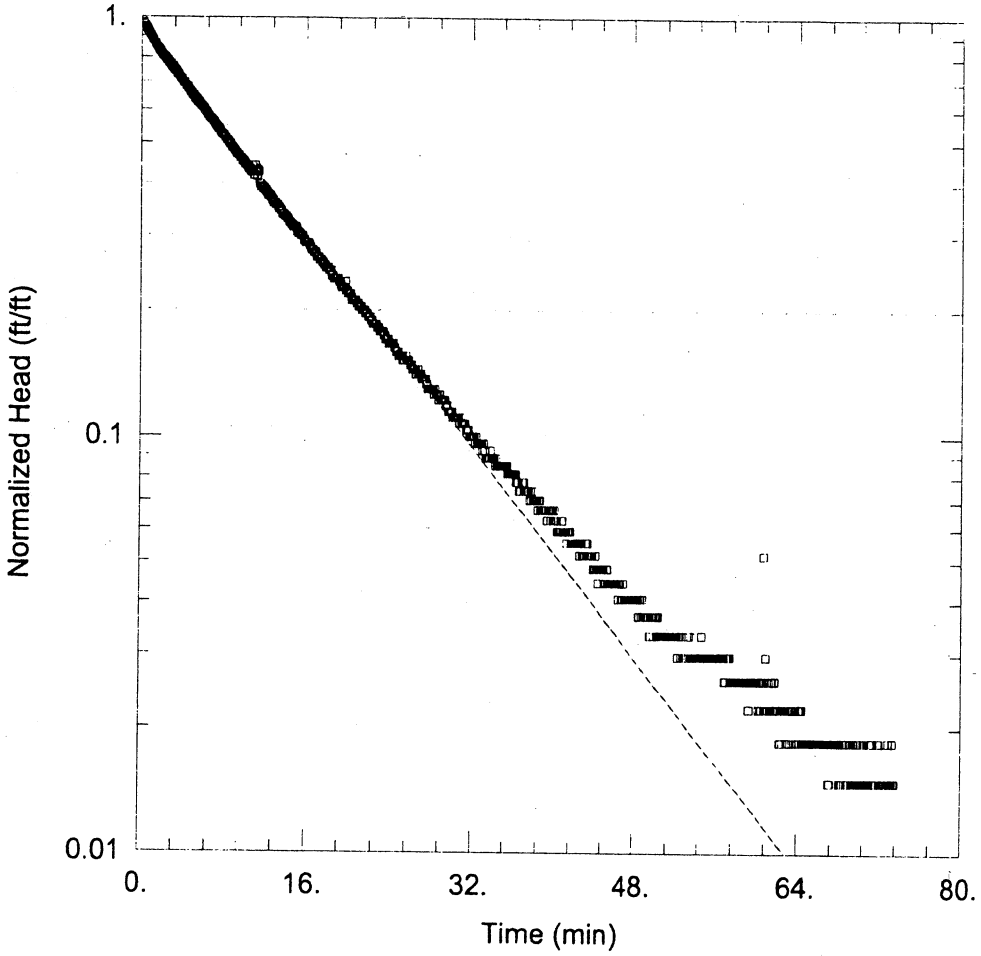


MW-0602 SLUG TEST

Data Set: \...\MW-0602.aqt
Date: 09/27/06 Time: 14:30:31

PROJECT INFORMATION

Company: SME
Client: CASSELLA
Project: 05055.00
Location: WOTL
Test Well: MW-0602
Test Date: 4/19/06

AQUIFER DATA

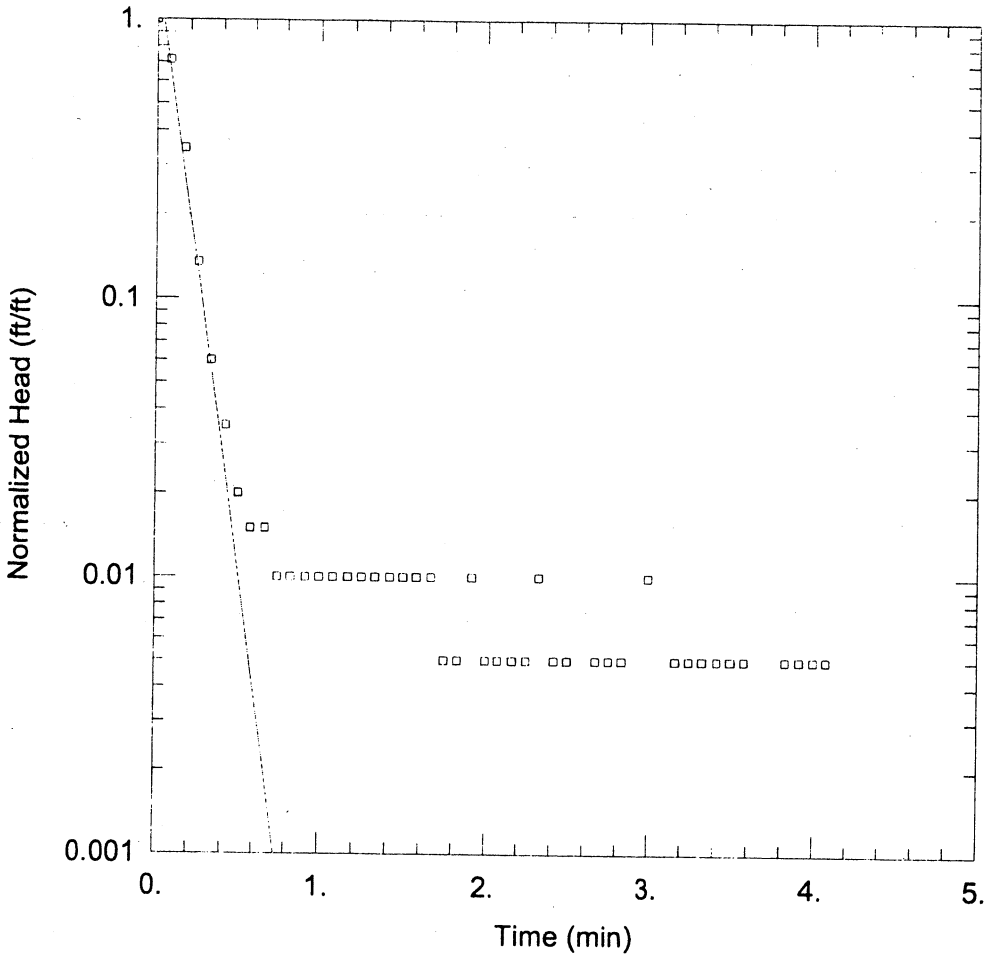
Saturated Thickness: 31.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-0602)

Initial Displacement: 2.7 ft
Total Well Penetration Depth: 31.5 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 31.5 ft
Screen Length: 11.8 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 4.266E-5 cm/sec
y0 = 2.607 ft



MW-304A SLUG TEST

Data Set: \...\MW-304A.aqt
Date: 09/27/06 Time: 14:18:54

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: MW-304A
Test Date: 4/19/06

AQUIFER DATA

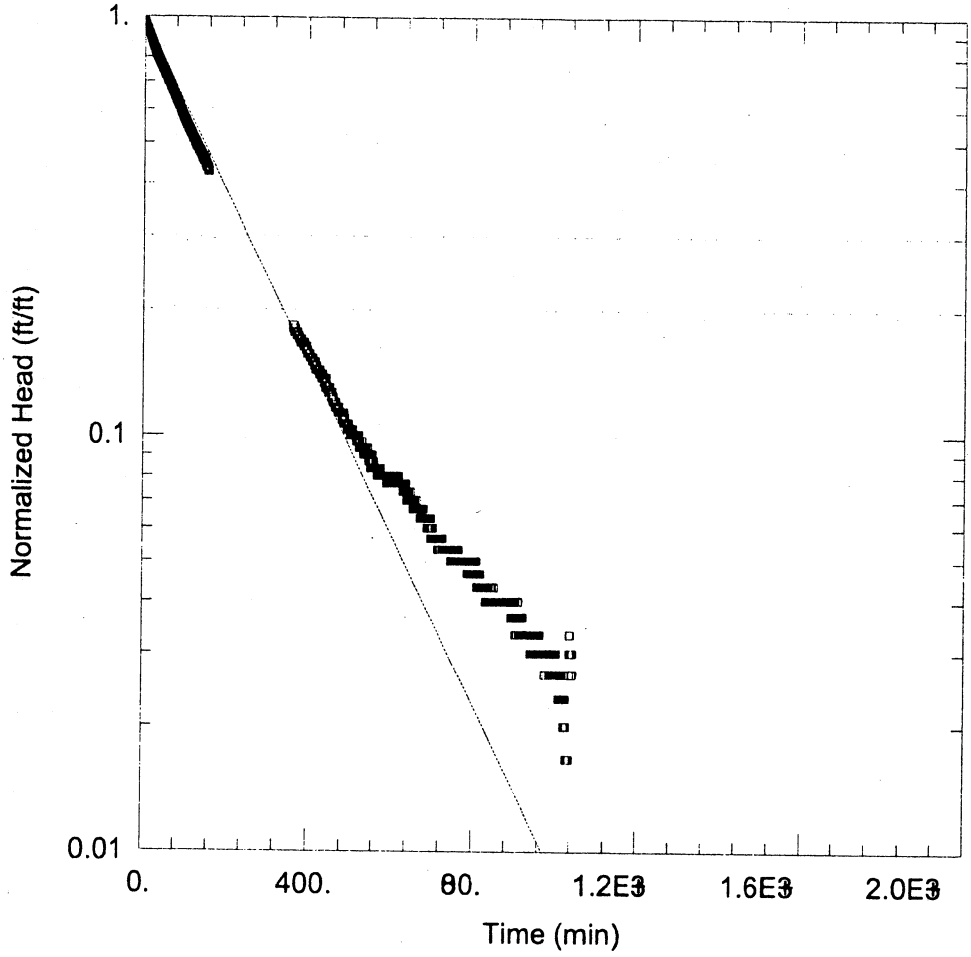
Saturated Thickness: 12.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-304A)

Initial Displacement: 2. ft
Total Well Penetration Depth: 14.6 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 14.6 ft
Screen Length: 12.5 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
K = 0.004794 cm/sec
Solution Method: Bouwer-Rice
y0 = 2.864 ft



OW-0605 SLUG TEST

Data Set: \...\OW-0605.aqt
Date: 09/27/06 Time: 13:40:18

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0605
Test Date: 4/19/06

AQUIFER DATA

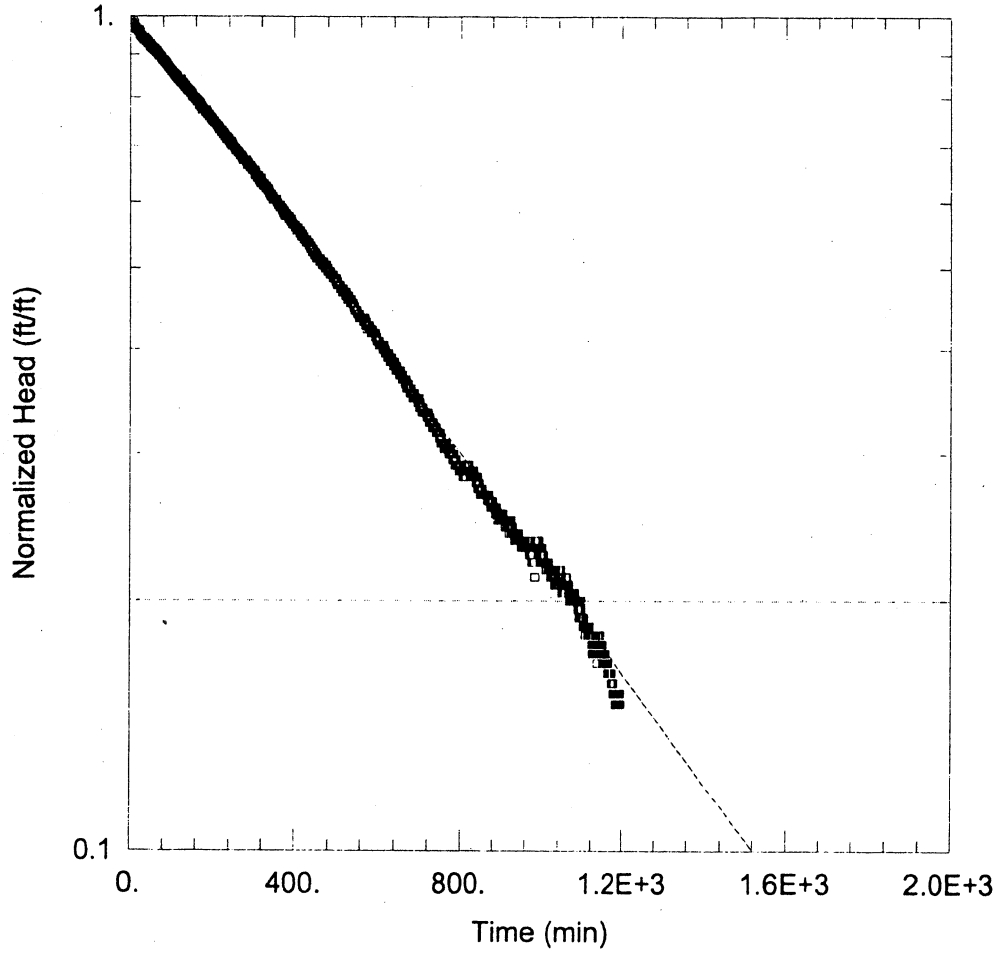
Saturated Thickness: 12.8 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0605)

Initial Displacement: 3. ft
Total Well Penetration Depth: 32.8 ft
Casing Radius: 0.083 ft
Static Water Column Height: 32.8 ft
Screen Length: 12.8 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
K = 2.58E-6 cm/sec
Solution Method: Bouwer-Rice
y0 = 2.99 ft



OW-0606 SLUG TEST

Data Set: \...\OW-0606.aqt
Date: 09/27/06 Time: 13:41:43

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0606
Test Date: 4/19/06

AQUIFER DATA

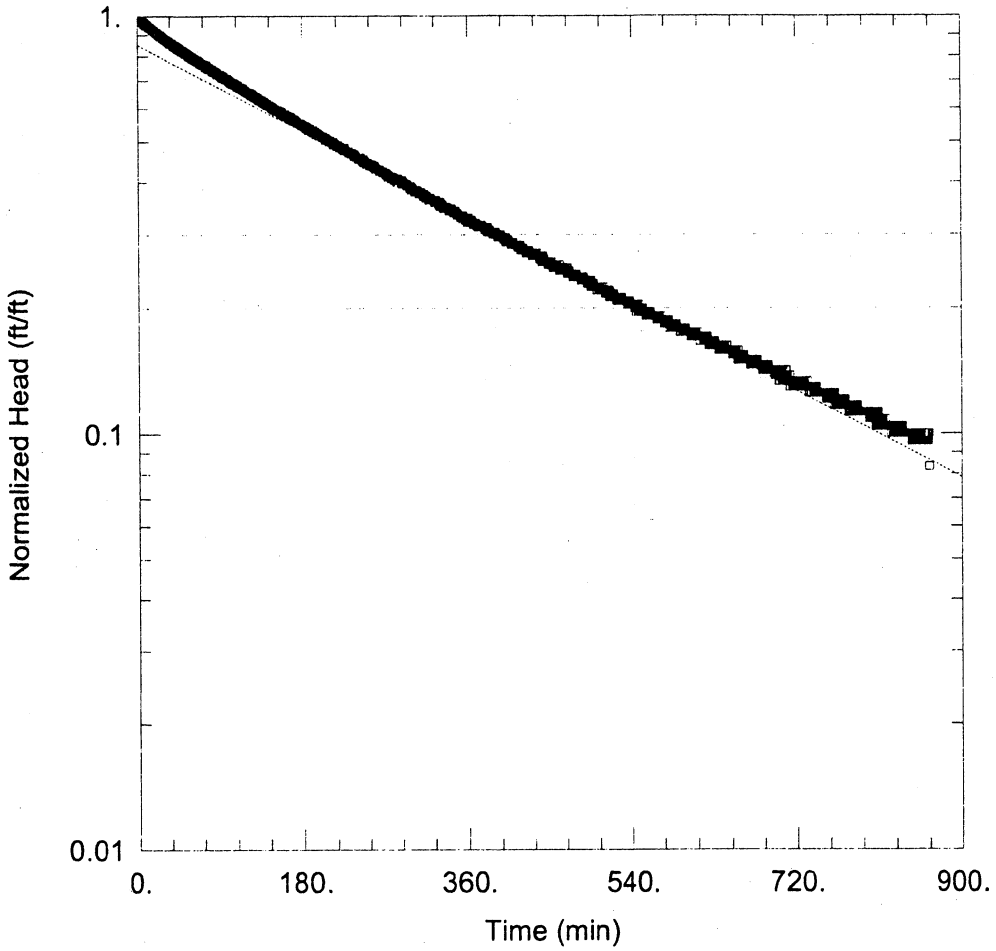
Saturated Thickness: 12.8 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0606)

Initial Displacement: 2.2 ft
Total Well Penetration Depth: 34.4 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 34.4 ft
Screen Length: 12.8 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 8.407E-7 cm/sec
y0 = 2.246 ft



OW-0607 SLUG TEST

Data Set: \...\OW-0607.aqt
Date: 09/27/06 Time: 13:43:49

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0607
Test Date: 4/19/06

AQUIFER DATA

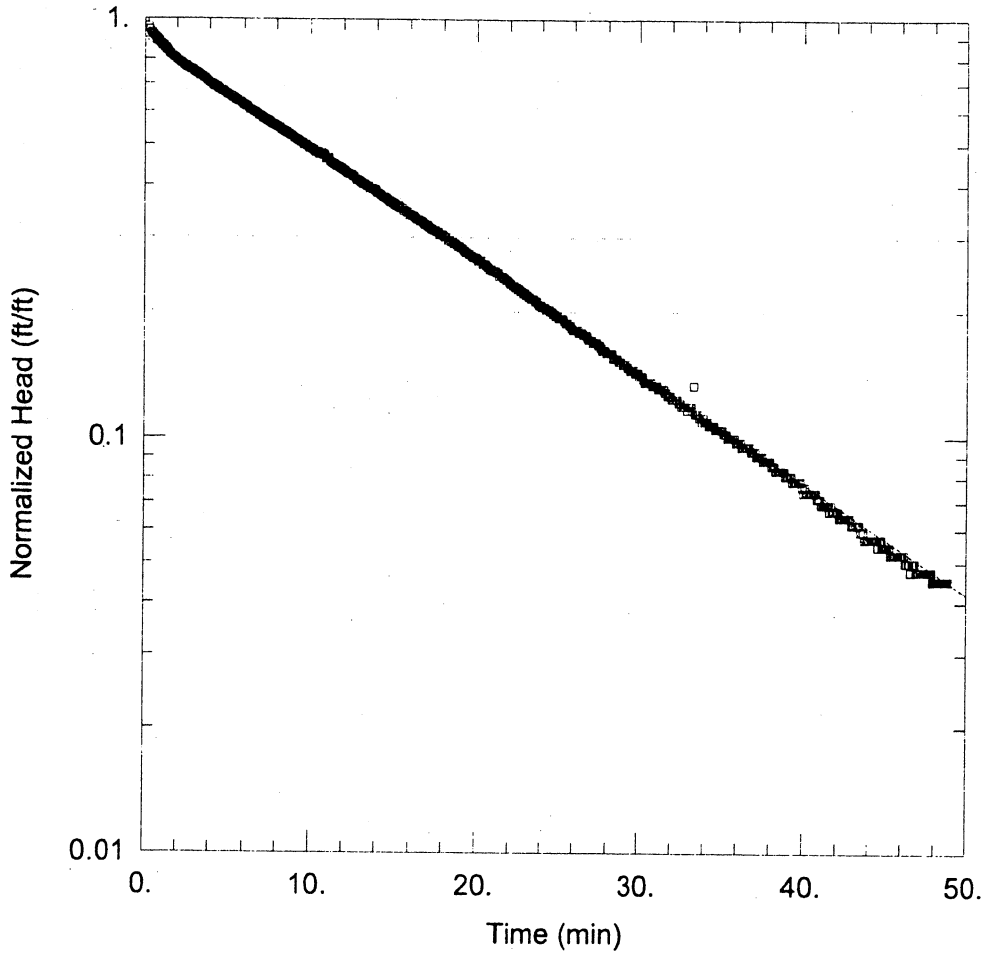
Saturated Thickness: 12.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0607)

Initial Displacement: 2.4 ft
Total Well Penetration Depth: 30.2 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 30.2 ft
Screen Length: 12.5 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 1.463E-6 cm/sec
y0 = 2.047 ft



OW-0608 SLUG TEST

Data Set: \...\OW-0608.aqt
Date: 09/27/06 Time: 13:46:11

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0608
Test Date: 4/19/06

AQUIFER DATA

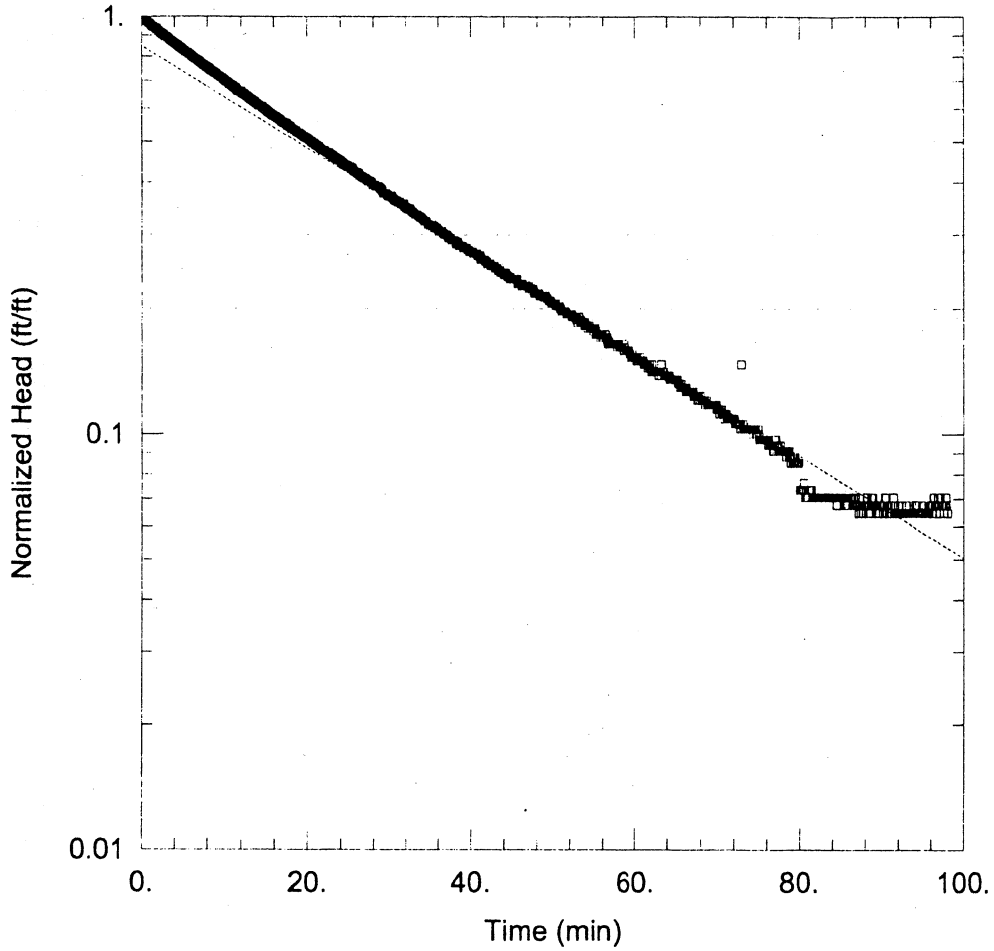
Saturated Thickness: 12.8 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0608)

Initial Displacement: 4.2 ft
Total Well Penetration Depth: 32.3 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 32.3 ft
Screen Length: 12.8 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
K = 3.337E-5 cm/sec
Solution Method: Bouwer-Rice
y0 = 3.769 ft



OW-0609 SLUG TEST

Data Set: \...\OW-0609.aqt
Date: 09/27/06 Time: 13:47:23

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0609
Test Date: 4/19/06

AQUIFER DATA

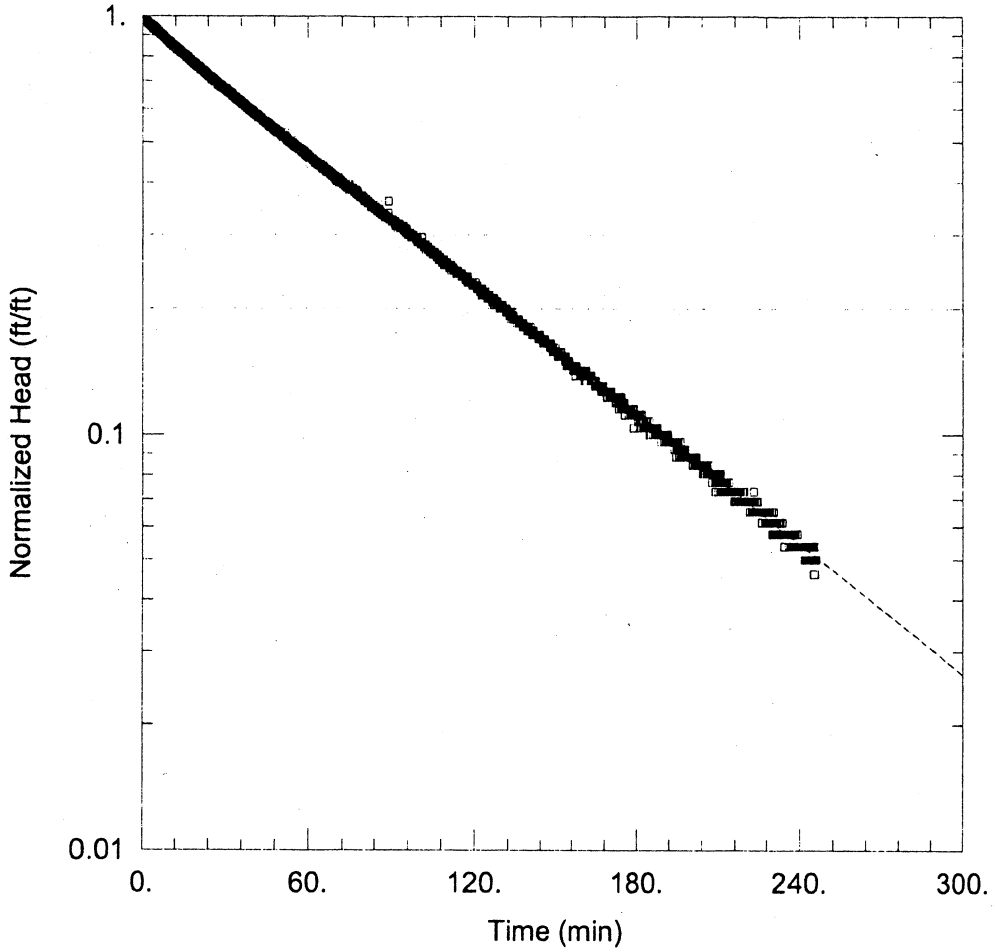
Saturated Thickness: 12.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0609)

Initial Displacement: 3.4 ft
Total Well Penetration Depth: 35.5 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 35.5 ft
Screen Length: 12.2 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 1.634E-5 cm/sec
y0 = 2.886 ft



OW-0610 SLUG TEST

Data Set: \...\OW-0610.aqt
Date: 09/27/06 Time: 13:48:11

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: OW-0610
Test Date: 4/19/06

AQUIFER DATA

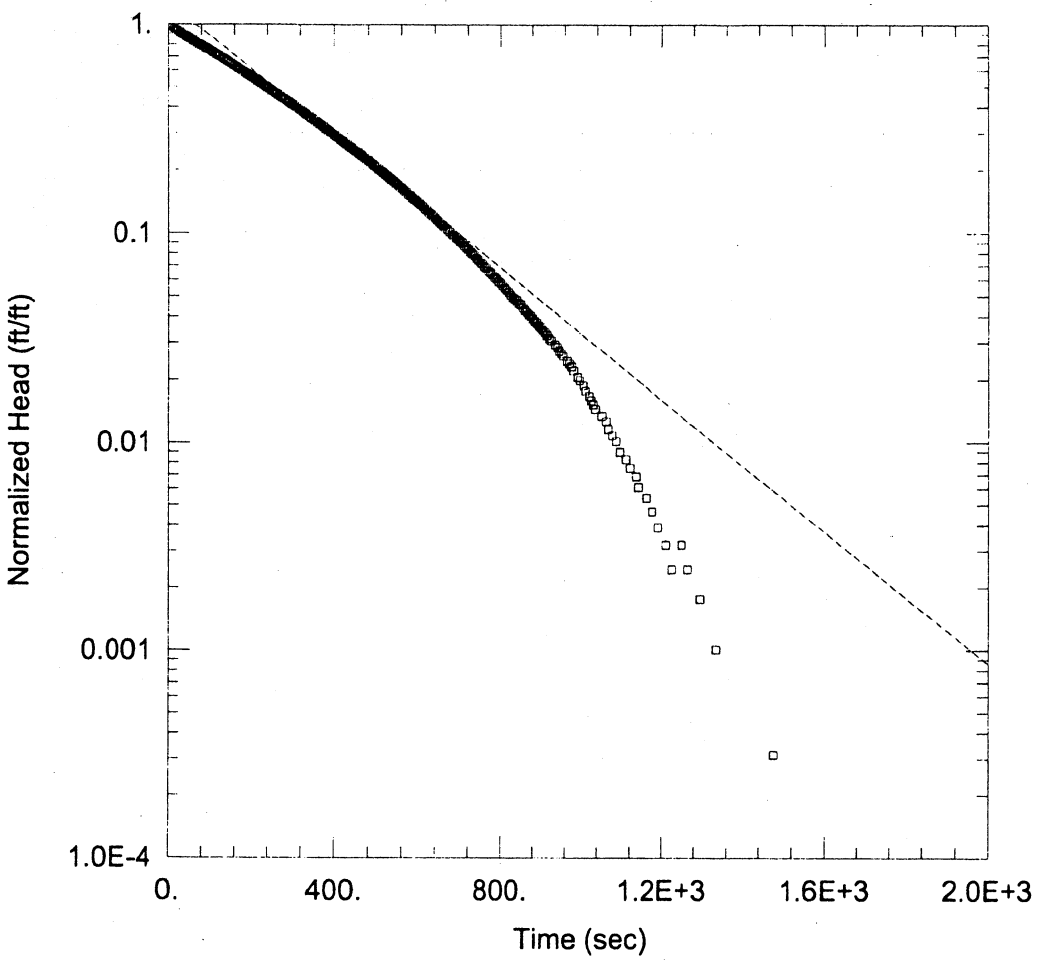
Saturated Thickness: 13.1 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (OW-0610)

Initial Displacement: 2.6 ft
Total Well Penetration Depth: 40.4 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 40.4 ft
Screen Length: 13.1 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 6.666E-6 cm/sec
y0 = 2.577 ft



P-04-06A SLUG TEST

Data Set: \...\P-04-06A.aqt
Date: 09/27/06 Time: 13:51:06

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-06A
Test Date: 10/26/04

AQUIFER DATA

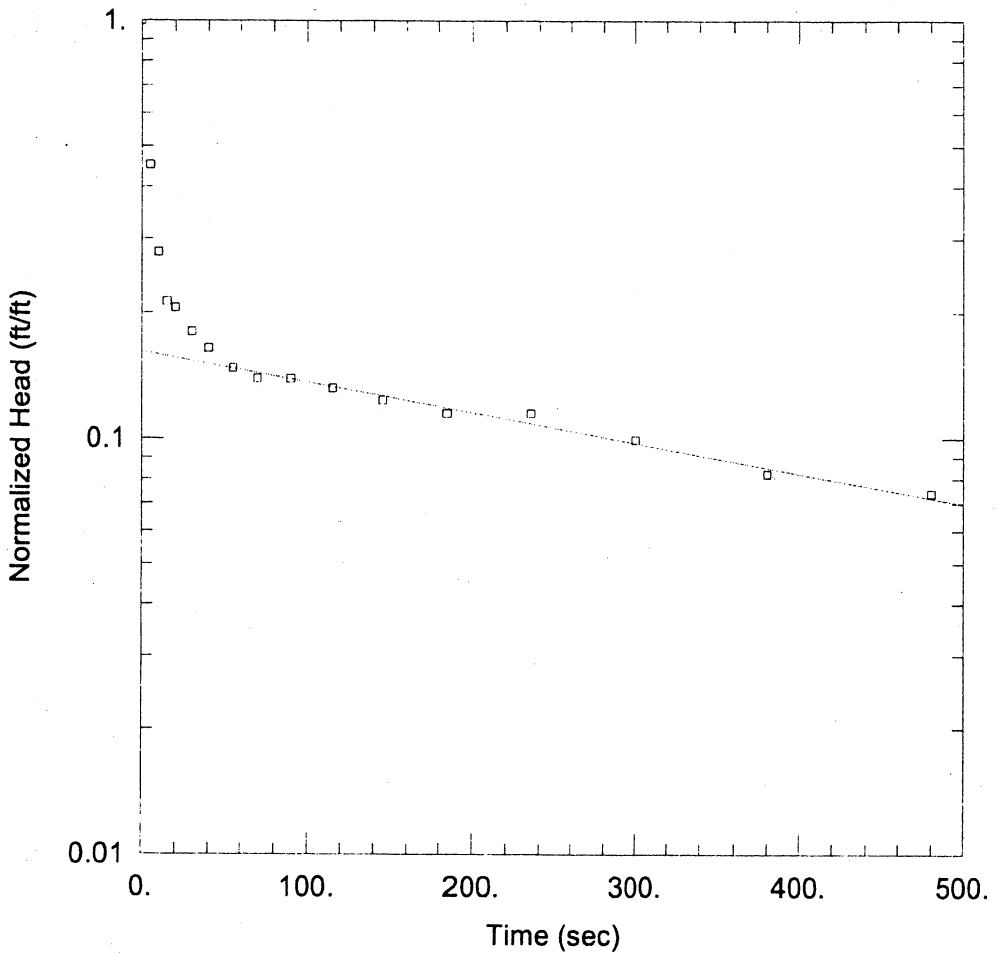
Saturated Thickness: 3.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-06A)

Initial Displacement: 15.88 ft
Total Well Penetration Depth: 15.4 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 25.44 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.158 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 4.893E-5 cm/sec
y0 = 20.21 ft



P-04-07A SLUG TEST

Data Set: \...\P-04-07A.aqt
Date: 09/27/06 Time: 14:37:58

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-07A
Test Date: 10/26/04

AQUIFER DATA

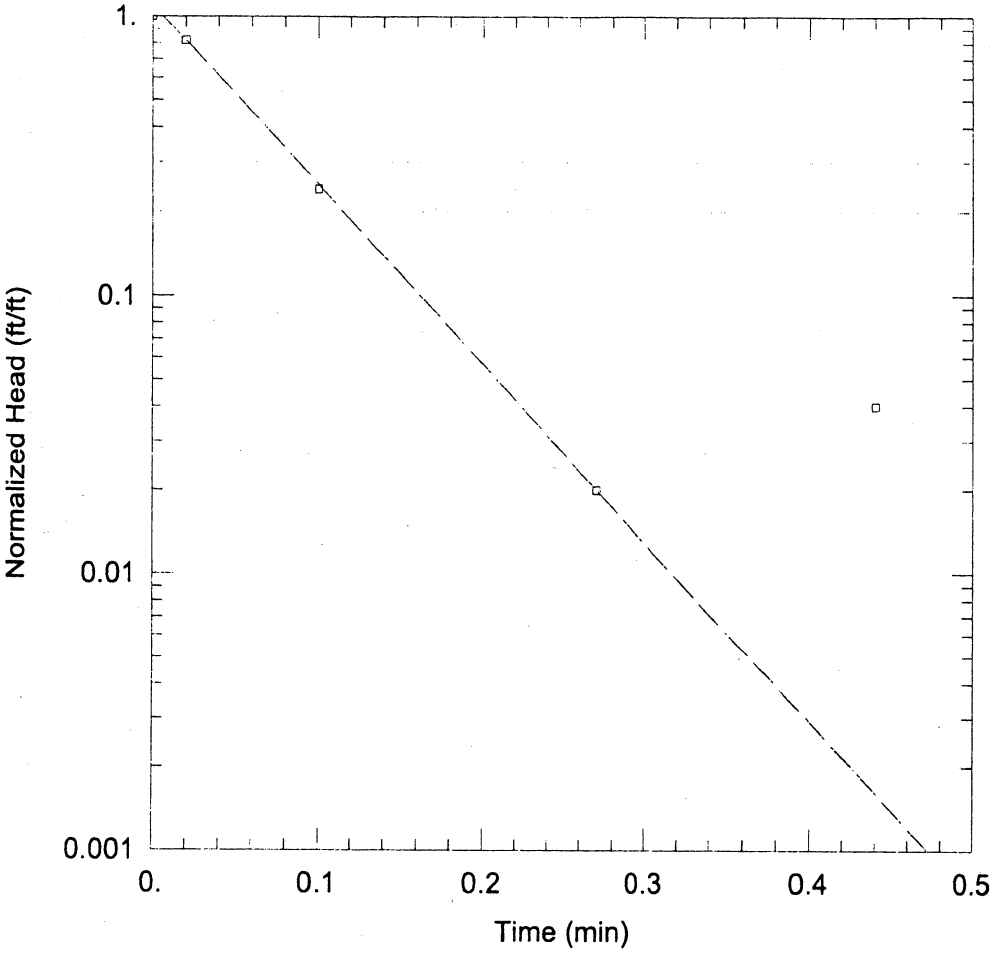
Saturated Thickness: 14. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-07A)

Initial Displacement: 0.705 ft
Total Well Penetration Depth: 80.2 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 85. ft
Screen Length: 14. ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 8.478E-6 cm/sec
y0 = 0.1138 ft



P-04-07B SLUG TEST

Data Set: \...\P-04-07B.aqt
Date: 09/27/06 Time: 13:54:32

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-07B
Test Date: 4/20/06

AQUIFER DATA

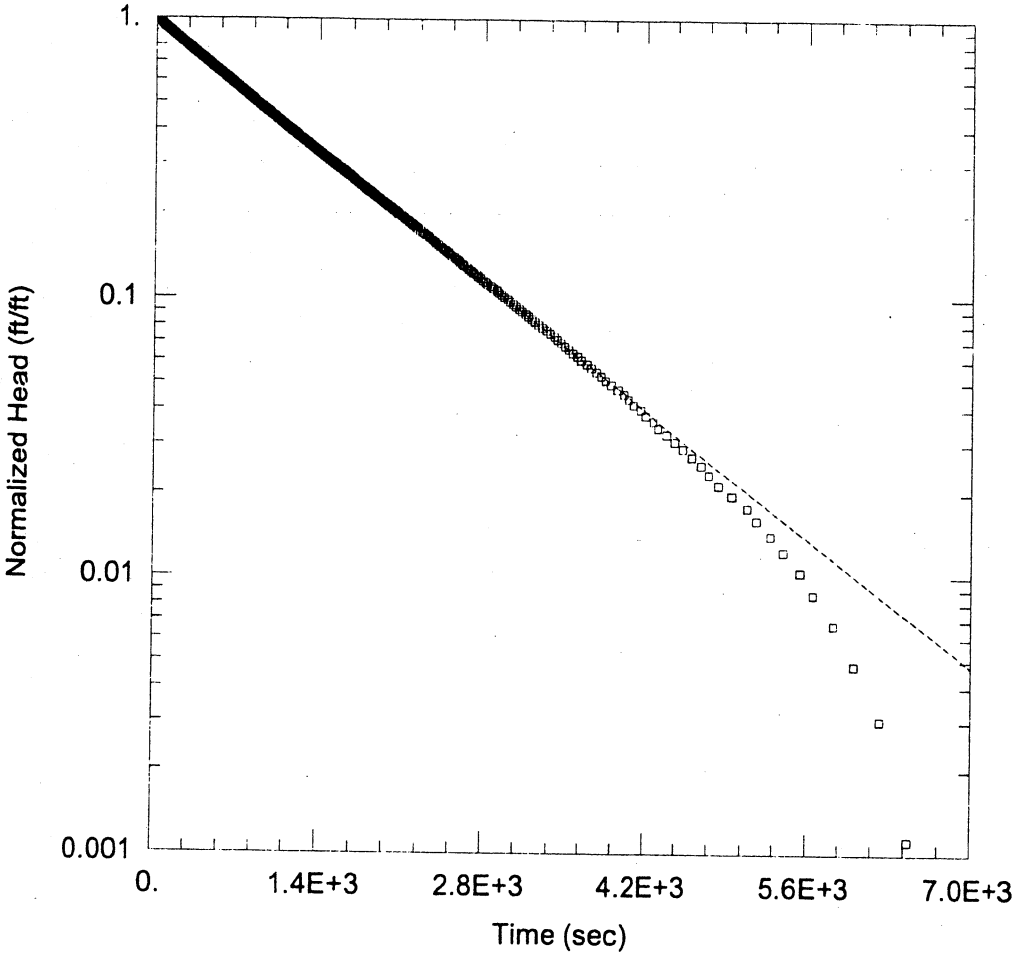
Saturated Thickness: 4.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-07B)

Initial Displacement: 0.5 ft
Total Well Penetration Depth: 31.4 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 31.4 ft
Screen Length: 4.5 ft
Wellbore Radius: 0.124 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.003172 cm/sec
y0 = 0.5514 ft



P-04-09A SLUG TEST

Data Set: \...\P-04-09A.aqt
Date: 09/27/06 Time: 14:00:00

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-09A
Test Date: 10/26/04

AQUIFER DATA

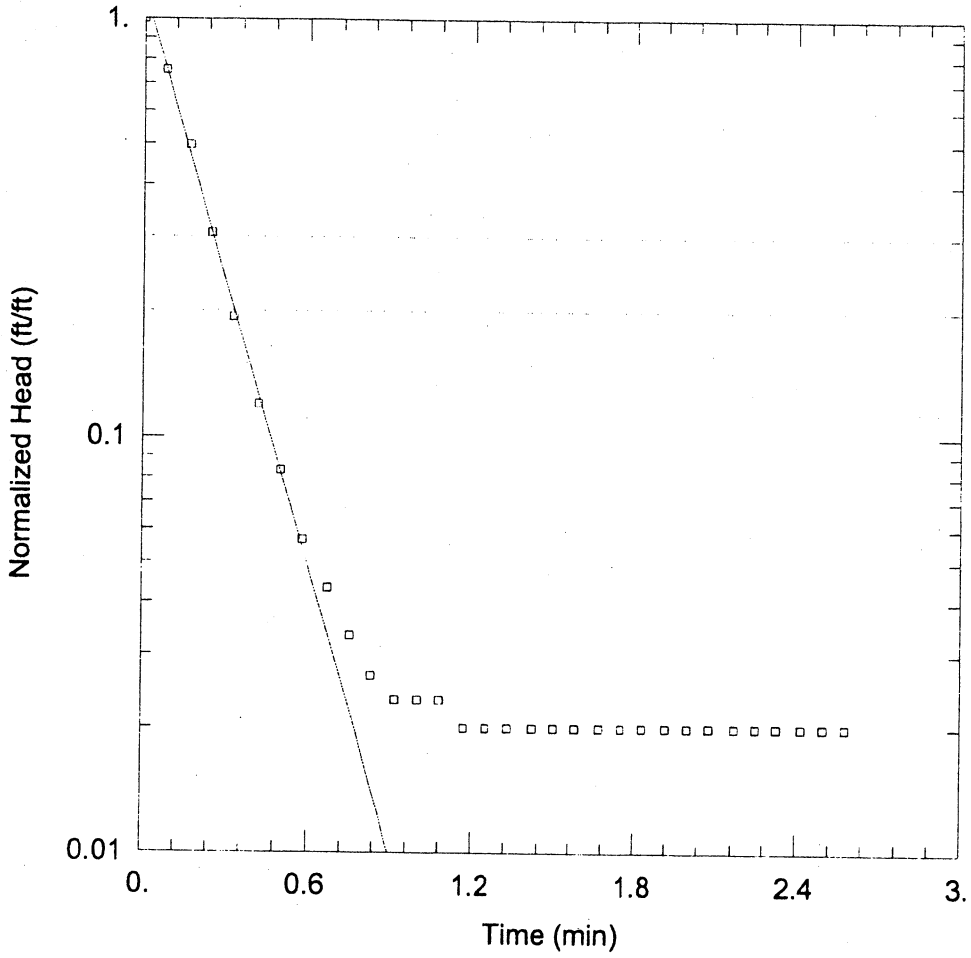
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-09A)

Initial Displacement: 6.251 ft
Total Well Penetration Depth: 7.9 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 36.13 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
K = 9.696E-6 cm/sec
Solution Method: Bouwer-Rice
y0 = 5.939 ft



P-04-10A SLUG TEST #1

Data Set: \...\P-04-10A #1.aqt
Date: 09/27/06 Time: 14:01:59

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-10A
Test Date: 4/19/06

AQUIFER DATA

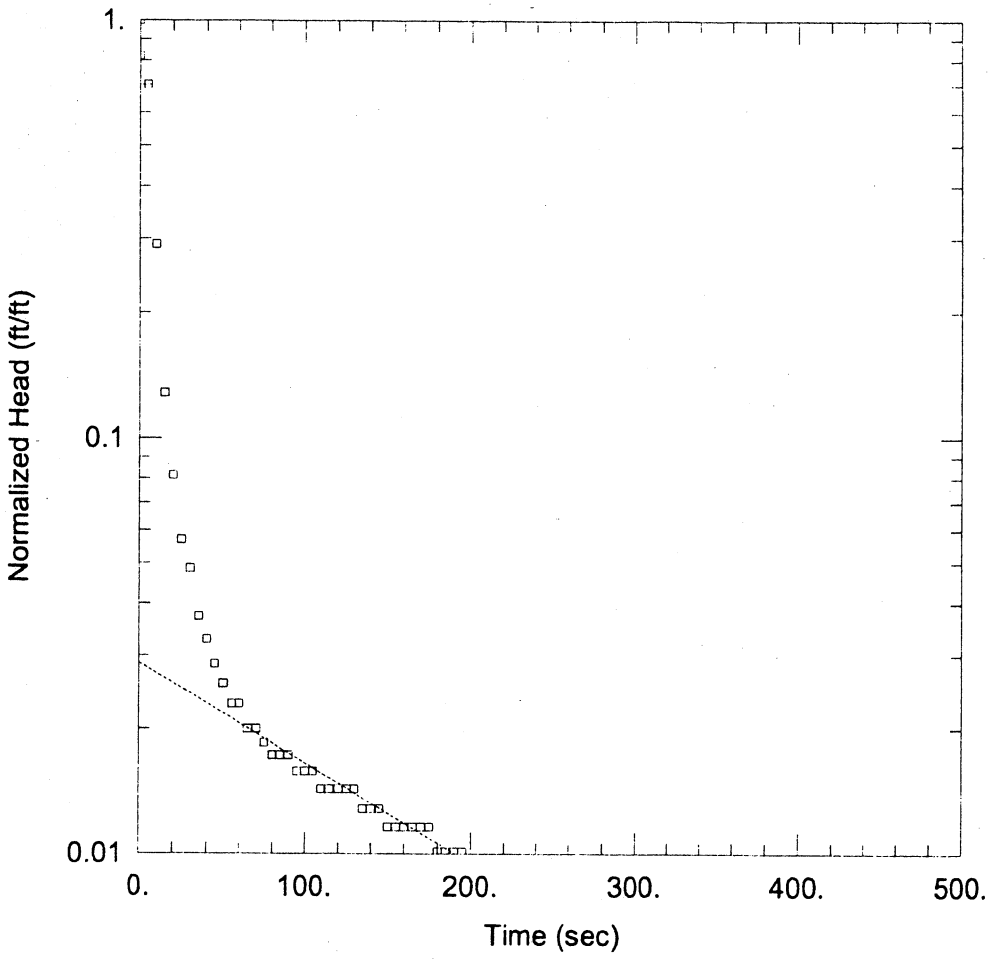
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-10A)

Initial Displacement: 3. ft
Total Well Penetration Depth: 30.5 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 30.5 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.124 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.001401 cm/sec
y0 = 3.458 ft



P-04-12A SLUG TEST

Data Set: \...\P-04-12A.aqt
Date: 09/27/06 Time: 13:04:56

PROJECT INFORMATION

Company: SEVEE & MAHER
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-12A
Test Date: 10/26/04

AQUIFER DATA

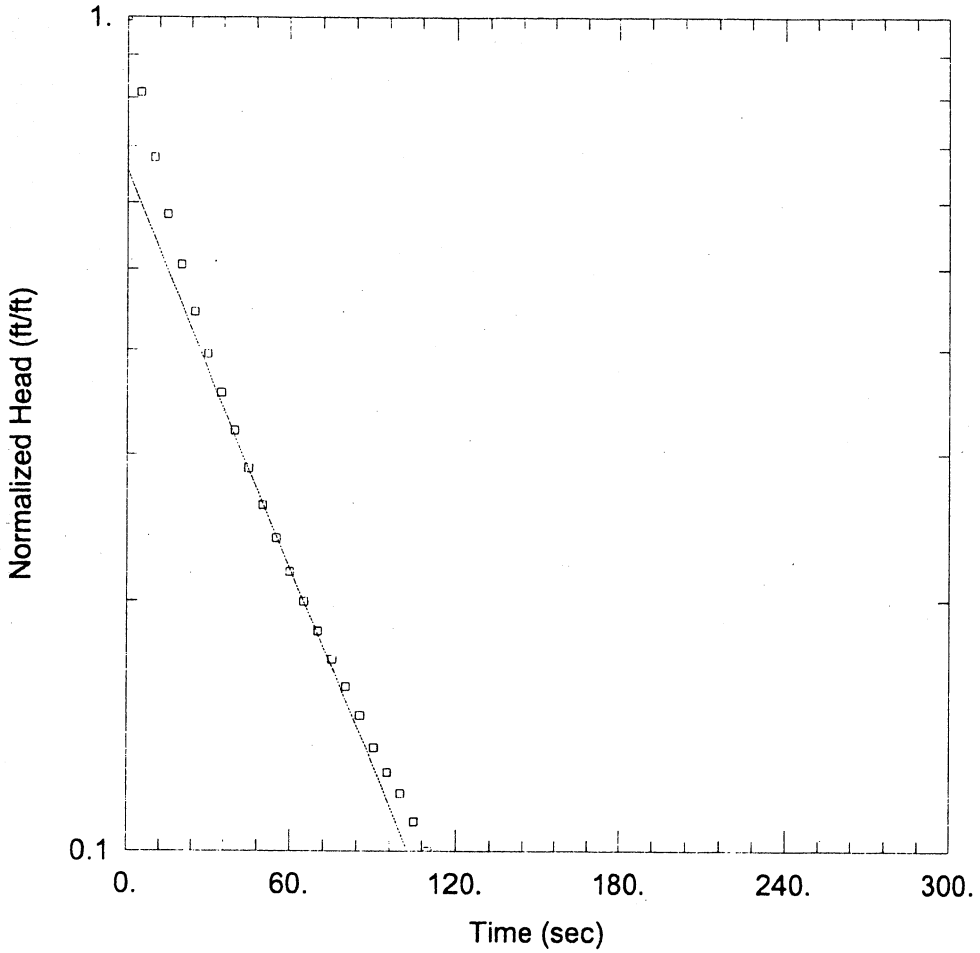
Saturated Thickness: 8.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-12A)

Initial Displacement: 4.05 ft
Total Well Penetration Depth: 44.3 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 62.75 ft
Screen Length: 8.5 ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 4.147E-5 cm/sec
y0 = 0.1166 ft



P-04-12B SLUG TEST

Data Set: \...\P-04-12B.aqt
Date: 09/27/06 Time: 14:09:25

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-12B
Test Date: 10/26/04

AQUIFER DATA

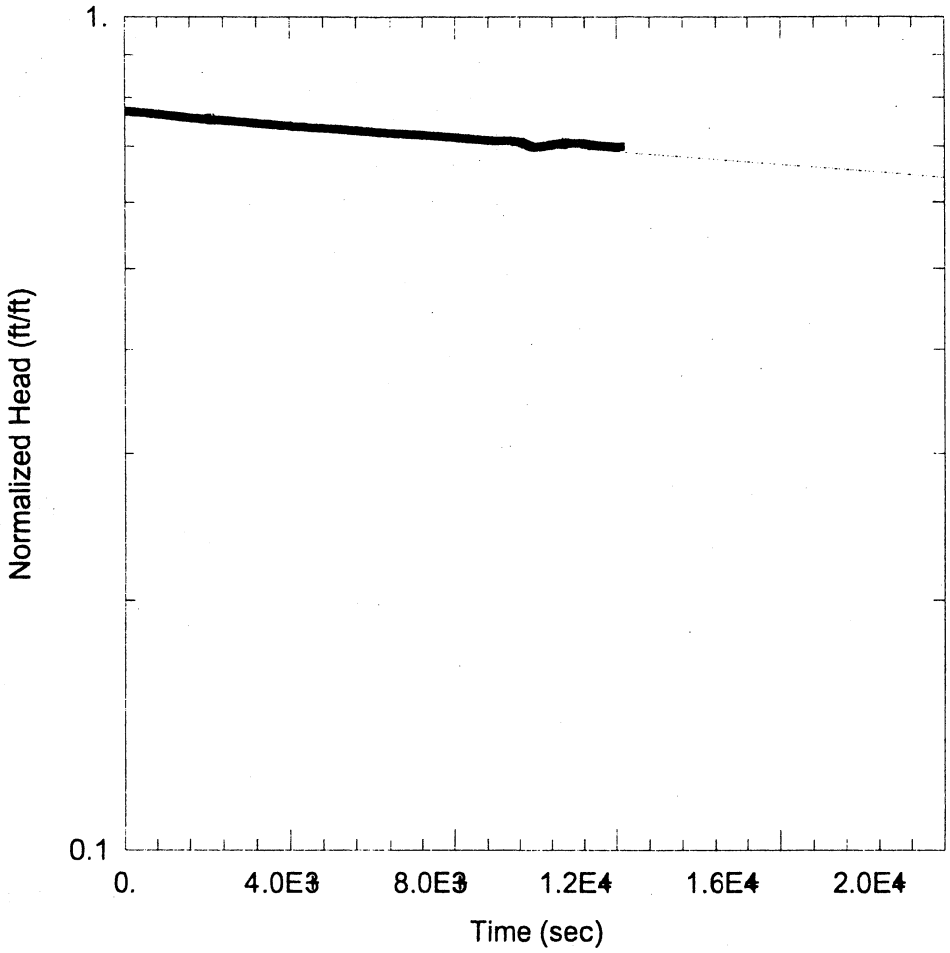
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-12B)

Initial Displacement: 3.3 ft
Total Well Penetration Depth: 16.36 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 35.45 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0002663 cm/sec
y0 = 2.164 ft



P-04-13A SLUG TEST

Data Set: \...\P-04-13A.aqt
Date: 09/27/06 Time: 14:11:44

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-13A
Test Date: 10/26/04

AQUIFER DATA

Saturated Thickness: 4. ft Anisotropy Ratio (Kz/Kr): 1.

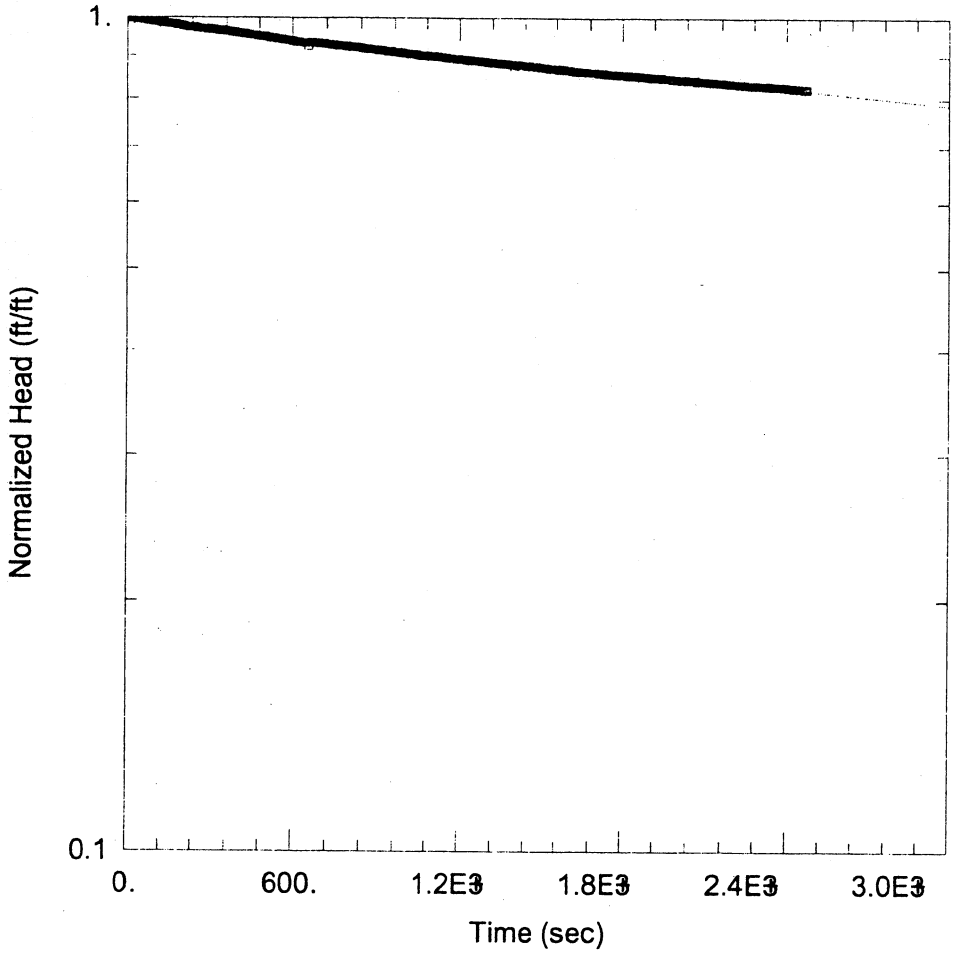
WELL DATA (P-04-13A)

Initial Displacement: 5.29 ft
Total Well Penetration Depth: 101.2 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 115.5 ft
Screen Length: 4. ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 1.301E-7 cm/sec y0 = 4.056 ft



P-04-13B SLUG TEST

Data Set: \...\P-04-13B.aqt
Date: 09/27/06 Time: 14:13:11

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-13B
Test Date: 10/26/04

AQUIFER DATA

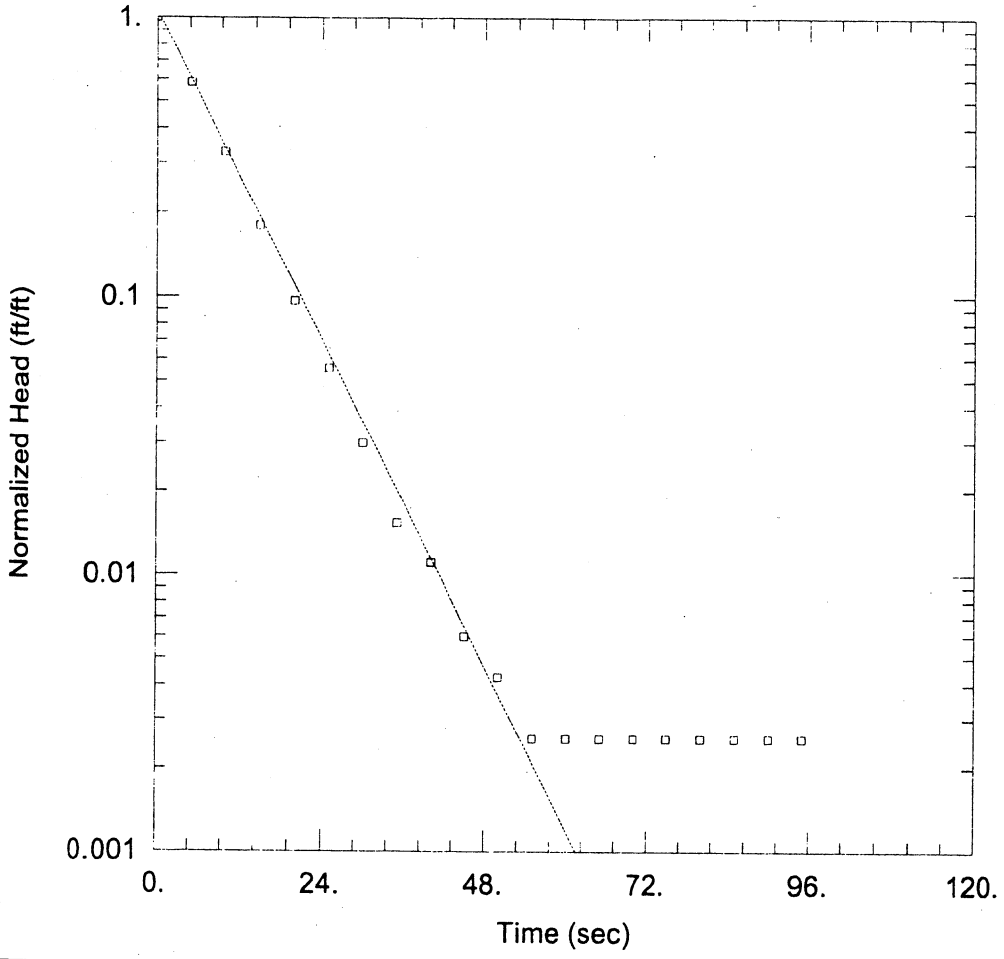
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-13B)

Initial Displacement: 5.29 ft
Total Well Penetration Depth: 64.17 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 38.9 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 1.323E-6 cm/sec
y0 = 5.222 ft



P-04-14B SLUG TEST

Data Set: \...\P-04-14B.aqt
Date: 09/27/06 Time: 14:18:17

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-14B
Test Date: 10/24/04

AQUIFER DATA

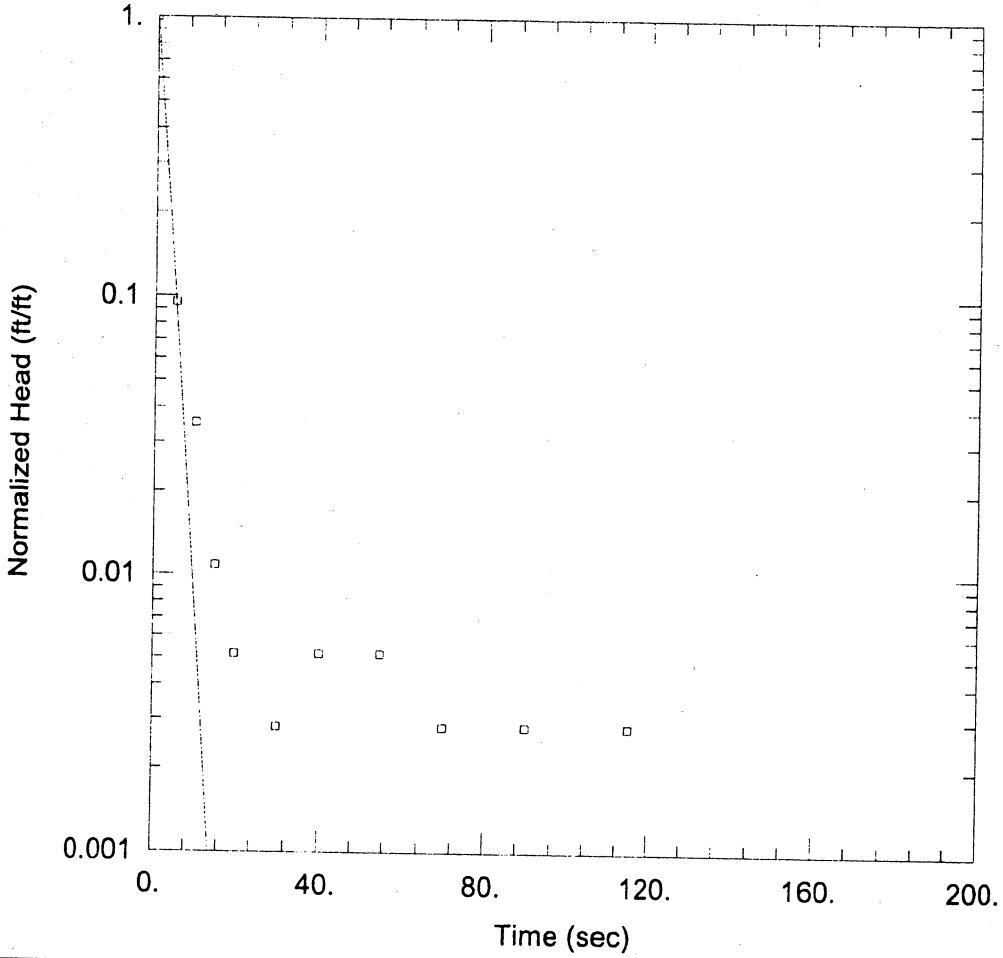
Saturated Thickness: 4.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-14B)

Initial Displacement: 2.71 ft
Total Well Penetration Depth: 17.11 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 15.9 ft
Screen Length: 4.5 ft
Wellbore Radius: 0.1242 ft

SOLUTION

Aquifer Model: Confined
K = 0.001325 cm/sec
Solution Method: Bouwer-Rice
y0 = 2.862 ft



P-04-14A SLUG TEST

Data Set: \...\P-04-14A.aqt
Date: 09/27/06 Time: 14:17:13

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-14A
Test Date: 10/26/04

AQUIFER DATA

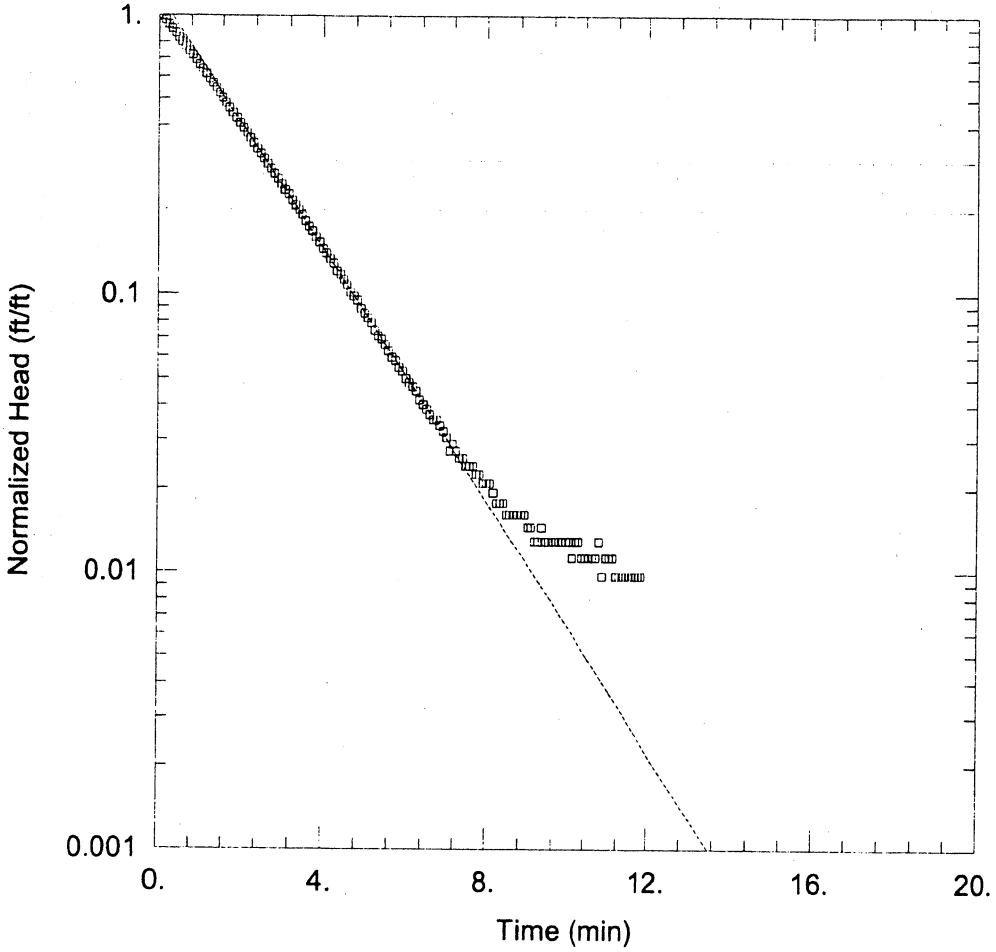
Saturated Thickness: 4.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-14A)

Initial Displacement: 2.13 ft
Total Well Penetration Depth: 59.4 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 63.27 ft
Screen Length: 4.5 ft
Wellbore Radius: 0.1458 ft

SOLUTION

Aquifer Model: Confined
K = 0.006593 cm/sec
Solution Method: Bouwer-Rice
y0 = 2.247 ft



P-06-04A SLUG TEST

Data Set: \...\P-06-04a.aqt
Date: 09/27/06 Time: 13:36:32

PROJECT INFORMATION

Company: SEA E & MAHER ENGINEERS
Client: Casella
Project: Juniper Ridge
Location: Old Town Maine
Test Well: P-06-04A
Test Date: 4/19/2006

AQUIFER DATA

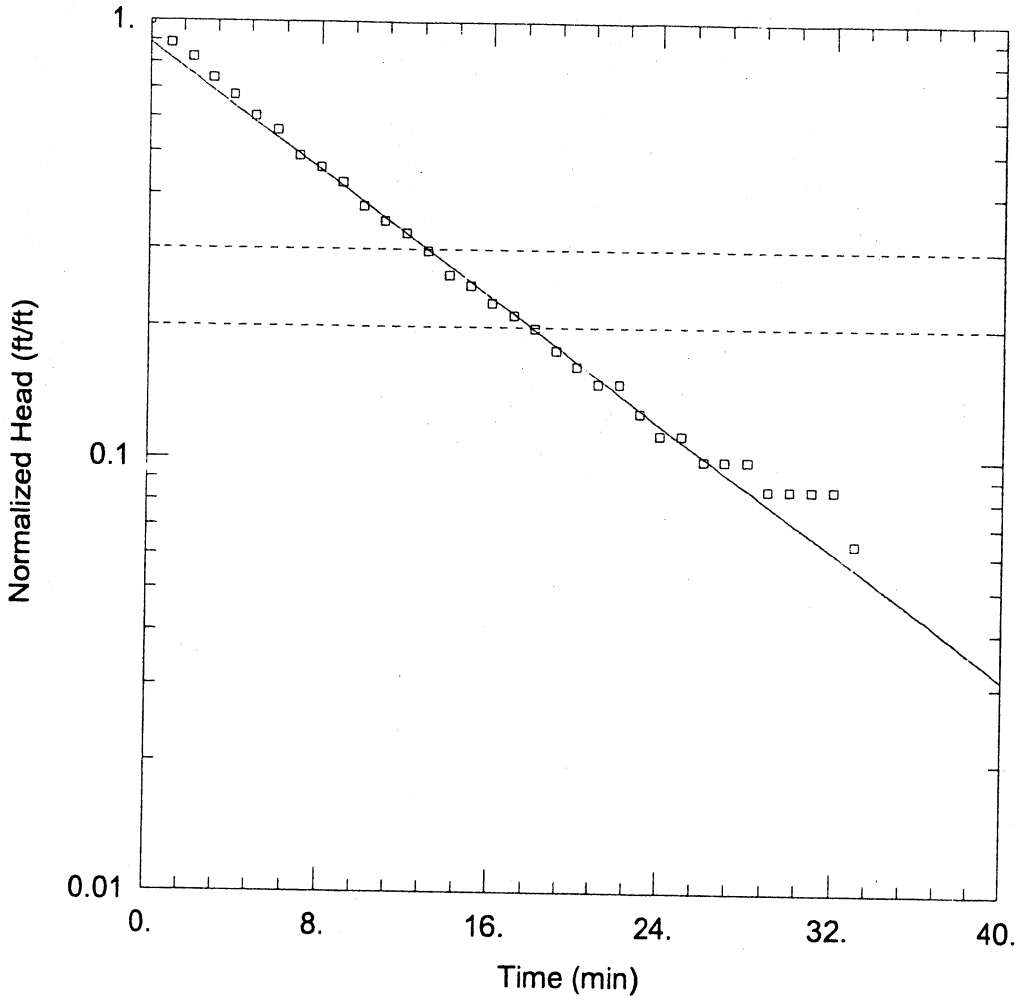
Saturated Thickness: 3.2 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-06-04A)

Initial Displacement: 6.2 ft
Total Well Penetration Depth: 20.1 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 20.1 ft
Screen Length: 3.2 ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0001245 cm/sec
y0 = 7.375 ft



MW-04-111 SLUG TEST #1

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-04-111.aqt
Date: 09/29/06 Time: 08:00:23

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-04-111
Test Date: 5/31/06

AQUIFER DATA

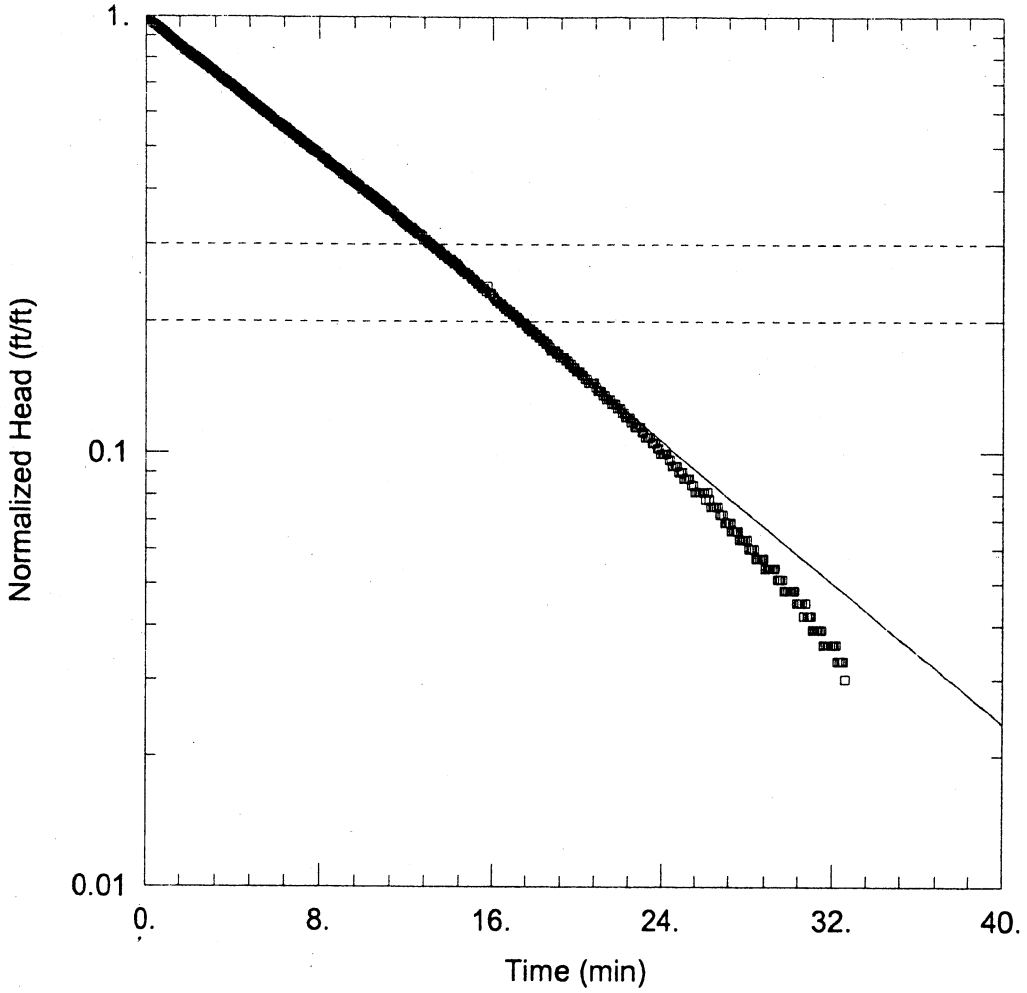
Saturated Thickness: 13.43 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-04-111)

Initial Displacement: 1.41 ft
Total Well Penetration Depth: 13.43 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.43 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
K = 7.896E-5 cm/sec
Solution Method: Bouwer-Rice
y0 = 1.253 ft



MW-05-01

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-05-01.aqt
Date: 09/29/06 Time: 08:00:38

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-05-01
Test Date: 5/31/06

AQUIFER DATA

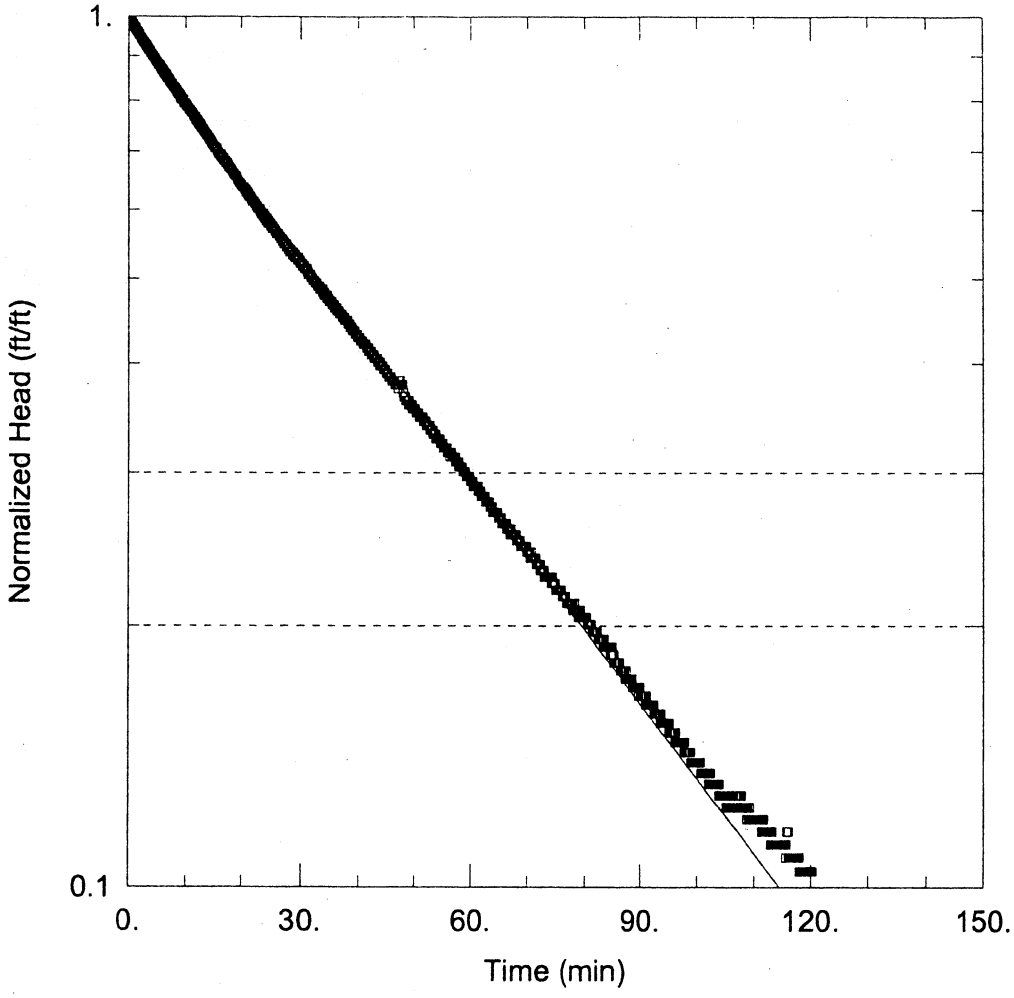
Saturated Thickness: 13.47 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05-01)

Initial Displacement: 3.32 ft
Total Well Penetration Depth: 13.47 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.47 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
K = 8.846E-5 cm/sec
Solution Method: Bouwer-Rice
y0 = 3.329 ft



MW-05-02

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-05-02.aqt
Date: 09/29/06 Time: 08:00:47

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-05-02
Test Date: 5/31/06

AQUIFER DATA

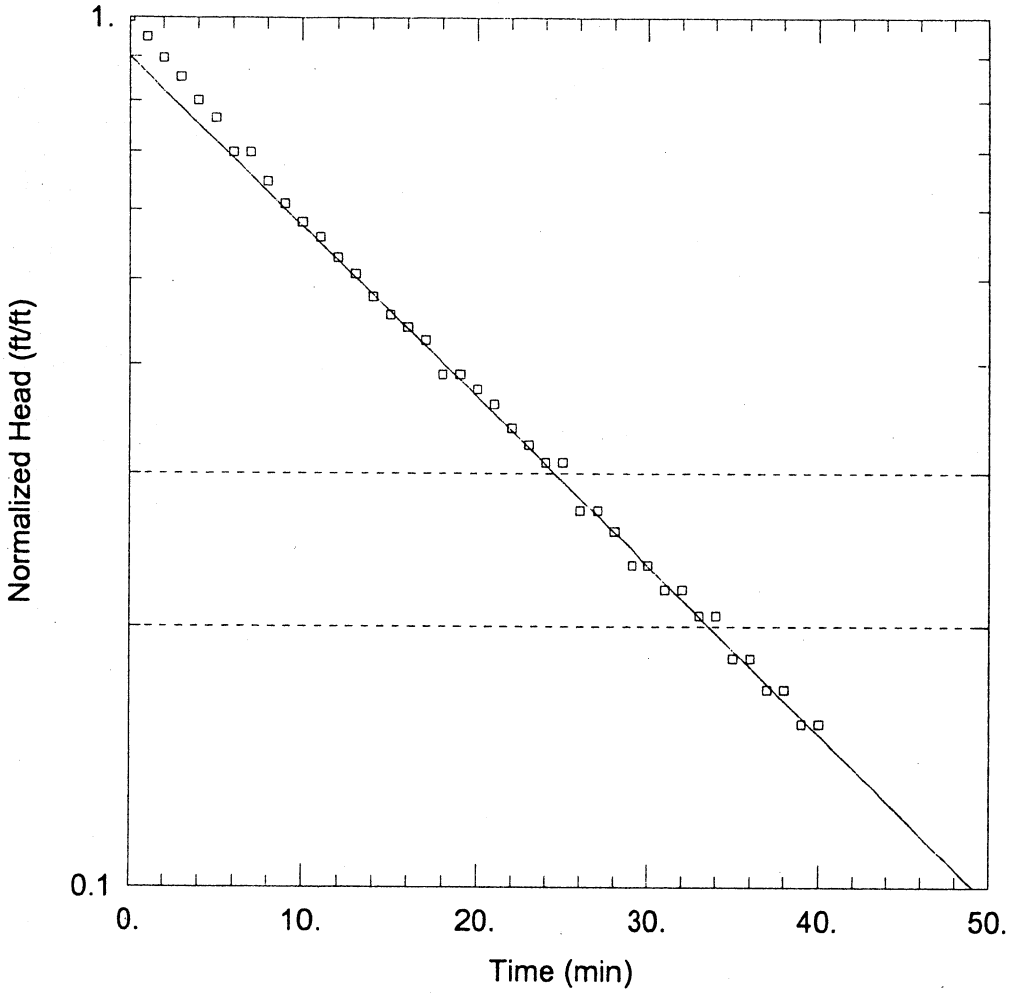
Saturated Thickness: 13.41 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05-02)

Initial Displacement: 2.59 ft
Total Well Penetration Depth: 13.41 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.41 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.871E-5 cm/sec
y0 = 2.502 ft



MW-05-03

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-05-03.aqt
Date: 09/29/06 Time: 08:00:55

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-05-03
Test Date: 5/31/06

AQUIFER DATA

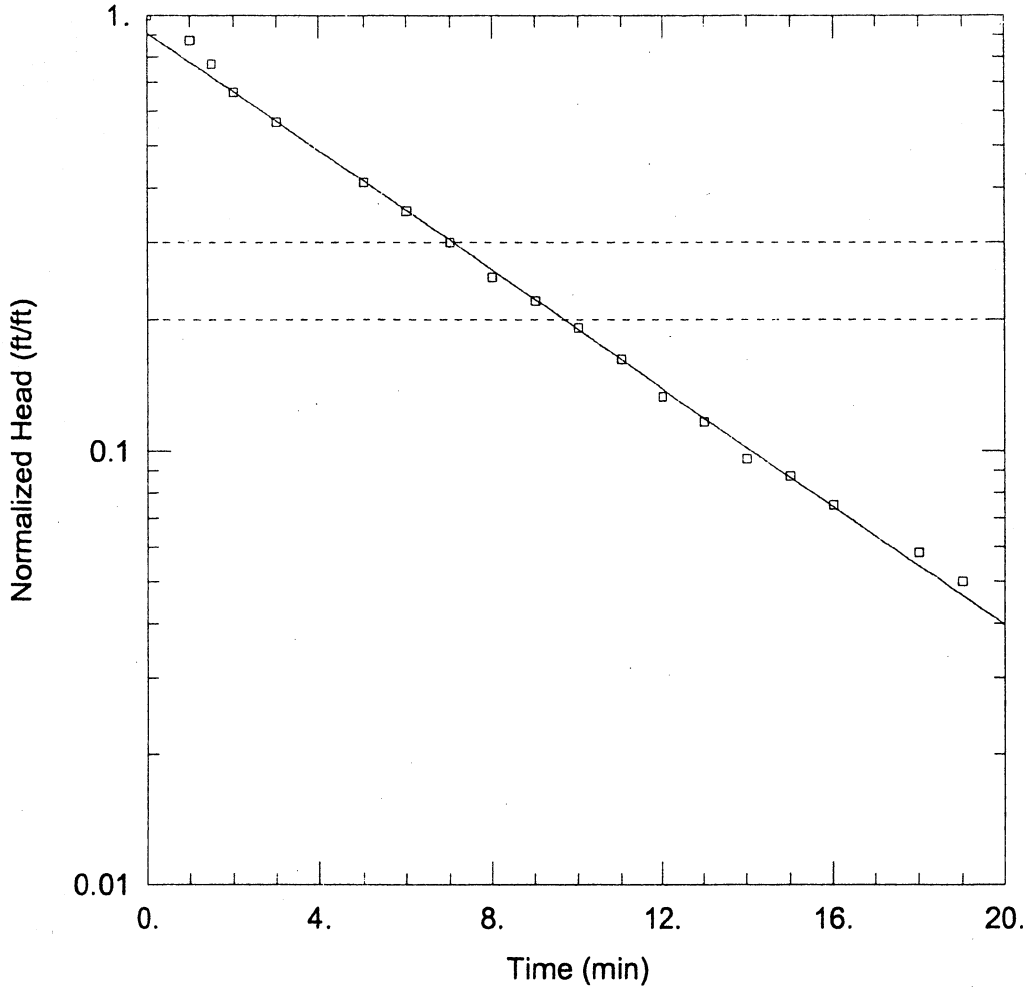
Saturated Thickness: 13.02 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05-03)

Initial Displacement: 1.36 ft
Total Well Penetration Depth: 13.02 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.02 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.21E-5 cm/sec
y0 = 1.224 ft



MW-~~04-111~~ 05-04 SLUG TEST #1

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-05-04.aqt
Date: 09/29/06 Time: 08:01:02

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-05-04
Test Date: 5/31/06

AQUIFER DATA

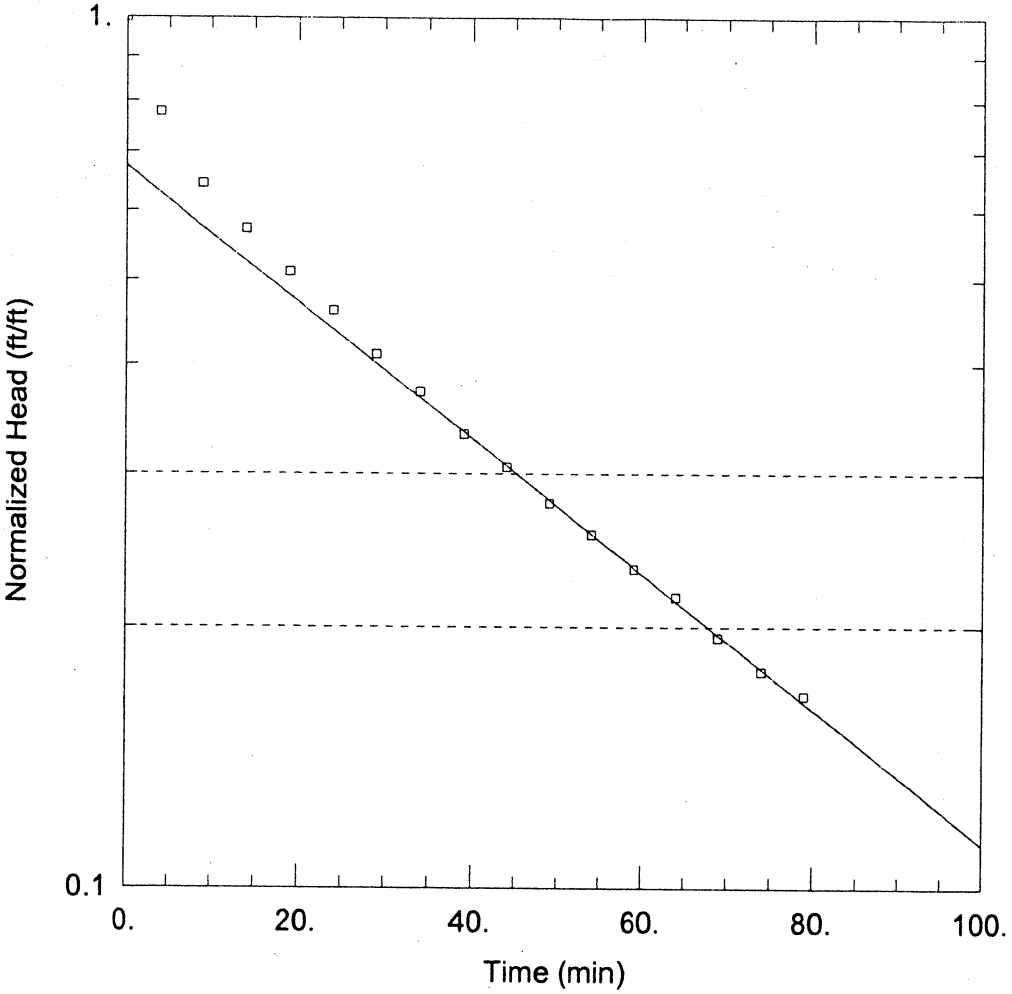
Saturated Thickness: 13.22 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05-04)

Initial Displacement: 2.4 ft
Total Well Penetration Depth: 13.22 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.22 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0001475 cm/sec
y0 = 2.184 ft



MW-05-05

Data Set: \\Fserver\cfs\Casella\OldTownLandfill\Expansion\SlugTest\till\MW-05-05.aqt
Date: 09/29/06 Time: 08:01:11

PROJECT INFORMATION

Company: SME
Client: Casella
Project: 06072.00
Location: Juniper Ridge
Test Well: MW-05-05
Test Date: 5/31/06

AQUIFER DATA

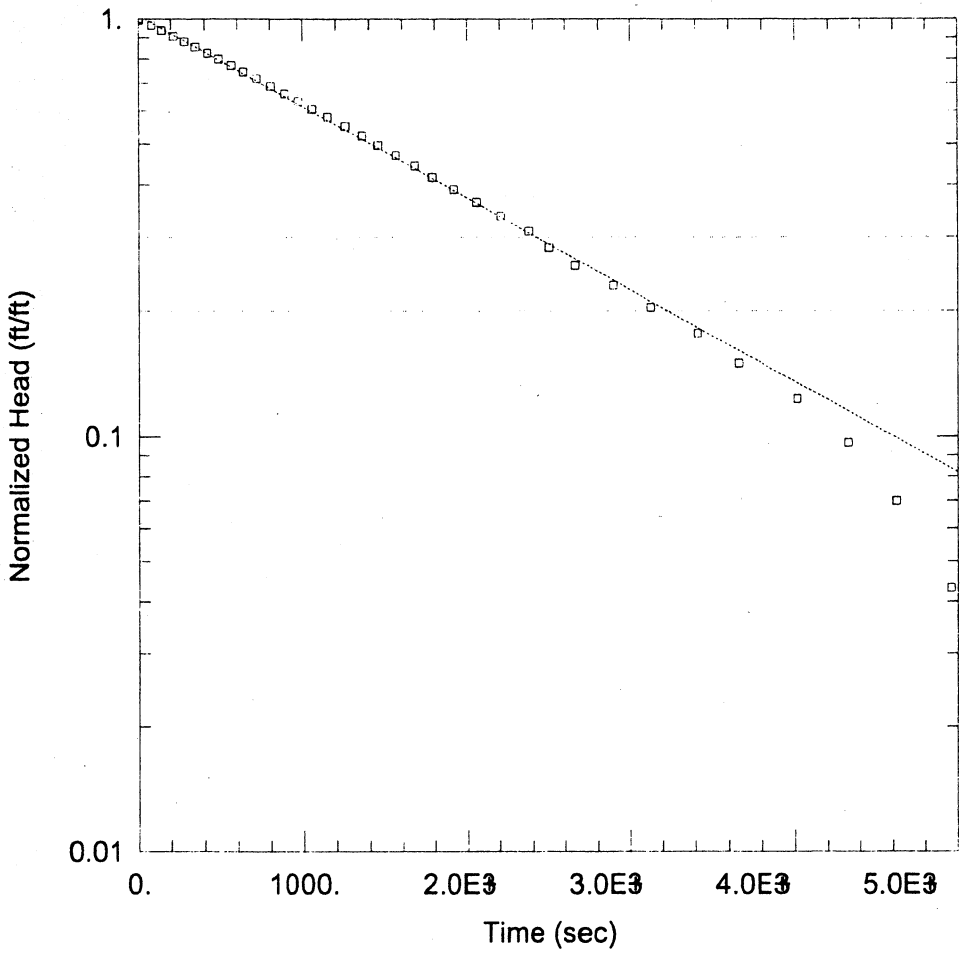
Saturated Thickness: 13.21 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05-05)

Initial Displacement: 1.8 ft
Total Well Penetration Depth: 13.21 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 13.21 ft
Screen Length: 6. ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.69E-5 cm/sec
y0 = 1.215 ft



P-04-05A SLUG TEST

Data Set: \...\P-04-05A.aqt
Date: 09/27/06 Time: 13:49:02

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-05A
Test Date: 10/26/04

AQUIFER DATA

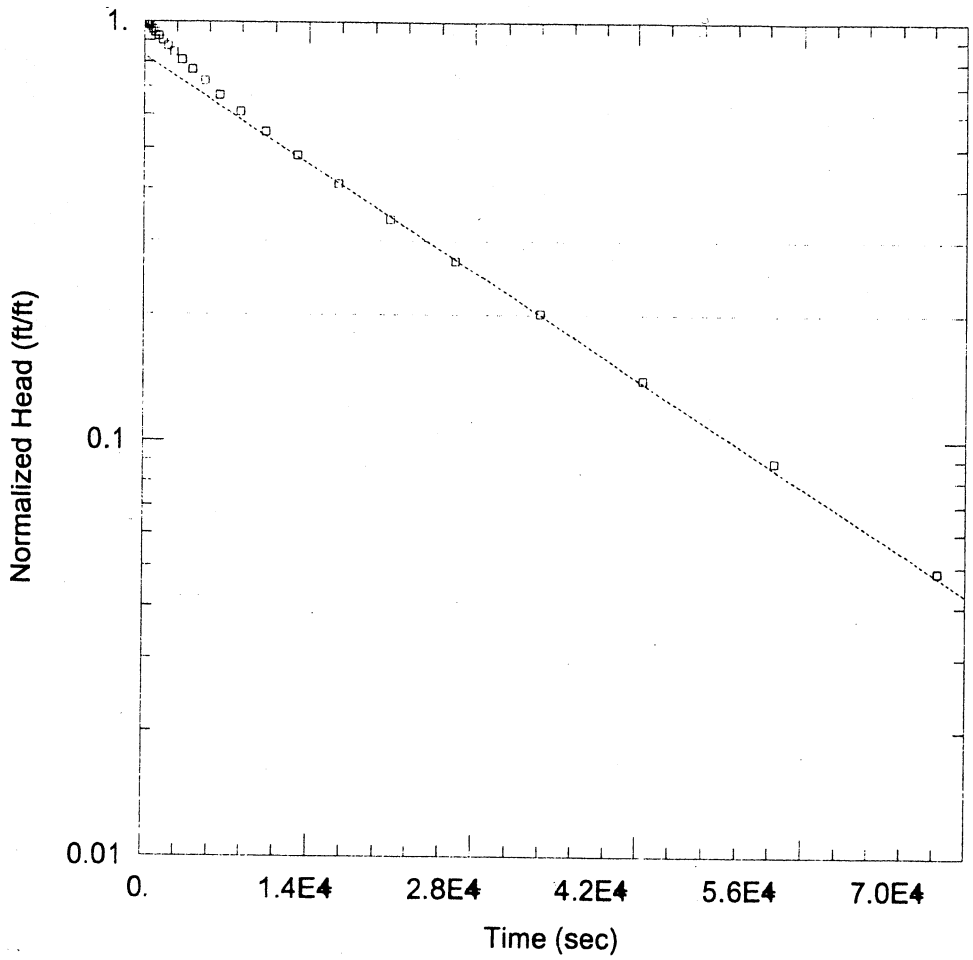
Saturated Thickness: 3.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-05A)

Initial Displacement: 3.892 ft Static Water Column Height: 32.33 ft
Total Well Penetration Depth: 32.33 ft Screen Length: 3.5 ft
Casing Radius: 0.0313 ft Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 7.16E-6 cm/sec y0 = 3.965 ft



P-04-05B SLUG TEST

Data Set: \...\P-04-05B.aqt
Date: 09/27/06 Time: 13:49:56

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-05B
Test Date: 10/26/04

AQUIFER DATA

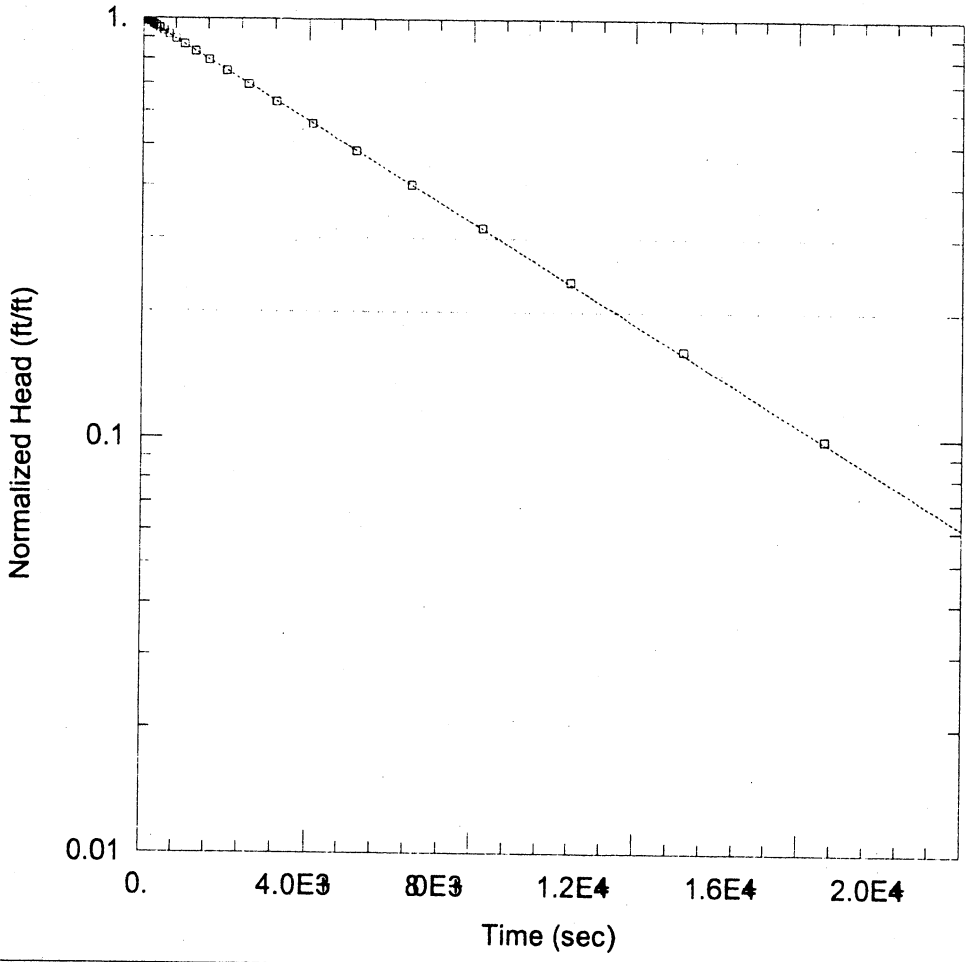
Saturated Thickness: 2.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-05B)

Initial Displacement: 6.162 ft
Total Well Penetration Depth: 12.19 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 12.19 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined
K = 6.818E-7 cm/sec
Solution Method: Bouwer-Rice
y0 = 5.113 ft



P-04-06B SLUG TEST

Data Set: \...\P-04-06B.aqt
Date: 09/27/06 Time: 13:52:09

PROJECT INFORMATION

Company: SEA & MAHER ENGINEERS
Client: CASELLA
Project: 04076.09
Location: WEST OLD TOWN
Test Well: P-04-06B
Test Date: 10/26/04

AQUIFER DATA

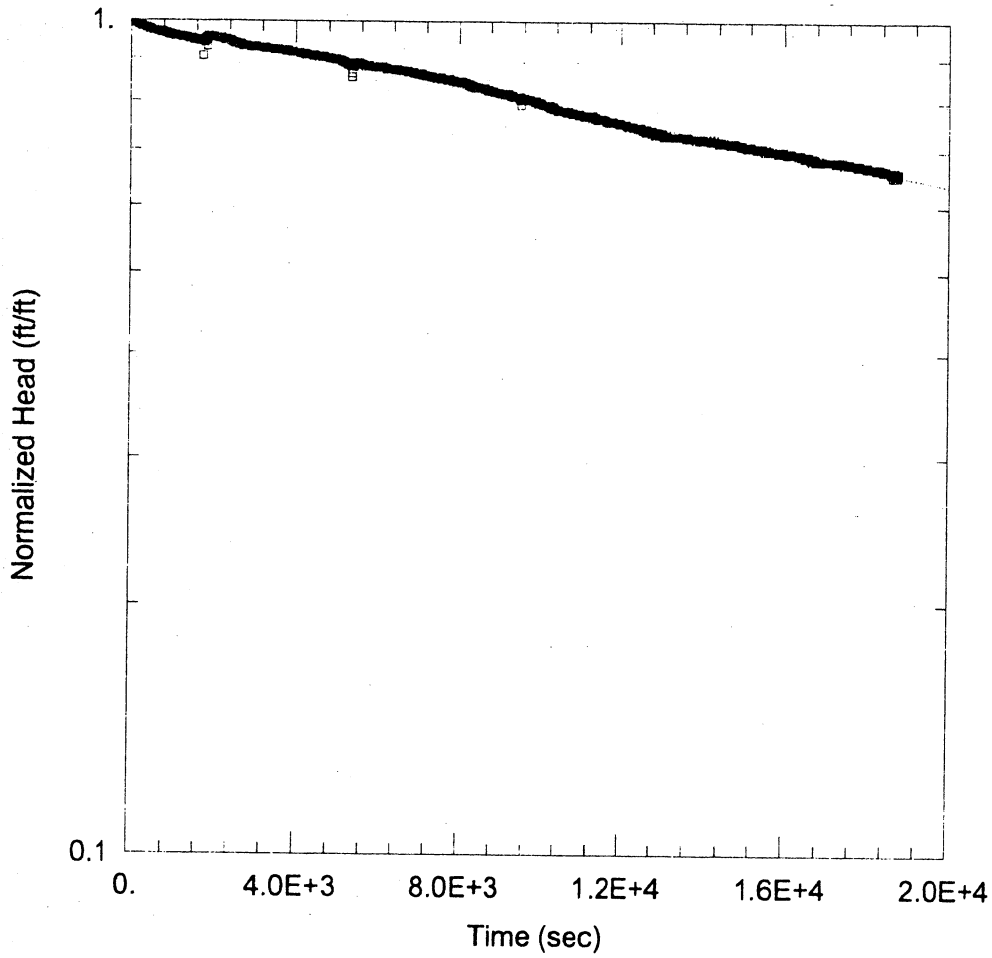
Saturated Thickness: 2.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-06B)

Initial Displacement: 7.77 ft
Total Well Penetration Depth: 5.461 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 5.461 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.921E-6 cm/sec
y0 = 7.754 ft



P-04-08A SLUG TEST

Data Set: \...\P-04-08A.aqt
Date: 09/27/06 Time: 13:57:49

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-08A
Test Date: 10/26/04

AQUIFER DATA

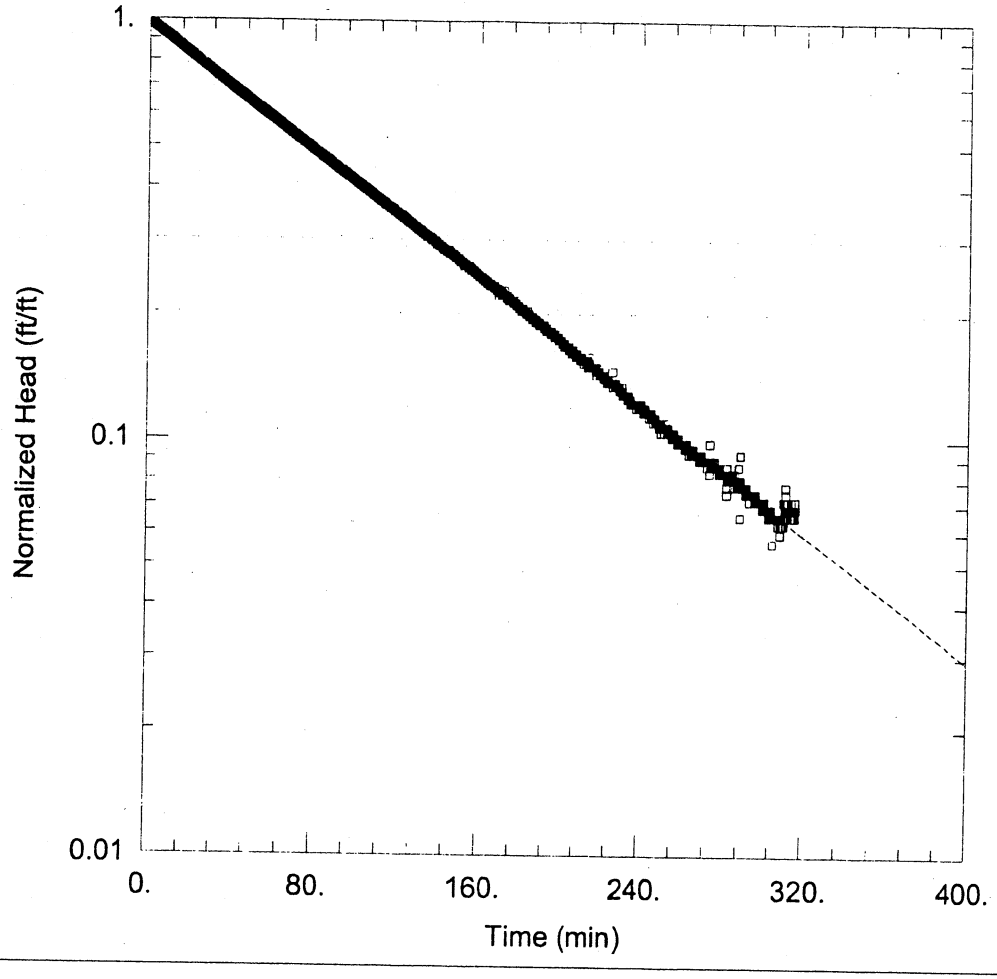
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-08A)

Initial Displacement: 1.845 ft
Total Well Penetration Depth: 30.28 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 30.28 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined
K = 3.151E-7 cm/sec
Solution Method: Bouwer-Rice
y0 = 1.839 ft



P-04-08B

Data Set: \...\P-04-08B.aqt
Date: 09/27/06 Time: 13:59:16

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-08B
Test Date: 4/19/06

AQUIFER DATA

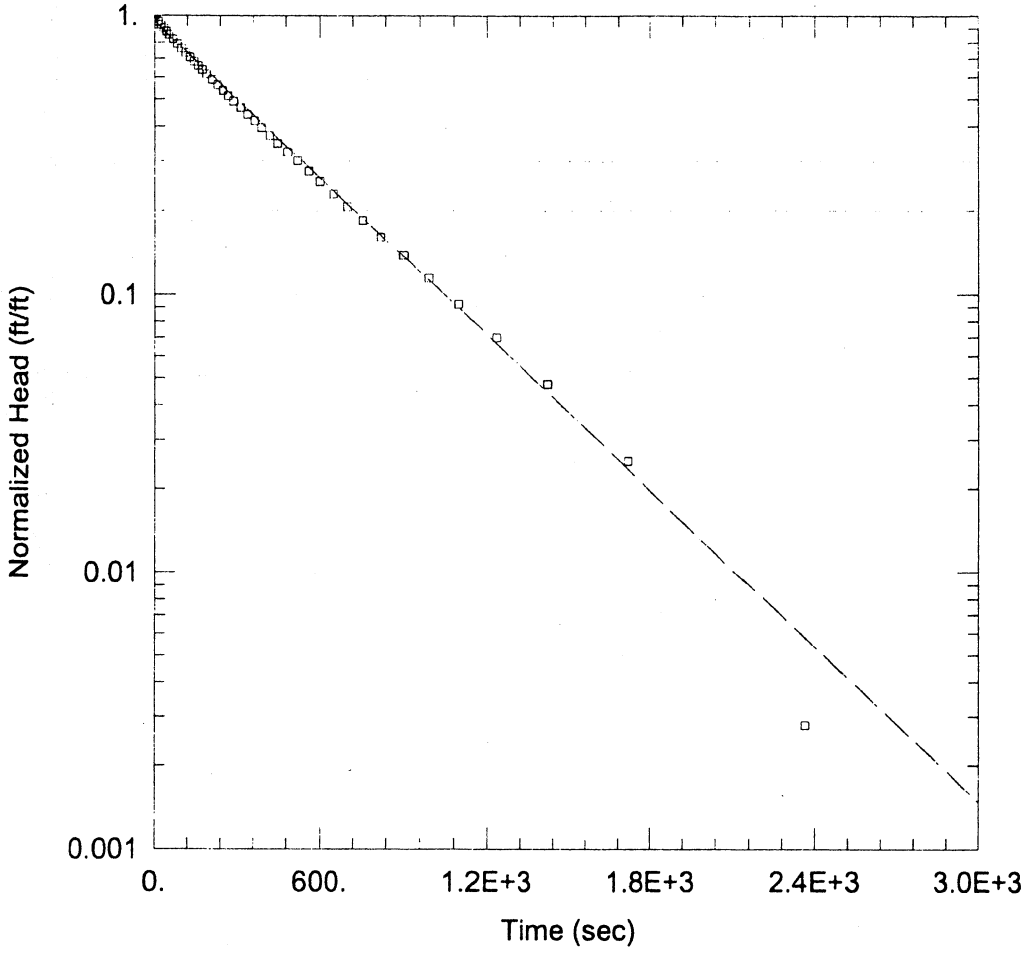
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-08B)

Initial Displacement: 3.35 ft
Total Well Penetration Depth: 15.3 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 15.3 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
K = 1.854E-6 cm/sec
Solution Method: Bouwer-Rice
y0 = 3.313 ft



P-04-09B SLUG TEST

Data Set: \...\P-04-09B.aqt
Date: 09/27/06 Time: 14:00:30

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-09B
Test Date: 10/26/04

AQUIFER DATA

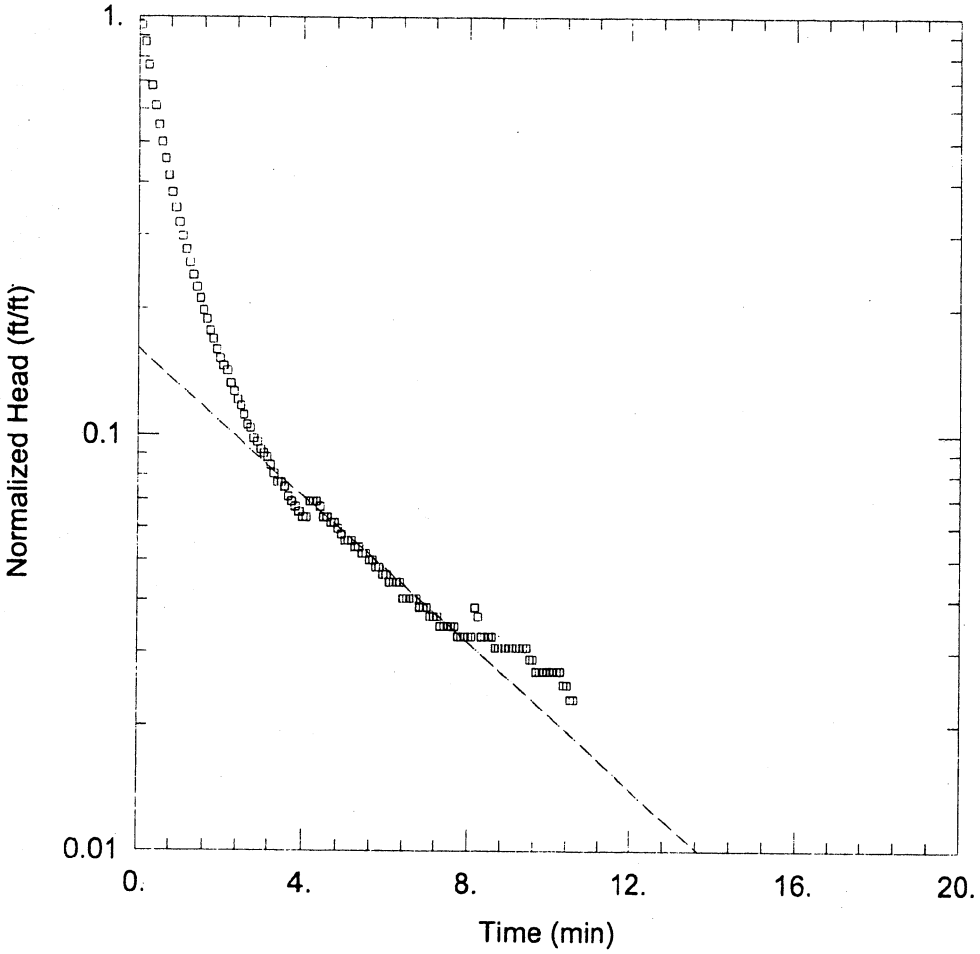
Saturated Thickness: 2.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-09B)

Initial Displacement: 4.649 ft
Total Well Penetration Depth: 12.69 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 12.69 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.497E-5 cm/sec
y0 = 4.445 ft



P-04-10B SLUG TEST

Data Set: \...\P-04-10B.aqt
Date: 09/27/06 Time: 13:07:02

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-10B
Test Date: 4/19/06

AQUIFER DATA

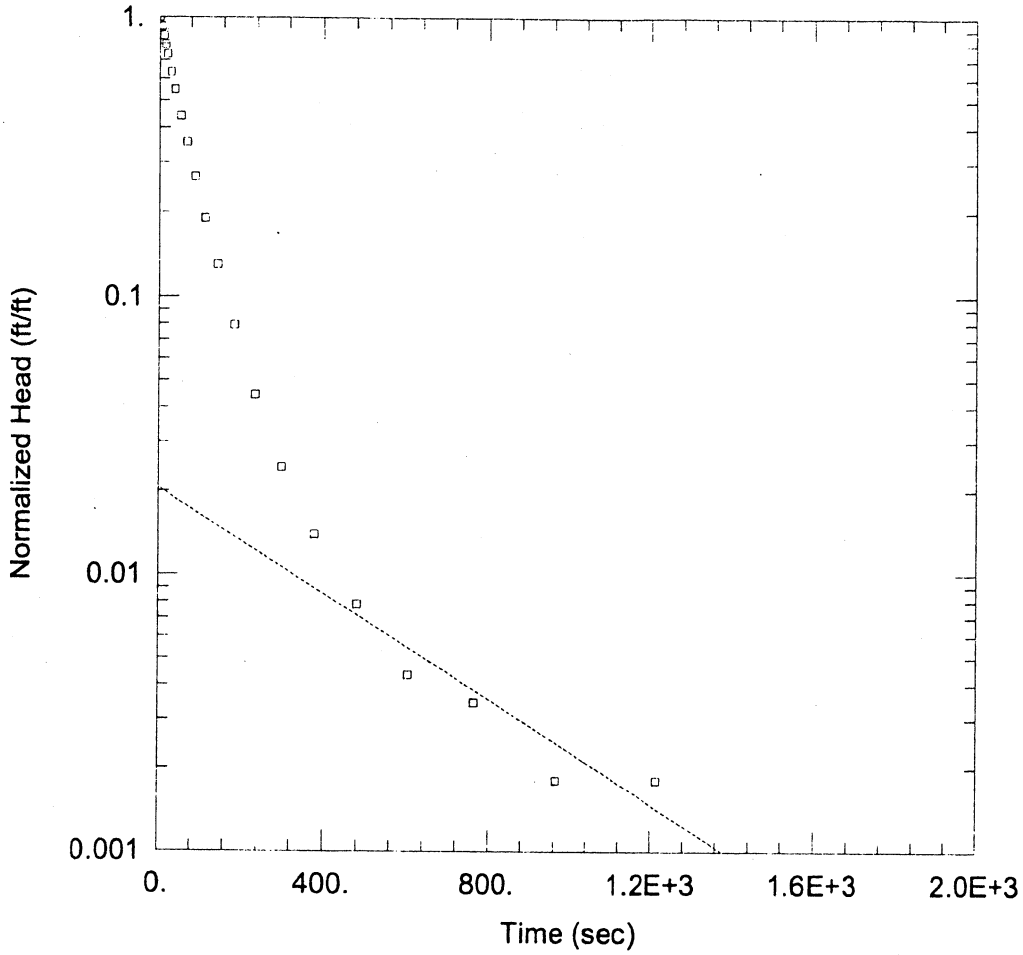
Saturated Thickness: 2.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-10B)

Initial Displacement: 5.2 ft
Total Well Penetration Depth: 8.5 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 8.5 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.109E-5 cm/sec
y0 = 0.8383 ft



P-04-11A SLUG TEST

Data Set: \...\P-04-11A.aqt
Date: 09/27/06 Time: 13:04:26

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-11A
Test Date: 10/26/04

AQUIFER DATA

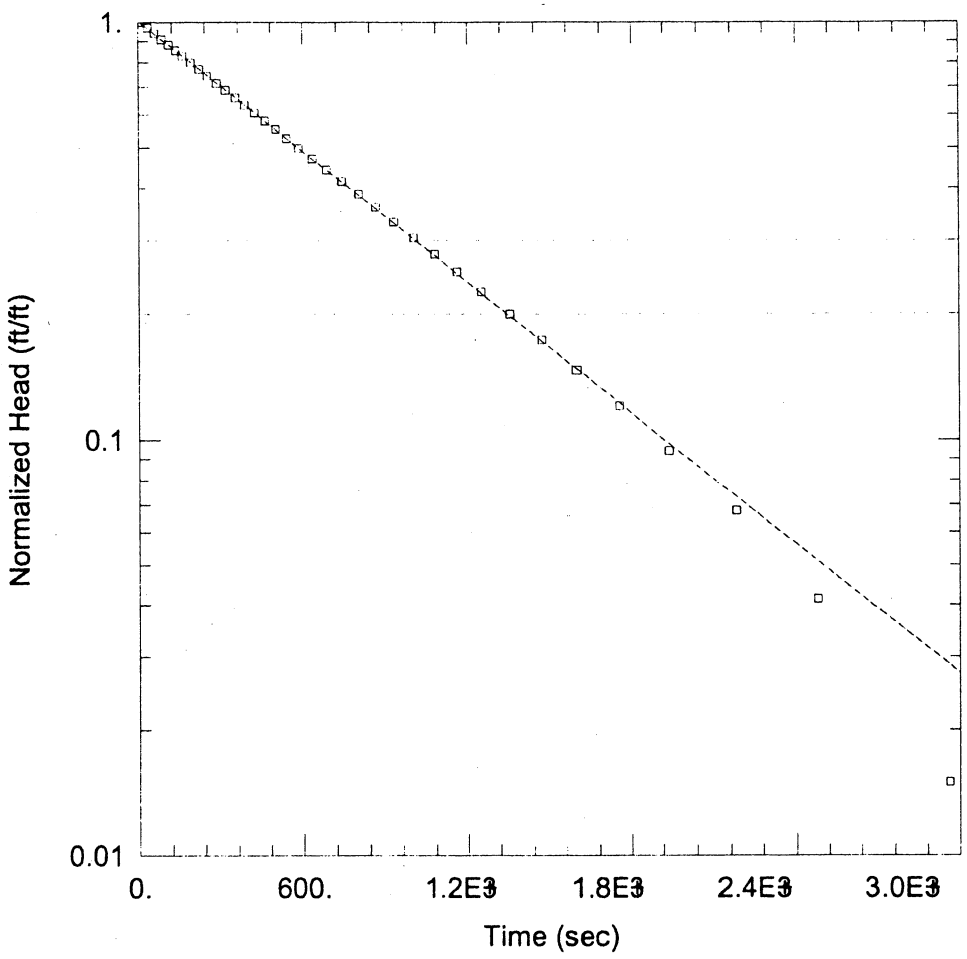
Saturated Thickness: 3.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-11A)

Initial Displacement: 6.653 ft
Total Well Penetration Depth: 42.83 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 42.83 ft
Screen Length: 3.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined
K = 3.24E-5 cm/sec
Solution Method: Bouwer-Rice
y0 = 0.137 ft



P-04-11B SLUG TEST

Data Set: \...\P-04-11B.aqt
Date: 09/27/06 Time: 14:06:16

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-11B
Test Date: 10/26/04

AQUIFER DATA

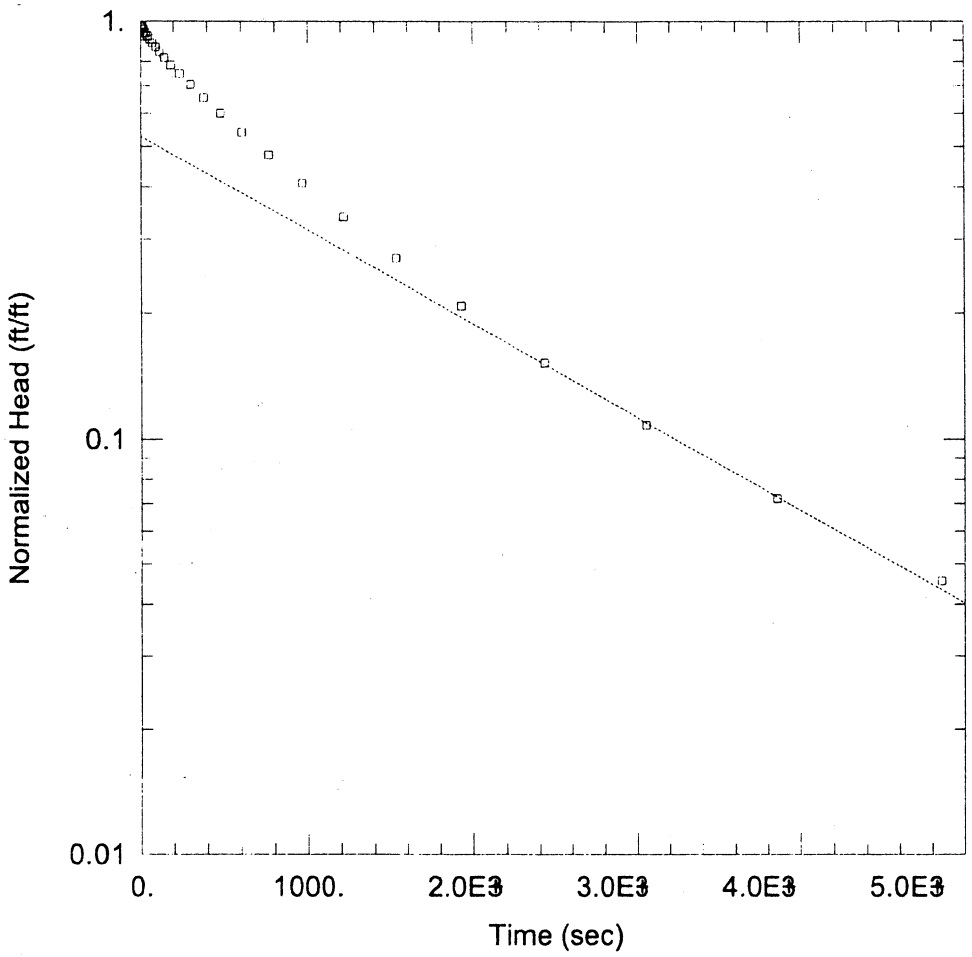
Saturated Thickness: 2.5 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-11B)

Initial Displacement: 3.94 ft
Total Well Penetration Depth: 9.71 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 9.71 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.858E-5 cm/sec y0 = 3.969 ft



P-04-12C SLUG TEST

Data Set: \...\P-04-12C.aqt
Date: 09/27/06 Time: 13:03:04

PROJECT INFORMATION

Company: SEVEE & MAHER ENGINEERS
Client: CASELLA
Project: 03076.09
Location: WEST OLD TOWN
Test Well: P-04-12C
Test Date: 10/26/04

AQUIFER DATA

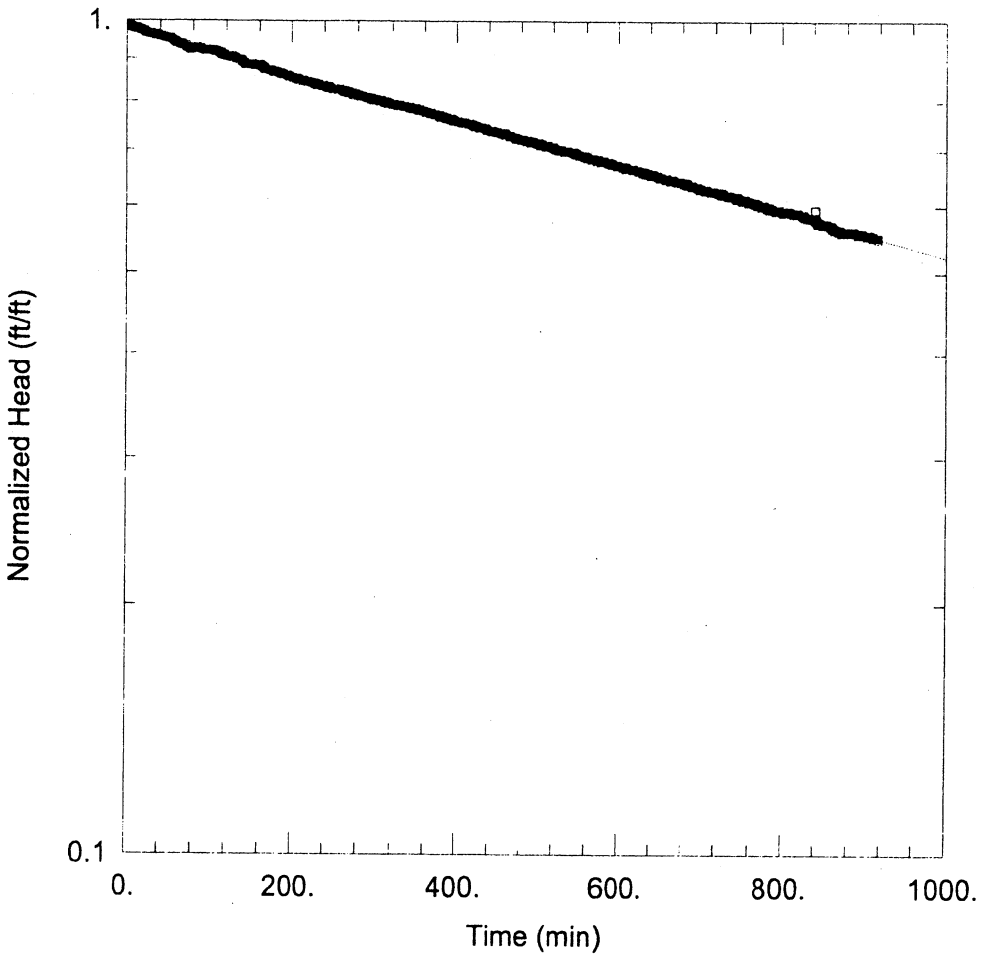
Saturated Thickness: 2.2 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-12C)

Initial Displacement: 3.516 ft Static Water Column Height: 5.033 ft
Total Well Penetration Depth: 5.033 ft Screen Length: 2.2 ft
Casing Radius: 0.0313 ft Wellbore Radius: 0.1875 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 7.749E-6 cm/sec y0 = 1.857 ft



P-04-13C SLUG TEST

Data Set: \...\P-04-13C.aqt
Date: 09/27/06 Time: 14:14:03

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-13C
Test Date: 4/19/06

AQUIFER DATA

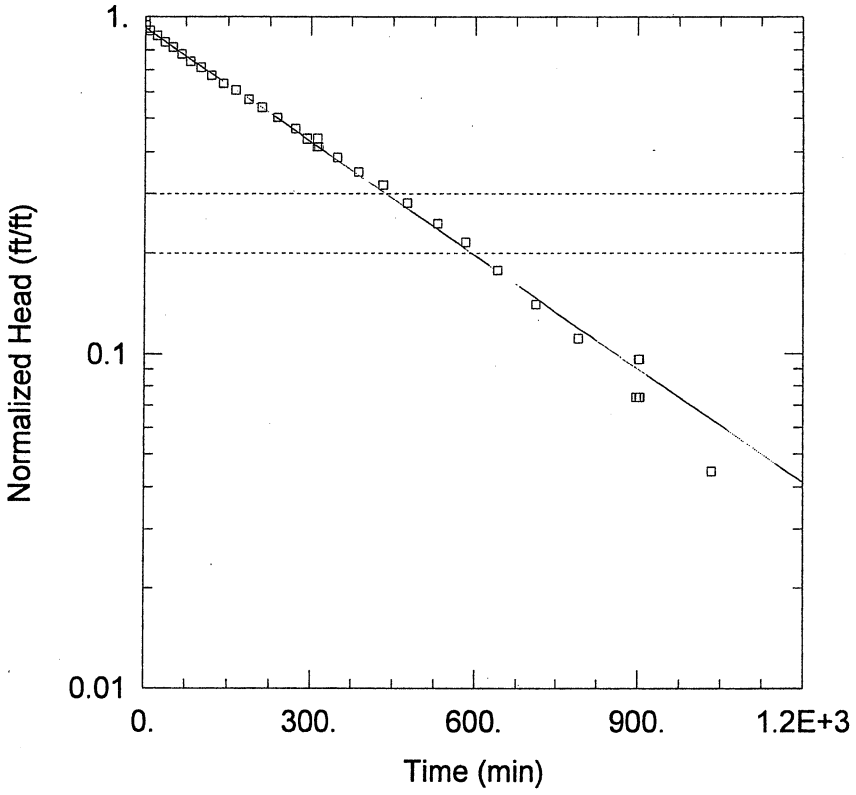
Saturated Thickness: 2.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-13C)

Initial Displacement: 4.1 ft
Total Well Penetration Depth: 8.6 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 8.6 ft
Screen Length: 2.5 ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.568E-7 cm/sec
y0 = 3.997 ft



P-08-03B

Data Set: \\Aserver\cfs\Casella\OldTownLandfill\Hydraulic Conductivity\P08-03B_BR.aqt
Date: 08/05/08 Time: 10:18:41

PROJECT INFORMATION

Client: Casella
Project: 08097.01
Location: JRLF - Old Town, ME
Test Date: 07/30/08

AQUIFER DATA

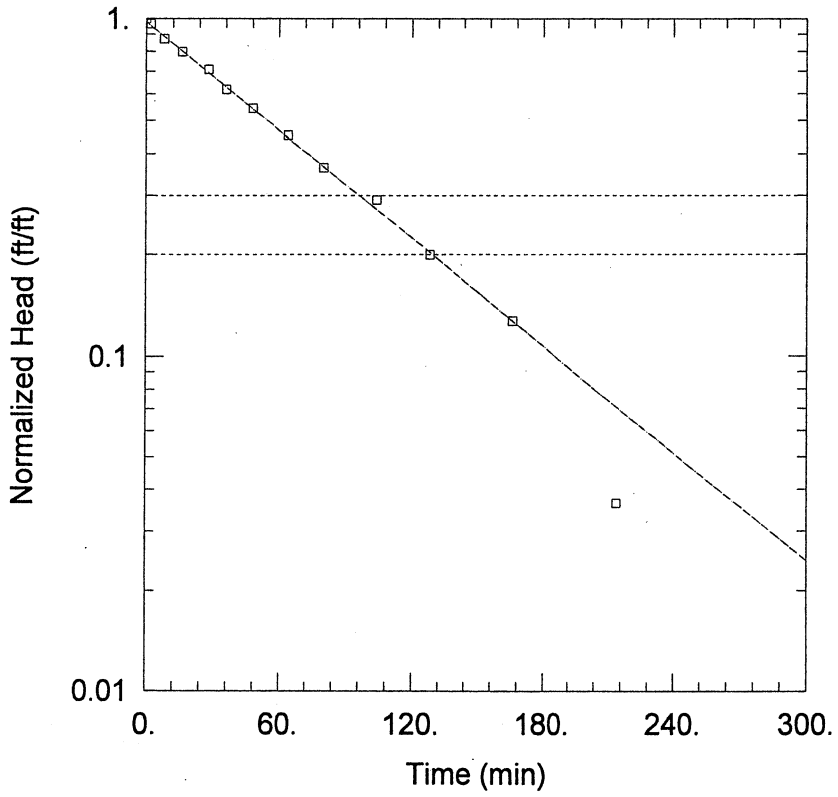
Saturated Thickness: 2.9 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P08-03B)

Initial Displacement: 1.35 ft
Total Well Penetration Depth: 2.9 ft
Casing Radius: 0.042 ft
Static Water Column Height: 2.9 ft
Screen Length: 2. ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.106E-6 cm/sec
y0 = 1.259 ft



P-08-04 A

Data Set: \\Aserver\cfs\Casella\OldTownLandfill\Hydraulic Conductivity\P08-04_BR.aqt
Date: 08/05/08 Time: 10:37:43

PROJECT INFORMATION

Client: Casella
Project: 08097.01
Location: JRLF - Old Town, ME
Test Date: 07/29/08

AQUIFER DATA

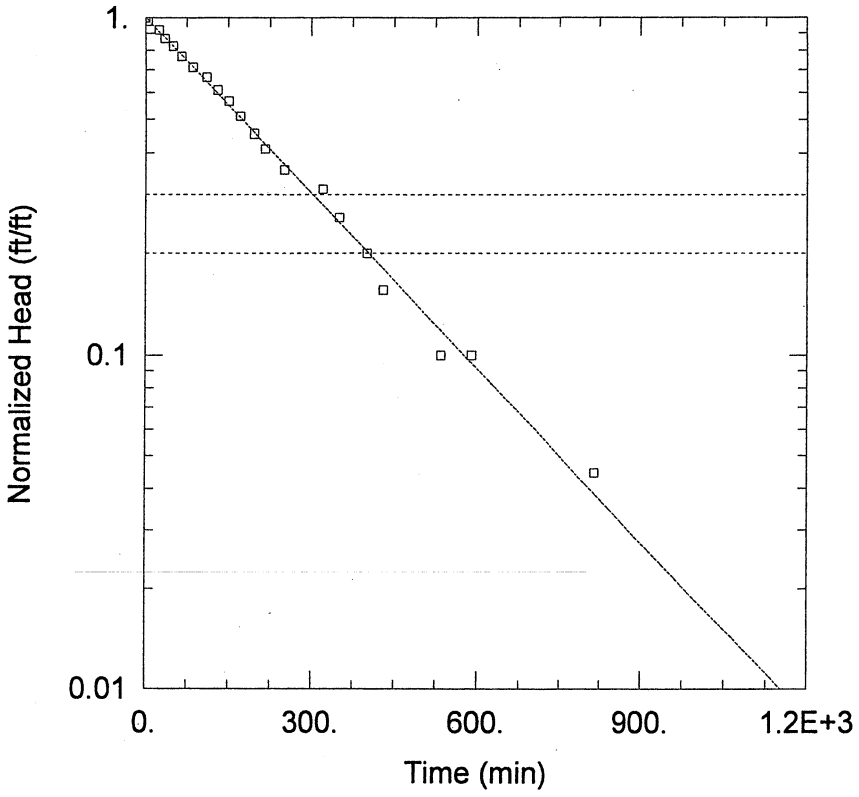
Saturated Thickness: 7.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P08-04)

Initial Displacement: 0.55 ft
Total Well Penetration Depth: 6.7 ft
Casing Radius: 0.042 ft
Static Water Column Height: 6.7 ft
Screen Length: 2. ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.368E-6 cm/sec
y0 = 0.5385 ft



P-08-06

Data Set: \\Aserver\cfs\Casella\OldTownLandfill\Hydraulic Conductivity\P08-06_BR.aqt
Date: 08/05/08 Time: 10:34:12

PROJECT INFORMATION

Client: Casella
Project: 08097.01
Location: JRLF - Old Town, ME
Test Date: 07/29/08

AQUIFER DATA

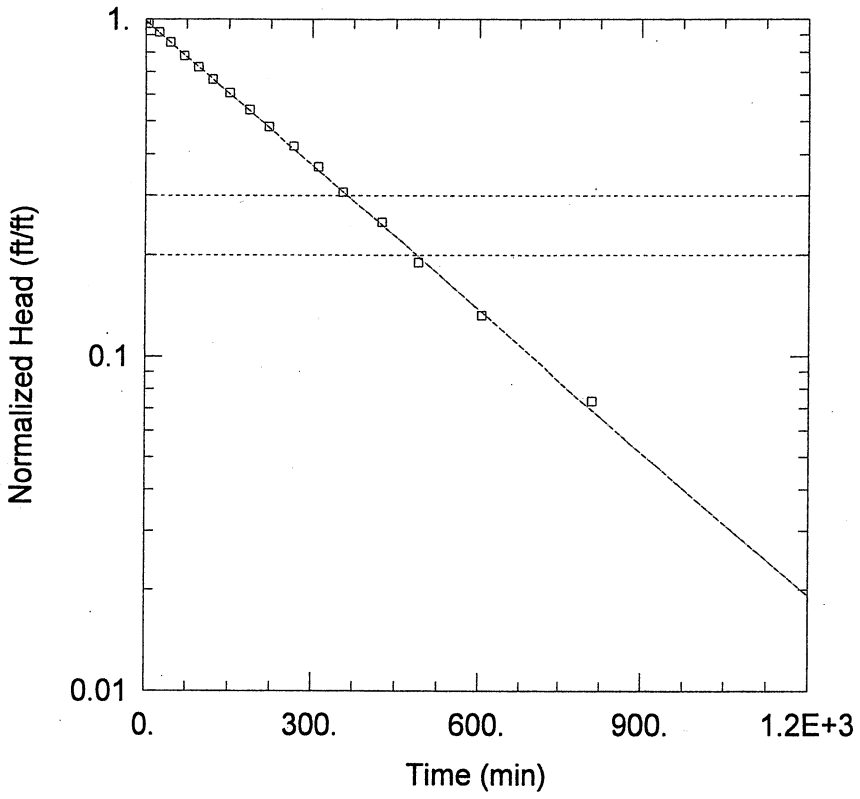
Saturated Thickness: 19.7 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P08-06)

Initial Displacement: 0.9 ft
Total Well Penetration Depth: 10.4 ft
Casing Radius: 0.042 ft
Static Water Column Height: 10.4 ft
Screen Length: 2. ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.623E-6 cm/sec
y0 = 0.9058 ft



P-08-07

Data Set: \\Aserver\cfs\Casella\OldTownLandfill\Hydraulic Conductivity\P08-07_BR.aqt
Date: 08/05/08 Time: 10:33:10

PROJECT INFORMATION

Client: Casella
Project: 08097.01
Location: JRLF - Old Town, ME
Test Date: 07/29/08

AQUIFER DATA

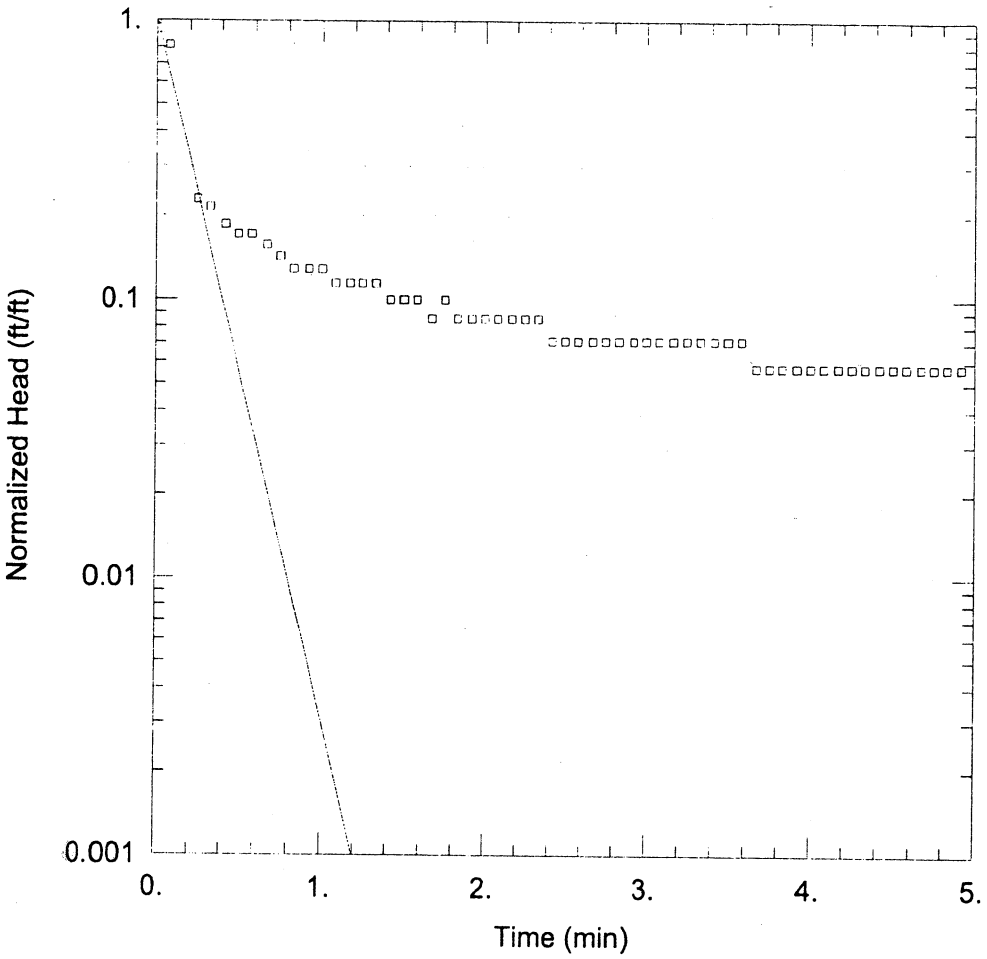
Saturated Thickness: 12.1 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P08-07)

Initial Displacement: 0.693 ft
Total Well Penetration Depth: 8.94 ft
Casing Radius: 0.042 ft
Static Water Column Height: 8.94 ft
Screen Length: 2. ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.374E-6 cm/sec
y0 = 0.6876 ft



MW-0601 SLUG TEST #1

Data Set: \...\MW-0601 #1.aqt
Date: 09/27/06 Time: 13:31:06

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: MW-0601
Test Date: 4/20/06

AQUIFER DATA

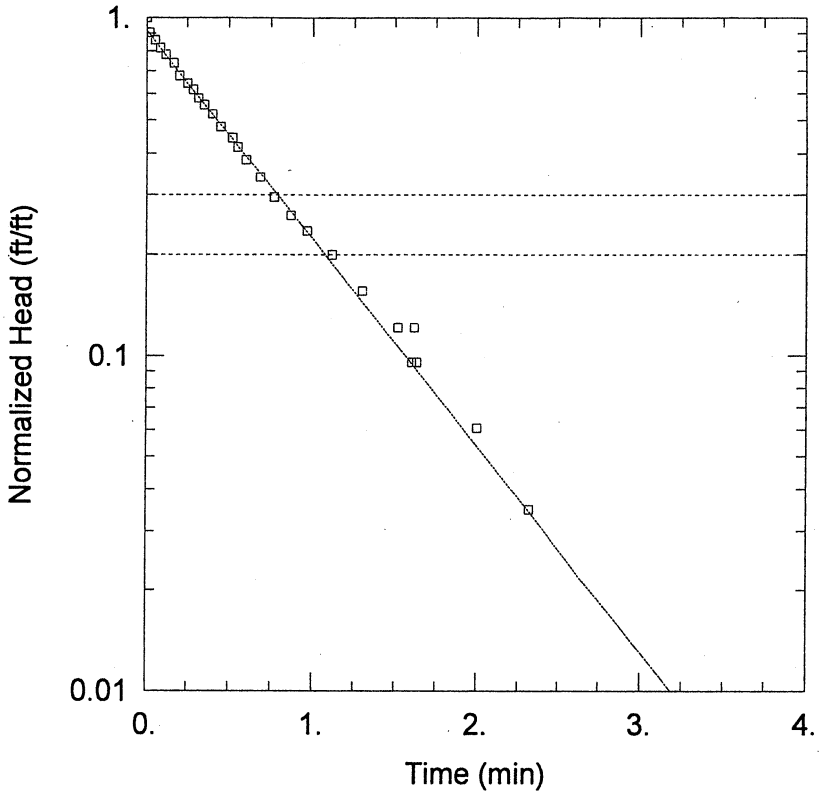
Saturated Thickness: 12.2 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-0601)

Initial Displacement: 0.7 ft
Total Well Penetration Depth: 23.5 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 23.5 ft
Screen Length: 12.2 ft
Wellbore Radius: 0.167 ft

SOLUTION

Aquifer Model: Unconfined
K = 0.003111 cm/sec
Solution Method: Bouwer-Rice
y0 = 0.7218 ft



P-08-03A

Data Set: \\Aserver\cfs\Casella\OldTownLandfill\Hydraulic Conductivity\P08-03A_BR.aqt
Date: 08/05/08 Time: 10:19:12

PROJECT INFORMATION

Client: Casella
Project: 08097.01
Location: JRLF - Old Town, ME
Test Date: 07/30/08

AQUIFER DATA

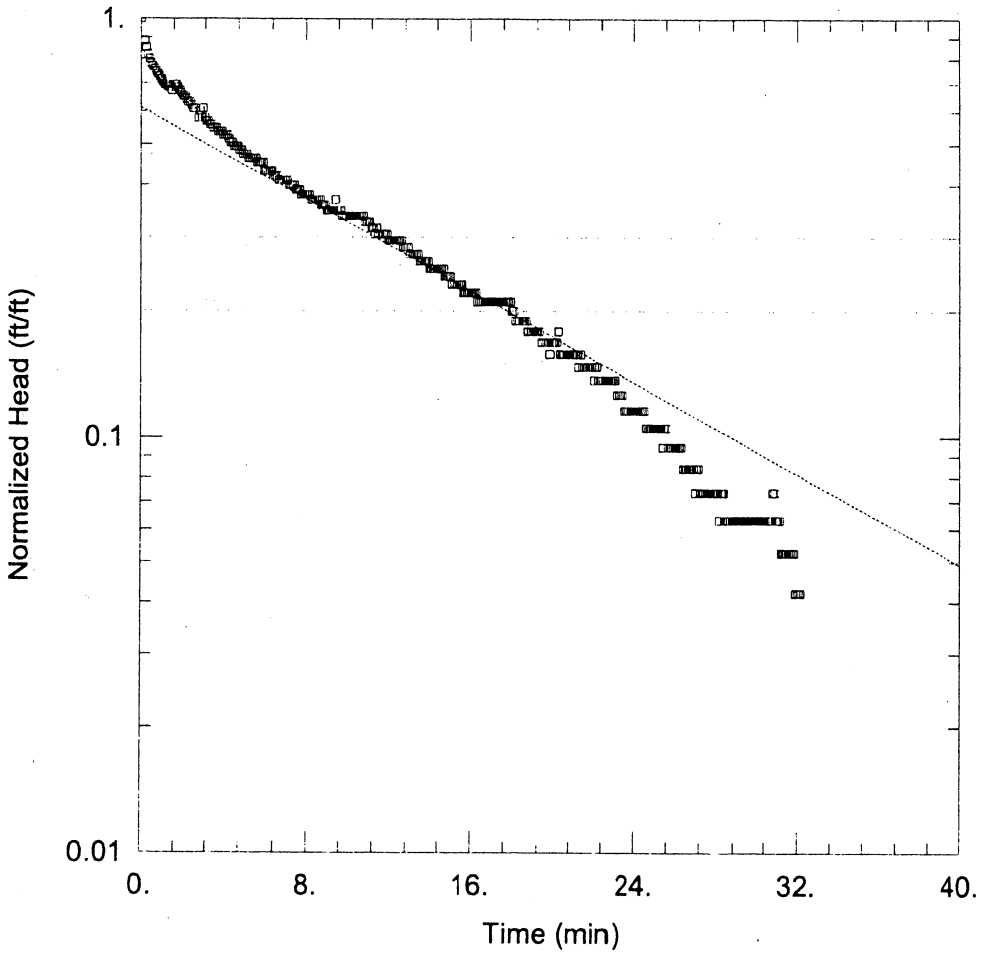
Saturated Thickness: 13. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P08-03A)

Initial Displacement: 1.15 ft
Total Well Penetration Depth: 13. ft
Casing Radius: 0.042 ft
Static Water Column Height: 13. ft
Screen Length: 2. ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0008285 cm/sec
y0 = 1.057 ft



P-04-07C SLUG TEST

Data Set: \...\P-04-07C.aqt
Date: 09/27/06 Time: 13:06:14

PROJECT INFORMATION

Company: SME
Client: CASELLA
Project: 05055.00
Location: WOTL
Test Well: P-04-07C
Test Date: 4/20/06

AQUIFER DATA

Saturated Thickness: 1.7 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-04-07C)

Initial Displacement: 0.95 ft
Total Well Penetration Depth: 5.3 ft
Casing Radius: 0.0313 ft
Static Water Column Height: 5.3 ft
Screen Length: 1.7 ft
Wellbore Radius: 0.188 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.984E-5 cm/sec
y0 = 0.5822 ft

APPENDIX H

MEDEP MARCH 29, 2024, MEMORANDUM "REVISED RESPONSE TO MEDEP PROPOSED EXPANSION PRELIMINARY INFORMATION REPORT REVIEW COMMENTS" PHASE II EXPANSION

SME FEBRUARY 26, 2024, LETTER "REVISED RESPONSE TO MEDEP PHASE II EXPANSION PRELIMINARY INFORMATION REPORT REVIEW COMMENTS"

SME
SEVEE & MAHER
ENGINEERS

State of Maine
Department of Environmental Protection
Bureau of Remediation and Waste Management
Division of Technical Services

MEMORANDUM

TO: Karen Knuuti, Project Manager
Solid Waste Division

FROM: Sean Dougherty, Project Hydrogeologist, GE#504
Division of Technical Services

DATE: March 29, 2024

SITE: Juniper Ridge Landfill, Old Town (EGAD #31339)

RE: Revised Response to MEDEP Proposed Expansion Preliminary Information Report Review Comments, Juniper Ridge Landfill, February 26, 2024
Sevee & Maher Engineers (SME)

I have reviewed the Revised Response to MEDEP Proposed Expansion Preliminary Information Report Review Comments for the Juniper Ridge Landfill, as submitted by SME. In particular I reviewed additional information provided relating to the 06-096 C.M.R. ch. 401,§1(C)(3) restrictive siting criterion:

The area within the solid waste boundary must be located on soils that contain sufficient fines and clay-size particles to minimize infiltration of leachate. The in-situ soils must have an undisturbed hydraulic conductivity less than or equal to 1 x 10-5 cm/sec.

SME has provided information using two additional methods of evaluating the in-situ hydraulic conductivity of soils within the footprint of the proposed landfill expansion. As recommended by DEP, only hydraulic conductivity data collected from investigation locations within the landfill expansion footprint were used for these evaluations and only in-situ testing results were used, laboratory hydraulic conductivity data was not included in these evaluations. Both hydraulic conductivity evaluation methods yielded results below the 1 x 10^{-5} cm/sec threshold and yielded similar results, which provides additional confidence.

Based on the information provided in the subject letter report I believe that SME has adequately demonstrated, for the purposes of the proposed landfill expansion preliminary investigation, that soils within the landfill expansion footprint meet the restrictive siting criterion above.

Feel free to contact me if you have any questions regarding this memo.

Sincerely,

Sean Dougherty, GE#504

Cc. Kathy Tarbuck

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@sme-engineers.com
sme-engineers.com

February 26, 2024

Karen Knuuti
Environmental Specialist
Bureau of Remediation and Waste Management
Maine Department of Environmental Protection
106 Hogan Road
Bangor, ME 04401

Subject: Juniper Ridge Landfill
Revised Response to MEDEP Proposed Expansion Preliminary Information Report Review Comments

Dear Karen:

The Maine Department of Environmental Protection (MEDEP) emailed a letter to Sevee & Maher Engineers, Inc. (SME) on November 6, 2023, regarding review of the proposed Expansion Preliminary Information Report (PIR) that was submitted on August 30, 2023. The letter noted the proposed Expansion was environmentally feasible and met the prohibitive siting criteria of 06-096 C.M.R. ch. 401, §1(C)(2). The letter was sent with two memorandums dated September 21, 2023 and October 16, 2023 that contained the PIR review comments from the project hydrogeologist and senior environmental engineer, respectively.

On behalf of NEWSME Landfill Operations, LLC, SME reviewed the documents sent by the MEDEP and this response letter has been prepared to address specific items noted in the two memorandums.

For your convenience, MEDEP's comments are shown in bold and are followed by SME's responses.

MEMORANDUM #1 - PREPARED BY SEAN DOUGHERTY, PROJECT HYDROGEOLOGIST, DATED SEPTEMBER 21, 2023

No. 1, Review Findings: Based on available information, a variance may need to be obtained for the restrictive sitting criterion: *The area within the solid waste boundary must be located on soils that contain sufficient fines and clay-size particles to minimize infiltration of leachate. The in-situ soils must have an undisturbed hydraulic conductivity less than or equal to 1 x 10-5 cm/sec*. See section 3.2, item 2, for discussion of this criterion.

SME's Response: SME and NEWSME maintain that a variance is not needed since the site soils meet the restrictive siting criterion and have an undisturbed hydraulic conductivity less than or equal to 1 x 10-5 cm/sec. Please see response for Section 3.2, item 2, for further discussion, and please see the memorandum provided in Attachment 1 for a detailed demonstration that the soils within the proposed Expansion meet the landfill siting criteria.

No. 3.2.1.(v), Evaluation of Siting Criteria, Restrictive Siting Criteria: The following set-back must be maintained - A minimum 100 foot setback between the waste handling area and classified surface water. According to the PIR the nearest surface waters are unnamed tributaries to Pushaw Stream, located approximately 1,580 feet from the proposed landfill expansion area.

Section 7.2.1-Minimum Setback Requirements, item 5 of the PIR states that the distance to the tributary of Pushaw Stream is approximately 1,480 feet. I believe this is a typo, as the distance provided in the rest of the PIR is 1,580 feet. Both distances are well beyond the 100 foot minimum setback.

SME's Response: The nearest surface waters are unnamed tributaries to Pushaw Stream, located approximately 1,580 feet from the proposed landfill expansion area. The distance 1,480 feet is a typo and this information will be corrected prior to be being submitted as part of future documentation.

No. 3.2.2, Evaluation of Siting Criteria, Restrictive Siting Criteria B: The area within the solid waste boundary must be located on soils that contain sufficient fines and clay-size particles to minimize infiltration of leachate. The in-situ soils must have an undisturbed hydraulic conductivity less than or equal to 1 x 10-5 cm/sec.

Soils within the proposed landfill expansion footprint are primarily characterized as basal till. The reported geometric mean hydraulic conductivity of tested site soils characterized as basal till is 9.4 x 10-6 cm/sec, which is below the 1 x 10-5 cm/sec threshold. For the purposes of this proposed landfill expansion project, I believe it is more appropriate to only look at information collected from locations within the proposed expansion footprint. Based on the results of slug tests performed using overburden monitoring wells installed within the footprint of the proposed landfill expansion area, the hydraulic conductivity of soil within the expansion area ranges from 1.5 x 10-4 to 3.2 x 10-7 cm/sec. Therefore, it appears that soils exist within the proposed landfill expansion area that have undisturbed hydraulic conductivities greater than 1 x 10-5 cm/sec. According to my calculations, the geometric mean hydraulic conductivity of measured soils within the proposed landfill expansion area is approximately 1.6 x 10-5 cm/sec which exceeds the 1 x 10-5 cm/sec threshold. The geometric mean is appropriate for application to non-normally distributed data. The reported hydraulic conductivity data appears to follow an approximate lognormal distribution.

Groundwater tracer testing conducted in the glacial till yielded reported horizontal groundwater velocities in the 10 to 24 ft/yr range. Using the reported average effective porosity of 0.25 for the basal till and a hydraulic gradient of 0.02 (estimated from profile C-C') these groundwater velocities translate to an estimated hydraulic conductivity range of 1 x 10-4 to 3 x 10-4 cm/sec. These estimated hydraulic conductivity values exceed the 1 x 10-5 cm/sec threshold and are generally higher than the hydraulic conductivity values measured in these wells during the slug testing.

Laboratory hydraulic conductivity testing was performed on soils collected from three borings located within the footprint of the proposed landfill expansion area (B-08-01, B-08-02, B-08-03). The resulting hydraulic conductivity values range from 6.2 x 10-7 to 7.0 x 10-8 cm/sec. While these test results provide good supporting information they are not technically results from undisturbed in-situ soils;

therefore, I did not include these results in my hydraulic conductivity calculations relative to this restrictive siting criterion.

Given the number of hydraulic conductivity measurements made within the subject project area using different methods, the proposed landfill expansion area appears to be adequately characterized for the purposes of satisfying this restrictive siting criterion. Though the resulting hydraulic conductivity values vary somewhat depending on the measurement method; overall, the reported hydraulic conductivities fall within a reasonable range of just over three orders of magnitude. Though hydraulic conductivity values calculated based on measured/estimated groundwater velocities are somewhat higher than those measured during the slug testing, they are still within a reasonable range. Taking these values into account results in a geometric mean hydraulic conductivity for the proposed landfill expansion area of approximately 1.9 x 10-5 cm/sec, which exceeds the threshold of 1 x 10-5 cm/sec. Based on this information, a variance may need to be obtained for this restrictive siting criterion.

SME's Response: As noted in MEDEP comments, the reported geometric mean of site-wide basal till soils is 9.4 x 10^{-6} cm/sec, less than the restrictive siting criterion for in-situ soils. Also as noted, the in-situ measurements that contributed to this geometric mean include soils both within and outside the footprint of proposed landfill expansion. Following further discussion with MEDEP representatives, SME calculated the in-situ hydraulic conductivity of basal till soils using only measurements from within the footprint of the proposed expansion. To account for potential spatial bias from closely-spaced hydraulic conductivity measurements, SME used one median value representing six closely-spaced measurement locations (MW-04-111, MW-05-01, MW-05-02, MW-05-03, MW-05-04, and MW-05-05). These measurements were collected from instruments located within approximately 30 feet of each other (please refer to Figure 3-1 in the PIR), and all are screened in similar zones (i.e., 10 to 15 feet below ground surface). Using the median value for the six closely-spaced monitoring instruments coupled with eight additional measurements widely spaced throughout the proposed expansion area, the resulting geometric mean in-situ hydraulic conductivity of basal till within the proposed expansion is 8.5 x 10^{-6} [(1)]cm/sec. This value is less than the threshold of 1x10^{-5} cm/sec and provides a secondary and conservative method of confirming the 9.4 x 10^{-6} cm/sec value previously documented. The following table provides a summary of this assessment.

[1] The median value was chosen to reflect the central tendency, since the six in-situ hydraulic conductivity measurements vary over an order of magnitude. Calculations using the arithmetic and geometric mean values in place of the median for the six co-located instruments produced similar geometric mean values for basal till hydraulic conductivity (8.61 x 10-6 and 8.33 x 10-6 cm/sec, respectively).

Instrument Designation	Screened Geologic Unit	Sand Pack Interval (ft-bgs)	Slug Test Hydraulic Conductivity (cm/sec)	Geometric Mean (cm/sec)
Median of six co-located instruments MW-04-111 and MW-05-01 to MW-05-05	Basal Till	10 to 15	6.05E-05	**8.52E-06**
P-04-08A	Basal Till	38.5 to 39.5	3.20E-07	
P-04-08B	Basal Till	15.5 to 16.5	1.90E-06	
P-04-09B	Basal Till	14 to 15	3.50E-05	
P-04-10B	Basal Till	8.2 to 9.2	5.10E-05	
P-04-11A	Basal Till	48.5 to 49.5	3.20E-05	
P-04-11B	Basal Till	10 to 12	1.90E-05	
P-08-03B	Basal Till	3.3 to 5.3	1.10E-06	
P-08-04A	Basal Till	5.2 to 7.2	5.40E-06	

SME and NEWSME maintain that a variance is not needed given that the site soils meet the restrictive siting criterion that in-situ soils must have an undisturbed hydraulic conductivity less than or equal to 1 x 10^{-5} cm/sec. Please see the memorandum provided in Attachment 1 for a detailed assessment of hydraulic conductivity, including a demonstration that the soils within the proposed Expansion meet the landfill siting criteria.

MEMORANDUM #2 - PREPARED BY KATHLEEN TARBUCK, SENIOR ENVIRONMENTAL ENGINEER, DATED OCTOBER 16, 2023

No. 2: The footer of the document states that the name of the file is DRAFT, but it is understood that this is the formal submittal and has not been submitted as a draft.

SME's Response: Correct, the word "draft" should have been removed.

No. 3: Section 5.1.3 Groundwater Depth (page 5-7, pdf page 67). The last paragraph in this section addresses underdrains and upward groundwater seepage due to the landfill base grade being near or into the water table. The design in and around the locations of the shallow water table will need to be properly engineered for both construction and operational conditions in accordance with MEDEP regulations and appropriate engineering practices.

SME's Response: SME understands the challenges posed by shallow water tables within the limits of a landfill and have experience designing underdrain systems to control water expressed in these areas so that the overlying liner system can be constructed. The underdrain system typically consists of sand, stone, geotextile fabric and drainage piping. If necessary, designs for underdrain systems will be included as part of the permit application for the Expansion.

No. 4: Section 7.2.2 In-Situ Soils with Undisturbed Hydraulic Conductivity Less Than or Equal to 1x10-5 cm/sec (page 7-3, pdf page 89). The information and locations utilized to calculate the geometric mean hydraulic conductivity of the on-site glacial tills may need further review and discussion to

determine if a variance will be required, as stated in the September 21, 2023 review memorandum from Sean Dougherty, MEDEP Project Hydrogeologist.

SME's Response: As noted in response to Section 3.2, item 2, above, SME and NEWSME maintain that a variance is not needed given that the site soils meet the restrictive siting criterion that in-situ soils must have an undisturbed hydraulic conductivity less than or equal to 1×10^{-5} cm/sec. Please see the memorandum provided in Attachment 1 for a detailed assessment of hydraulic conductivity, including a demonstration that the soils within the proposed Expansion meet the landfill siting criteria. The additional assessment provided in response to Section 3.2, item 2, above, provides a secondary and conservative method of confirming the 9.4×10^{-6} cm/sec value previously documented.

Should you have any additional questions, please feel free to contact us directly.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Lisa Turner, P.E., L.S.S.
Project Manager

Attachment

Electronic cc: Kathy Tarbuck, MEDEP
Wayne Boyd, NEWSME
Jeffrey Pelletier, NEWSME
Dave Russell, City of Old Town
Bill Longfellow, Maine Dept of Administrative and Financial Services
Lane Gould, Maine Dept of Administrative and Financial Services

ATTACHMENT 1

MEMORANDUM PREPARED BY SME REGARDING BASAL TILL HYDRAULIC CONDUCTIVITY AT THE PROPOSED JUNIPER RIDGE LANDFILL EXPANSION

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

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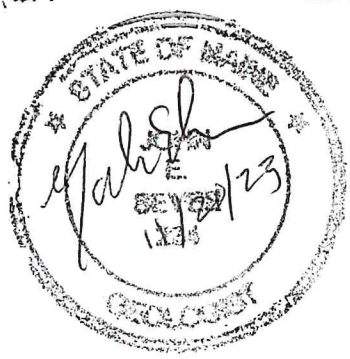


MEMO TO: Rhonda Forrester

CC: Brian Pierce, Peter Maher

FROM: John Sevee, P.E., L.G.

DATE: November 20, 2023

SUBJECT **BASAL TILL HYDRAULIC CONDUCTIVITY AT THE PROPOSED JUNIPER RIDGE LANDFILL EXPANSION**

The principal geologic formation that underlies the proposed landfill expansion area is a dense and low-permeability basal till deposit. This is the same geologic deposit that underlies the existing Juniper Ridge Landfill. There were 14 in situ slug tests performed in the basal till within the currently proposed expansion area that showed hydraulic conductivities ranging from 3.2×10^{-7} to 1.5×10^{-4} cm/s. Such variation in slug test results is common to Maine basal tills. The hydraulic conductivity variation is a result of the natural variations in the soil texture of the basal till formation. However, to understand the hydraulic behavior of the bulk basal till deposit, the collected measurements have to be analyzed in the context of the geologic setting and basal till characteristics. This memo presents a refinement in utilizing the in-situ slug test data to more accurately describe the basal till's hydraulic properties across the landfill expansion site.

Variation in the till's hydraulic conductivity is a result of the layered or stratified structure of the basal till formation. The textural variation becomes obvious when examining the grain size analyses of the till as documented in Appendix O of the 2015 Juniper Ridge Landfill Expansion (SME, 2015). The measured fines contents (i.e., silt and clay content) of the till ranges from 32 to 95 percent as shown on the grain size curves, suggesting variations in hydraulic conductivity of the deposit.

The random layering of the basal till is referenced in Section 4.1.1 of the same report. The random layering is created by the varying till depositional environments at the base of the glacier. The layered or stratified structure is a result of the glacier movement, that is, the "dragging" and "smearing" of the soils along the base of the migrating glacier. Vertical variations in basal till's soil textures can be visually subtle in a dense, fine-grained till, like at the Juniper Ridge Landfill. But the grain size analyses referenced above confirm this textural variation and layering. Test pits at the Juniper Ridge Landfill were sometimes observed to contain thin, nearly horizontal, discontinuous sandy layers within the basal till. These more-sandy zones enhance the horizontal hydraulic conductivity of the till deposit but have little effect on decreasing the vertical hydraulic conductivity of the bulk deposit. The observed fissile nature of the Juniper Ridge till, as noted on Page 4-10 of the above-referenced report, further confirms the till's depositional "smearing" environment. Fissility aligns clasts within the till and enhances horizontal hydraulic conductivity of the bulk deposit, relative to its vertical hydraulic conductivity. The screens of wells and piezometers that the expansion area's 14 slug tests were performed in are randomly set in the basal till deposit. Thus, the in-situ slug test results vary depending on the soil layer or zone the screen is set in.

The slug test results are documented in Table 3-2 of the 2015 Juniper Ridge Landfill Expansion report (SME, 2015). To analyze the slug test hydraulic conductivities in detail, the log-transformed values are plotted in a histogram to examine their distribution. Logarithmic transformation is used since the data varies over several orders of magnitude; the log-transformation typically results in a normal distribution of the data (de Marsily, 1986; Domenico and Schwartz, 1990). In this case, the histogram shows two distinct maxima, with a minimum in between, suggesting two different hydraulic conductivity populations. The histogram is shown in Attachment 1. The reason for the two separate maxima is that some of the well screens are randomly positioned in the less permeable zones or layers, while some are randomly screened in the more permeable layers. The greater hydraulic conductivity maximum is associated with the more permeable layers or zones in the basal till which control the horizontal hydraulic conductivity of the bulk basal till deposit (Freeze and Cherry, 1979). On the other hand, the lower hydraulic conductivity maximum is controlled by the less permeable layers or zones. This anisotropy is easily visualized since downward moving groundwater is impeded by the less permeable layers or zones, whereas the horizontally moving groundwater takes the path of least resistance along the more permeable layers or zones. Thus, given the layered structure of the basal till and the bimodal histogram, the till within the proposed landfill expansion area appears to be anisotropic with regard to its bulk hydraulic conductivity structure. In our experience, basal tills in Maine typically have this property which, as stated above, is a result of the depositional environment. The geometric mean values can be calculated for both of the histogram maxima. The greater mean is about 4.2 to 5.9 x 10^{-5} cm/s and represents the average horizontal hydraulic conductivity for the till. The lower mean is about 1.4 to 4.2 x 10^{-6} cm/s and represents the vertical hydraulic conductivity. The methods and data used for calculating these results are in Attachment 1. A statistical comparison of these two different means shows them to be distinct and different at a 95 percent confidence level.

Any groundwater migrating through the basal till must move vertically and its movement will be controlled by the less permeable zones. The calculated vertical hydraulic conductivity (1.4 to 4.2 x 10^{-6} cm/s) is less than the MEDEP's 10^{-5} cm/s landfill siting criterion. This analysis supersedes simply taking the geometric average of all the slug test data since it honors the basal till's structure and more accurately describes the bulk till deposit's hydraulic conductivity characteristics.

Groundwater sampling point P-04-06 is located just off the southern edge of the proposed expansion area. It was installed in 2004 to evaluate the vertical travel time of groundwater through the basal till (see Section 3.2.8 of SME, 2015). The location was selected where groundwater travel from the ground surface was essentially vertically downwards towards the underlying bedrock (e.g., see Figure 5-2 of the above-referenced 2015 report). A topographic ridge was selected where the horizontal seepage gradient would be negligible compared to the vertical seepage gradient. A well screen was positioned in the bedrock at the base of the till, from which a groundwater sample was collected, and its age (since entering the ground surface) was determined by using the helium-tritium method (Kazemi, et al, 2006). The travel time was used to calculate the bulk average vertical hydraulic conductivity of the basal till. This technique has been used for decades by USGS and others to calculate groundwater travel times and precipitation recharge in water resource studies (e.g., Solomon, et al, 1995). The age of the groundwater at the base of the till was about 14.15 years. The till at this location is about 28.5 feet thick. Using this information, as well as the measured vertical seepage gradient and effective soil porosity, a vertical hydraulic conductivity of about 1.2 x 10^{-6} cm/s was calculated. The method and data used for calculating these results are presented in Attachment 2. This calculated value is in agreement with the vertical hydraulic conductivity range estimated from the bimodal distribution discussed above (1.4 to 4.2 x 10^{-6}

cm/s). This analysis is a direct measure of the vertical bulk hydraulic conductivity of the basal till and corroborates the vertical hydraulic conductivity calculated from the slug test measurements from within the proposed landfill expansion footprint.

The above findings are consistent with the basal till core sample results (see Table 3-3 in SME, 2015), but are a much more accurate method for calculating the bulk vertical hydraulic conductivity. Thus, both methods presented herein demonstrate the vertical hydraulic conductivity for the basal till within the proposed expansion is less than the landfill siting criterion of 10^{-5} cm/s. Groundwater cannot move through the basal till without encountering this more restrictive vertical hydraulic conductivity.

References:

Cherry, J.A., and R.A. Freeze, 1979. *Groundwater*, Prentice-Hall.

De Marsily, 1986. *Quantitative Hydrogeology*, Academic Press, pp. 80-82.

Domenico, P.A., and F.W. Schwartz, 1990. *Physical and Chemical Hydrogeology*, John Wiley and Sons, pp. 66-67.

Kazemi, G.A., J.H. Lehr, and P. Perrochet, 2006. *Groundwater Age*, John Wiley and Sons

Legget. R.F.(Editor), 1976. *Glacial Till*, Royal Society of Canada, Special Publication No. 12, p. 33.

SME, 2015. *Juniper Ridge Landfill Expansion Application, Volume II, Site Assessment Report*, July 2015.

Solomon, D.K., R.J. Poreda. P.G. Cook, and A. Hunt, 1995. *Site Characterization Using $^{3}H/^{3}He$ Groundwater Ages, Cape Cod, MA*, Groundwater, Vol. 33, Issue 6.

ATTACHMENT 1

CALCULATION OF VERTICAL AND HORIZONTAL HYDRAULIC CONDUCTIVITIES OF BASAL TILL WITH REFERENCES

SME
SEVEE & MAHER
ENGINEERS

PROJECT	COMP. BY	JOB NO.
ESTIMATION OF AVG VERTICAL HC OF BASAL TILL FROM SLUG TEST DATA	CHK. BY	DATE 11/17/23

USE ONLY SLUG TEST DATA FROM EXPANSION AREA. DATA SHOWS BIMODAL DISTRIBUTION. USE ONLY 14 SLUG TESTS, IGNORE CORE TESTS. LOG TRANSFORM ALL DATA SO LOG-NORMAL DISTRIBUTION AND CAN ANALYZE THE DATA. THE HISTOGRAM IS ATTACHED SHOWING UPPER AND LOWER MAXIMA. UPPER MAXIMUM IS HORIZONTAL K_S AND LOWER MAXIMUM IS VERTICAL K_S. DIVIDE DATA BASED ON MAXIMA USING: (1) DIVIDE DATA IN HALF AND (2) DIVIDE BY GEOMETRIC MEAN OF ALL DATA.

METHOD 1:

SET 1 (LOWER MAXIMUM)

$-6.495, -5.721, -5.268, -5.960, -4.721, -4.721, -4.770$

MEAN: $-5.377 = \boxed{4.8 \times 10^{-6} \text{ cm/s}}$

SD: 0.704

n = 7.

SET 2 (UPPER MAXIMUM)

$-4.455, -4.294, -4.103, -4.376, -3.839, -4.495, -4.051$

MEAN: $-4.2297 = \boxed{5.89 \times 10^{-5} \text{ cm/s}}$

SD = 0.241

n = 7

FIRST SET REPRESENTS LESS PERMEABLE TILL LAYERS OR ZONES IN BULK DEPOSIT. THESE CONTROL VERTICAL PERM. SECOND SET IS HORIZONTAL PERM CONTROLLED BY MORE PERMEABLE STRATA. THESE TWO SETS ARE STATISTICALLY INDEPENDENT AT 95% CONFIDENCE AND $K_v \leq 10^{-5}$ cm/sec

PROJECT	COMP. BY	JOB NO.
	CHK. BY	DATE 11/17/23

METHOD 2

SET 1 (LOWER MAXIMUM) $< \bar{K}_s$

$-6.495, -5.721, -5.268, -5.960$

MEAN = -5.861 = 1.38×10^{-6} cm/s

SD = 0.5109

n = 4

SET 2 (UPPER MAXIMUM) $> \bar{K}_s$

$-4.455, -4.294, -4.103, -4.051, -4.721,$
$-4.376, -3.854, -4.770, -4.495, -4.721$

MEAN = -4.352 = 4.45×10^{-5} cm/s

SD = 0.3152

n = 10

AGAIN RESULTS SHOW STATISTICALLY TWO INDEPENDENT RESULTS DUE TO THE LAYERING OF THE TILL STRUCTURE. THE VERTICAL MEAN IS $< 10^{-5}$ cm/s. THE TILL IS ANISOTROPIC. THE RATIO OF K_H TO K_V (BASED ON MEANS) FOR THE TWO METHODS IS 1:1 TO 30 AND FALLS WITHIN RANGE FOR SITE DATA IN TABLE 3-3.

Till samples collected from soil borings and test pits within and adjacent to the Expansion footprint during the site investigations contained fines contents (soil fraction passing the U.S. No. 200 sieve) ranging from 32 to 95 percent with an average of approximately 56 percent. Grain size distribution curves of the basal till samples are plotted in Appendix O. The fines content of the Expansion investigations agreed closely with the grain size analysis results of the basal till analyzed for the permitting of the existing adjacent landfill, which averaged about 55 percent (SME, 1991). The dense nature of the glacial till combined with its high average fines content results in a relatively impervious soil foundation for the Expansion.

The range of fines content and grain size curve shapes suggest a till with varying textures and hydraulic conductivities. These varying textures appear to be random, but have some layered structure. This structure is likely the result of the sub-glacial deposition environment (Legget, 1976). The observed fissility is suggestive of a layering (SME, 1991). The basal till contains occasional, isolated sandy lenses, which have been observed in other Maine tills. The sandy lenses are typically only several feet thick or less. A more extensive sandy zone was encountered outside the southeast corner of the Expansion and the existing landfill. This sandy zone was encountered off the southeast corner of the existing landfill during investigations for the existing landfill MEDEP permit application in 1991. Careful examination of the split-spoon samples of the sandy zone show layers of silty till interbedded with sand layers. The presence of till layers within the sandy zone indicates the sand to be contemporaneous with the till placement.

A boulder zone was also encountered outside the eastern side of the Expansion boundary (e.g., MW-213 and MW-06-01). Both the boulder zone and stratified sand zone are overlain by basal till. The sandy and boulder zones are therefore interpreted as a portion of the drumlin and not part of a post-glacial outwash deposit such as the ones along the Stillwater River east of the JRL. The sandy outwash deposits along the river were laid down after deposition of the basal till, once the glacial ice had retreated further north (Borns and Thompson, 1981). Sandy and bouldery zones within basal till have been described elsewhere (Flint, 1957). Based on the geology, it is unlikely that there would be a direct hydraulic connection between the sandy and boulder zones in the till and the sand and gravel outwash deposits about a mile east of the JRL

TABLE 3-2

IN SITU HYDRAULIC CONDUCTIVITY TEST RESULTS

Instrument Designation	Screened Geologic Unit	Sand Pack Interval (ft-bgs)	Slug Tests Hydraulic Conductivity (cm/sec)	In or Out of Expansion Footprint
P-04-05A	Basal Till	47 - 48	7.2E-06	In
P-04-05B	Basal Till	14 - 15	6.8E-07	In
P-04-06A	Bedrock	42.9 - 43.9	4.9E-05	In
P-04-06B	Basal Till	9 - 10	1.9E-06	In
P-08-06	Basal Till	11.2 - 13.2	1.6E-06	In
P-08-07	Basal Till	10 - 12	1.4E-06	In
MW-207	Bedrock	25 - 30	1.7E-05	In
P-212	Bedrock	31.3 - 36.3	7.8E-06	In
P-225	Basal Till	7.7 - 12.7	2.6E-05	In
MW-304A	Bedrock	29.5 - 39.5	4.8E-03	In
P-04-08A	Basal Till	38.5 - 39.5	3.2E-07	Out
P-04-08B	Basal Till	15.5 - 16.5	1.9E-06	Out
P-04-09A	Bedrock	38 - 39	9.7E-07	Out
P-04-09B	Basal Till	14 - 15	3.5E-05	Out
P-04-10A	Bedrock	33.1 - 34.1	1.4E-03	Out
P-04-10B	Basal Till	8.2 - 9.2	5.1E-05	Out
P-04-11A	Basal Till	48.5 - 49.5	3.2E-05	Out
P-04-11B	Basal Till	9 - 10	1.9E-05	Out
P-04-12A	Bedrock	59 - 64	4.1E-05	Out
P-04-12B	Bedrock	37 - 39	2.7E-04	Out
P-04-12C	Marine Clay	4.3 - 5.3	7.7E-06	Out
P-04-14A	Bedrock	57 - 59	6.6E-03	Out
P-04-14B	Bedrock	14.5 - 16.5	1.3E-03	Out
MW-04-111	Basal Till	10 - 15	7.9E-05	Out
MW-05-01	Basal Till	10 - 15	8.9E-05	Out
MW-05-02	Basal Till	10 - 15	1.9E-05	Out
MW-05-03	Basal Till	10 - 15	4.2E-05	Out
MW-05-04	Basal Till	10 - 15	1.5E-04	Out
MW-05-05	Basal Till	10 - 15	1.7E-05	Out
MW-06-02	Bedrock	25 - 35	4.3E-05	Out
OW-06-05	Bedrock	26.5 - 36.5	2.6E-06	Out
OW-06-06	Bedrock	28 - 38	8.4E-07	Out
OW-06-07	Bedrock	28 - 38	1.5E-06	Out
OW-06-08	Bedrock	24 - 34	3.3E-05	Out
OW-06-09	Bedrock	29 - 39	1.6E-05	Out
OW-06-10	Bedrock	32 - 42	6.7E-06	Out

TABLE 3-2 (cont'd)

Instrument Designation	Screened Geologic Unit	Sand Pack Interval (ft-bgs)	Slug Tests Hydraulic Conductivity (cm/sec)	In or Out of Expansion Footprint
P-08-03B	Basal Till	3.3 - 5.3	1.1E-06	Out
P-08-04A	Basal Till	5.2 - 7.2	5.4E-06	Out
P-04-13A	Bedrock	125.5 - 127.5	1.3E-07	Out
P-04-13B	Bedrock	64 - 66	1.3E-06	Out
P-04-13C	Marine Clay	8 - 9	1.6E-07	Out
MW-06-01	Cobble Zone	10 - 20	3.1E-03	Out
MW-213	Basal Till	14.6 - 19.6	2.4E-05	Out
P-213	Boulder Zone	33.3 - 38.3	9.5E-03	Out
P-04-07A	Bedrock	73 - 83	8.5E-06	Out
P-04-07B	Bedrock	24.5 - 25.5	3.2E-03	Out
P-04-07C	Basal Till/Bedrock	4.3 - 5.3	2.0E-05	Out
MW-223A	Bedrock	28 - 33	2.7E-04	Out
MW-223B	Basal Till	12.6 - 17.6	4.2E-05	Out
MW-227	Basal Till	15 - 20	1.6E-07	Out
MW-301'	Bedrock	146.9 - 182.7	7.0E-07	Out
MW-301'	Bedrock	146.9 - 182.7	6.8E-07	Out
MW-301'	Bedrock	151.7 - 182.7	6.0E-07	Out
MW-301'	Bedrock	161.5 - 182.7	1.2E-06	Out
P-201A	Bedrock	67.7 - 69.7	4.6E-04	Out
P-201D	Basal Till	35 - 40	1.1E-05	Out
P-202A	Bedrock	27.9 - 37.9	5.3E-04	Out
MW-204	Basal Till	13.8 - 18.8	1.0E-05	Out
P-204A	Basal Till	29 - 34	8.8E-06	Out
P-206A	Bedrock	85.5 - 90.5	9.5E-06	Out
P-206B	Washed Till	49.7 - 54.7	2.5E-03	Out
P-206C	Basal Till	6 - 11	1.1E-05	Out
MW-206A	Basal Till	15 - 20	3.4E-07	Out
P-210	Bedrock	20 - 25	2.3E-04	Out
P-211A	Bedrock	5 - 10	4.2E-04	Out
P-211B	Basal Till	16.6 - 21.6	3.5E-05	Out
P-214A	Bedrock	57.2 - 62.2	1.5E-04	Out
P-214B	Basal Till	38.1 - 43.1	1.7E-05	Out
P-214C	Basal Till	11 - 16	1.9E-06	Out
P-215A	Bedrock	28 - 33	3.2E-03	Out
P-215B	Basal Till	7 - 12	4.6E-06	Out
P-216B	Basal Till	5 - 10	3.4E-04	Out
MW-216B	Basal Till	14 - 19	4.9E-05	Out
P-220B	Basal Till	15 - 20	2.3E-05	Out
P-222A	Bedrock	23.7 - 28.7	3.2E-04	Out
P-222B	Basal Till	5.2 - 10.2	1.2E-06	Out
P-226A	Basal Till	20.3 - 25.3	7.8E-06	Out
P-502A	Washed Till	38 - 43	4.6E-03	Out
P-502B	Basal Till	6.3 - 11.3	3.5E-05	Out
P-504A	Washed Till	43 - 48	7.4E-03	Out
Geometric Mean Horizontal Hydraulic Conductivity	**Basal Till**		**9.4E-06**	
	Washed Till		**1.9E-03**	
	Bedrock		**3.5E-05**	

Note:
MW-301 tests were done using a packer system in an open borehole, at the depths indicated.

PROJECT	COMP. BY	JOB NO.
IN SITU PERM TESTS	CHK. BY	DATE 11/16/23

WELL/PIEZO	K (cm/sec)	$\log_{10} K$
P-04-08A	3.2×10^{-7}	-6.495
P-04-08B	1.9×10^{-6}	-5.721
P-04-09B	3.5×10^{-5}	-4.456
P-04-10B	5.1×10^{-5}	-4.292
P-04-11A	3.2×10^{-5}	-4.495
P-04-11B	1.9×10^{-5}	-4.721
~~MW-04-11~~	7.9×10^{-5}	-4.103
MW-05-01	8.9×10^{-5}	-4.051
MW-05-02	1.9×10^{-5}	-4.721
MW-05-03	4.2×10^{-5}	-4.376
~~MW-05-04~~	1.5×10^{-4}	-3.834
MW-05-05	1.7×10^{-5}	-4.770
P-08-03A	1.1×10^{-6}	-5.960
P-08-04A	5.4×10^{-6}	-5.268

ORDERED BY MAGNITUDE:

-6.495
-5.960
-5.721
-5.268
-4.770
-4.721
-4.721
-4.495
-4.456
-4.376
-4.292
-4.103
-4.051
-3.834

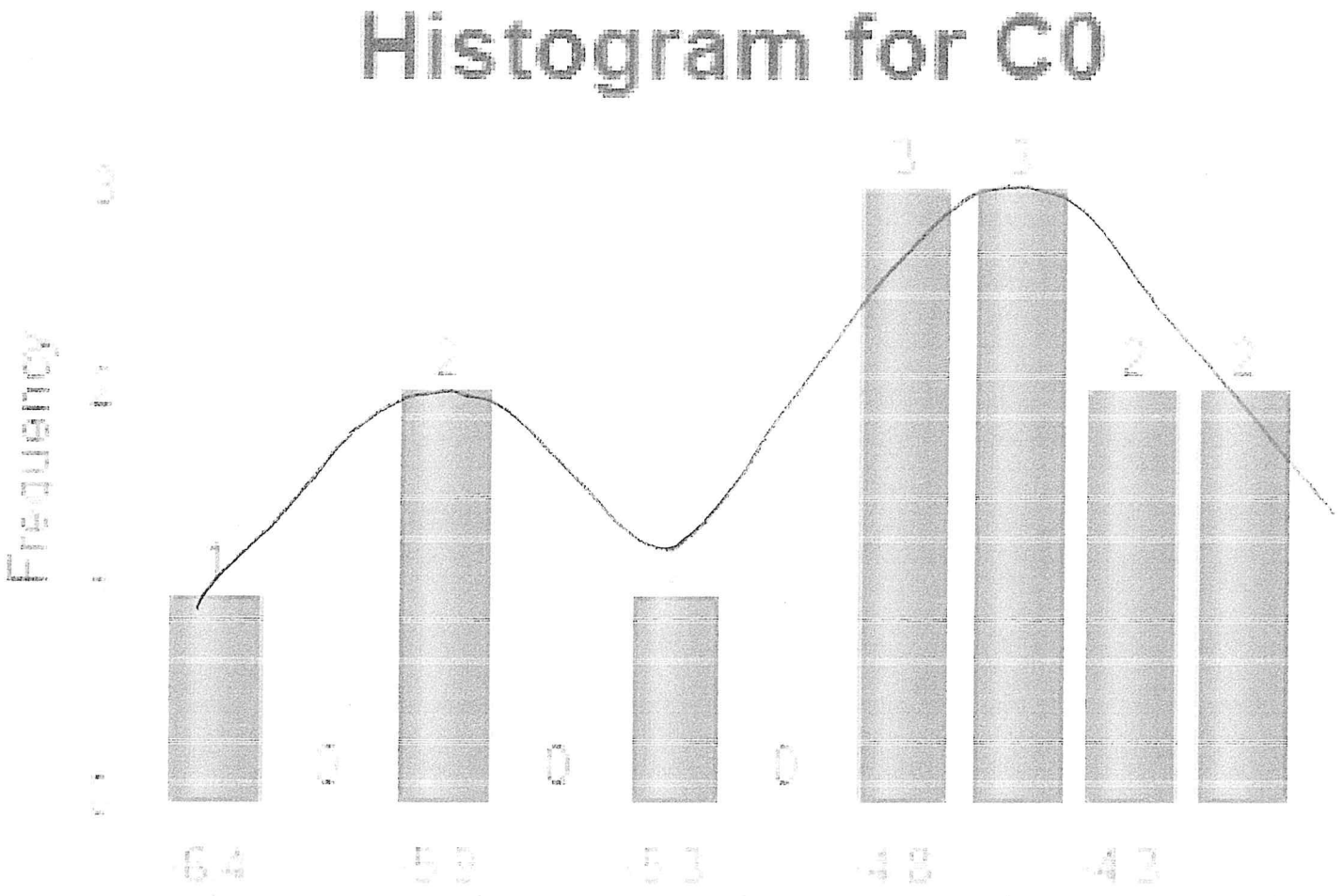

Histogram for C0
Frequency
1
2
0
0
1
1
2
2
64
56
48
40

TABLE 3-3

TILL HYDRAULIC PROPERTIES

Geologic Unit	Location	Soil Sample No.	Sample or Test Depth (ft)			Hydraulic Conductivity (cm/sec)		K_H/K_V Ratio	Passing U.S. No. 200 Sieve Size (%)	Dry Density (pcf)	Total Porosity (from dry density)	Water Content (%)	Total Porosity (from water content)[4]
						Field [1]	Lab [2]						
Brown Basal Till	B-08-02	1S	11	-	12.4	-	7.0×10^{-8}		84	125.3	0.28	3.6[5]	0.09
		-	3.3	-	5.3	1.1×10^{-6}			-				
	B-08-03	2S[3]	14.8	-	15.5	-	6.2×10^{-7}		45	131.3	0.24	9.8	0.21
	B-08-04	1S	7	-	7.8	5.4×10^{-6}	1.8×10^{-6}	3	54	116.5	0.33	14.2	0.28
	B-08-05	1S	7.5	-	9	-	5.2×10^{-7}		59	127.3	0.26	12.4	0.26
	B-08-06	1S	13	-	14	1.6×10^{-6}	6.6×10^{-8}	24	42	127.5	0.26	11	0.23
	B-08-07	1S	10	-	11.3	1.4×10^{-6}	2.9×10^{-8}	48	55	128.9	0.25	11	0.23
	B-08-09	1S	10.8	-	11.3	-	3.0×10^{-7}		45	125.7	0.27	12.8	0.26
	B-08-10	1S	11	-	12.5	-	2.4×10^{-8}		62	123.4	0.29	13.7	0.28
	B-04-05	1R	34.6	-	35.8	-	5.5×10^{-7}		45	122.8	0.29	9.6	0.21
	B-207	4D	6.5	-	7	-	1.2×10^{-7}			125	0.28	-	-
Gray Basal Till		1S	16.6	-	17.8	-	1.6×10^{-7}		52	114.7	0.34	11.9	0.25
	B-08-01	2S	18.3	-	19.3	-	1.1×10^{-7}		57	123.5	0.29	11.9	0.25
	B-08-10	3S	15.5	-	17	-	4.1×10^{-8}		59	119.7	0.31	12.9	0.26
Basal Till: Geometric Mean Vertical Hydraulic Conductivity							1.5×10^{-7}	63[6]					
Washed Till Zone	B-08-03	2S[3]	15.5	-	16.3	8.3×10^{-4}	1.1×10^{-5}	75	30	-	-	7.9[5]	0.18

Notes:

1. Field hydraulic conductivity is interpreted to be representative of local horizontal hydraulic conductivity of till derived from in situ slug test.
2. Lab hydraulic conductivity is interpreted to be representative of local vertical hydraulic conductivity of till as derived from vertically-oriented, undisturbed samples collected according to ASTM D 5084.
3. Upper portion of tube contained basal till, lower portion contained a washed sandy till zone.
4. Using measured specific gravity of 2.77.
5. Unsaturated water content.
6. K_H/K_V ratio uses geometric mean values for Basal Till.

ATTACHMENT 2

MEASURED VERTICAL HYDRAULIC CONDUCTIVITY OF BASAL TILL WITH REFERENCES

SME
SEVEE & MAHER
ENGINEERS

PROJECT	COMP. BY	JOB NO.
CALCULATION OF AVG. VERTICAL H.C. FROM G.W. AGE DATA	CHK. BY	DATE 11/17/23

P-04-06 WAS POSITIONED WERE GROUNDWATER IS ON A RIDGE. THIS CONDITION IMPLIES DOWNWARD SEEPAGE GRADIENT (SEE PROFILE B-B' OF FIG 5-2). THE DOWNWARD GRADIENT WAS CALCULATED AT 0.405 ft/ft IN TABLE 5T-1. THE TILL THICKNESS AT P-04-06 IS 28.5 ft BASED ON BORING LOG. AGE OF GROUNDWATER AT BASE OF TILL WAS 14.15 years (APPENDIX I). REFERENCES ARE TO 2015 JRL LANDFILL EXPASION REPORT, VOL III BY SME.

AVG GW VELOCITY THRU TILL SINCE GRADIENT IS ESSENTIALLY VERTICALLY DOWNWARD:

$$v = \frac{\text{Dist}}{\text{AGE}} = \frac{28.5\ \text{ft}}{14.15\ \text{yr}} = 2.01\ \text{ft/yr} = 5.51 \times 10^{-3}\ \text{ft/day}$$

VERTICAL HC CAN BE CALCULATED FROM DARCY'S LAW. POROSITY OF BASAL TILL WAS MEASURED AT 0.25 (SECTION 3.3.6).

$$v = \frac{ki}{n} \Rightarrow k = \frac{vn}{i}$$

$$k_v = \frac{5.51 \times 10^{-3}\ \text{ft/day} \cdot 0.25}{0.405} = 3.40 \times 10^{-3}\ \text{ft/day}$$

$$= \boxed{1.21 \times 10^{-4}\ \text{cm/sec}} \quad < 10^{-5}\ \text{cm/sec CRITERION}$$

ALL REFERENCES ARE TO 2015 JRL EXPASION REPORT BY SME. COPIES OF REFERENCES ATTACHED.

PROJECT	COMP. BY DSS	JOB NO.
	CHK. BY	DATE 11/17/23

2/2

SINCE THE WELL THAT WAS USED TO SAMPLE FOR TRITIUM IS ABOUT 15 ft INTO THE BEDROCK, CHECK TRAVEL TIME IN ROCK FROM BASE OF TILL. AVG PERM OF ROCK 7.0×10^{-5} cm/sec (VERT) (TABLE 5-2). AVG POROSITY OF BEDROCK 0.001 (SECTION 5.2.4). USE DARCY'S LAW TO CALCULATE G-W VELOCITY

$$v = \frac{Ki}{n} = \frac{7.0\times10^{-5}\ \text{cm/sec} \cdot i}{0.001} = 7.0\times10^{-2}\ \text{cm/s} \times i$$

i IS DERIVED FROM VERTICAL POTENTIOMETRIC PROFILE IN FIG 5-2. USED 200 ft AND 195 ft CONTOURS IN FIG 5-2.

$$i = \frac{200-195\ \text{ft}}{\sim 40\ \text{ft}} = 0.125\ \text{ft/ft}$$

$$v = 7.0\times10^{-2}\ \text{cm/s} \cdot 0.125\ \text{ft/ft} = 8.75\times10^{-3}\ \text{cm/sec}$$

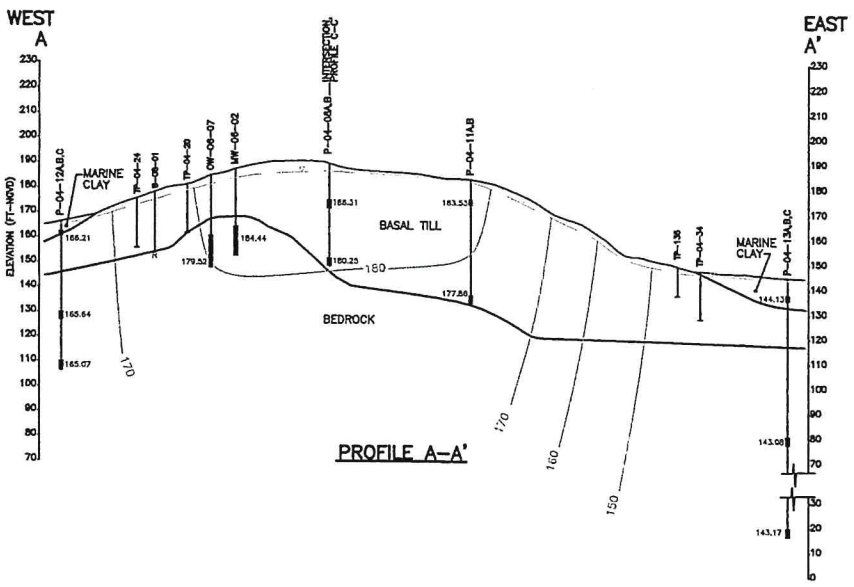
$$= 24.5\ \text{ft/day}$$

THE DISTANCE OF TRAVEL THRU ROCK IS ABOUT 15 ft FROM BORING LOG.

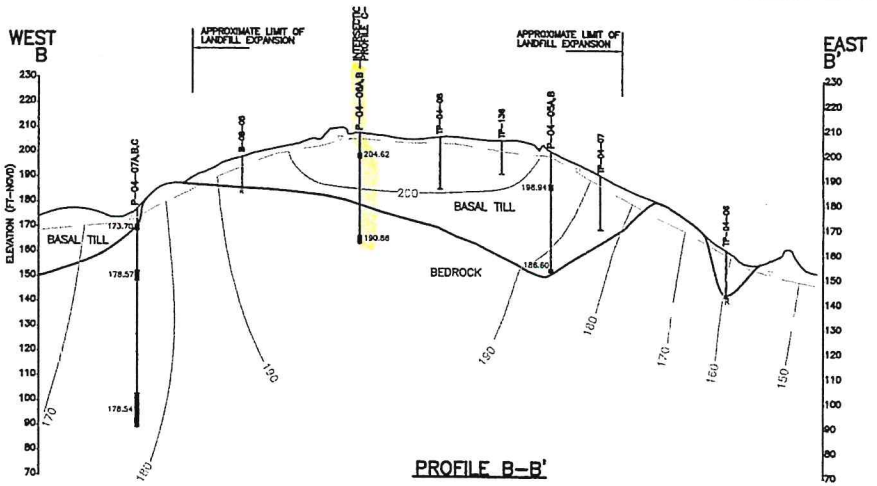
$$t = \frac{\text{Dist}}{\text{vel.}} = \frac{15\ \text{ft}}{24.5\ \text{ft/dy}} = \boxed{1 < 1\ \text{day}}$$

THIS IS NEGIGIBLE COMPARED TO 14.15 yr TRAVEL TIME THRU TILL. IGNORE.

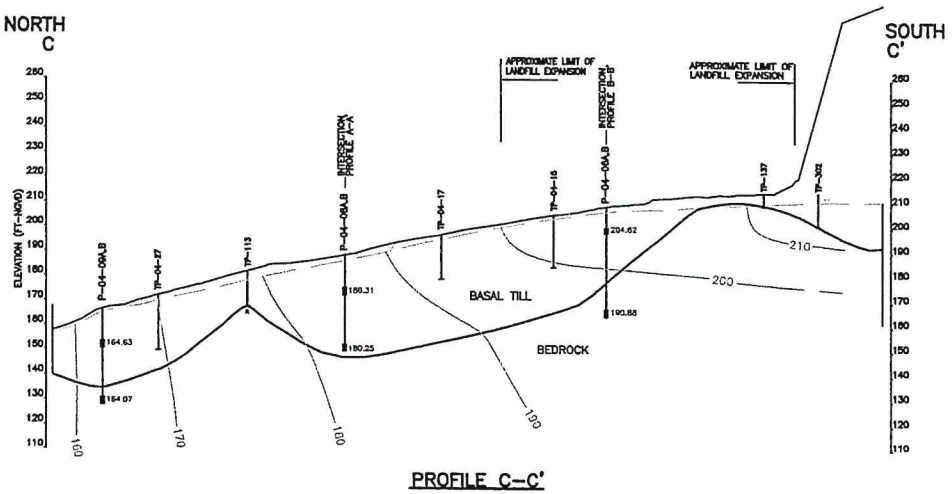
ALL REFERENCES ARE TO LRL EXPANSION REPORT 2015 BY SME



PROFILE A–A'



PROFILE B–B'



PROFILE C–C'

LEGEND

TP-04-06 / MW-06-02 — LANDFILL BASEGRADES

INTERPRETED WET-SEASON PHREATIC SURFACE ELEVATION (SPRING 2007 OR 2008)

TEST PIT (TP) EXCAVATION

GROUNDWATER ELEVATION IN FEET-NGVD 184.44

PIEZOMETER (P)/MONITORING WELL (MW) SCREEN INTERVAL

R — REFUSAL

170 — INTERPRETIVE GROUNDWATER EQUIPOTENTIAL CONTOUR IN FEET-NGVD

NOTES

1. GEOLOGIC UNITS ARE SHOWN SCHEMATICALLY. FIGURE SHOULD NOT BE USED FOR ENGINEERING DESIGN,QUANTITY TAKE-OFFS, GRADES, ETC.

2. THE GEOLOGIC UNITS REPRESENT AN INTERPRETATION OF THE TEST PIT AND BORING RESULTS. CONDITIONS MAY VARY FROM THAT SHOWN BETWEEN THE EXPLORATIONS. BOUNDARIES BETWEEN VARIOUS GEOLOGIC UNITS MAY VARY FROM THAT SHOWN AND MAY BE GRADATIONAL.

3. GROUND SURFACE TOPOGRAPHY TAKEN FROM DECEMBER 31, 2014 TOPOGRAPHIC MAP.

4. VERTICAL EXAGGERATION OF PROFILES IS 10 TO 1.

5. SEE FIGURE 3-1 FOR PROFILE LOCATIONS.

HORIZONTAL SCALE
250 0 500 FEET

GEOLOGIC LEGEND

MARINE CLAY – SOFT TO STIFF – GRAY TO BROWNISH GRAY SILTY CLAY WITH OCCASIONAL DISCONTINUOUS FINE SAND LENSES

BASAL TILL – VERY DENSE – COBBLY GRAVELLY SANDY SILTY-CLAY TO VERY SILTY SAND WITH FEW BOULDERS. RARE DISCONTINUOUS AND THIN (I.E.LESS THAN FEW INCHES THICK) SAND LENSES. RANDOMLY FISSILE THROUGHOUT. UPPER FEW FEET WEATHERED AND FRACTURED DUE TO FROST ACTION. TYPICALLY BROWNISH IN COLOR NEAR GROUND SURFACE AND JUST ABOVE BEDROCK. OCCASIONALLY GRAY IN DEEPER SOIL AREAS. BECOMING INTERBEDDED WITH SAND LENSES NEAR BEDROCK SURFACE IN SOME PLACES.

BEDROCK – INTERBEDDED METASILTSTONE, METAGRAYWACKE AND PHYLLITE. OCCASIONAL FRACTURES, TYPICALLY UNWEATHERED, BUT OCCASIONAL WEATHERED ZONES.

FIGURE 5-2
INTERPRETIVE WET-SEASON VERTICAL EQUIPOTENTIAL PROFILES
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL · CIVIL · GEOTECHNICAL · WATER · COMPLIANCE

DWG:P-Section-Hydrogeo LMN:EQUIPOTENTIAL-WET CTB: SME-STD REV: 5/27/15

TABLE 5-1

VERTICAL HYDRAULIC GRADIENTS

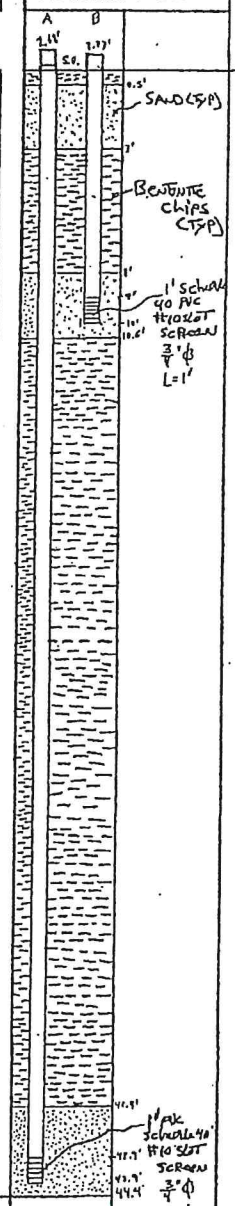
Area	Instrument Designation	Screened Geologic Unit	Well Pair Comparison	Vertical Separation (feet)	Potentiometric Elevation (ft)	Vertical Gradient (ft/ft)	Direction of Potential Flow
Within Expansion Footprint	P-04-05A	Basal Till	A/B	33	186.6	-0.374	down
	P-04-05B	Basal Till			198.94		
	P-04-06A	Bedrock	A/B	33.9	190.88	-0.405	down
	P-04-06B	Basal Till			204.62		
East of Expansion	P-04-13A	Bedrock	A/B	61.5	143.17	0.001	up
	P-04-13B	Bedrock	B/C	56.5	143.08	-0.019	down
	P-04-13C	Marine Clay	A/C	118	144.13	-0.008	down
	P-06-04A	Basal Till/Bedrock	A/B	15.3	177.41	0.238	up
	P-06-04B	Basal Till			173.77		
	P-08-09A	Sandy Zone	A/B	18.6	183.52	0.006	up
	P-08-09B	Washed Till			183.40		
	P-08-10A	Sandy Zone	A/B	31	182.95	0.002	up
	P-08-10B	Sandy Zone	B/C	42.4	182.88	-0.401	down
	P-08-10C	Basal Till	A/C	73.4	199.90	-0.231	down
North of Expansion	P-04-08A	Basal Till	A/B	23	180.25	-0.263	down
	P-04-08B	Basal Till			186.31		
	P-04-09A	Bedrock	A/B	24	164.07	-0.023	down
	P-04-09B	Basal Till			164.63		
	P-04-10A	Bedrock	A/B	24.9	161.44	-0.113	down
	P-04-10B	Basal Till			164.20		
	P-04-11A	Basal Till	A/B	39.5	177.86	-0.144	down
	P-04-11B	Basal Till			183.53		
	P-08-03A	Basal/Washed Till	A/B	10.2	166.26	-0.013	down
	P-08-03B	Basal Till			166.39		
	P-04-12A	Bedrock	A/B	23.5	165.07	-0.024	down
	P-04-12B	Bedrock	B/C	33.2	165.64	-0.017	down
	P-04-12C	Marine Clay	A/C	56.7	166.21	-0.020	down
	P-04-14A	Bedrock	A/B	42.5	150.61	0.022	up
	P-04-14B	Bedrock			149.68		
West of Expansion	P-04-07A	Bedrock	A/B	530.	178.54	-0.001	down
	P-04-07B	Bedrock	B/C	20.2	178.57	0.241	up
	P-04-07C	Basal Till	A/C	73.2	173.70	0.066	up
	P-220A	Basal Till	A/B	17.9	147.99	-0.003	down
	P-220B	Basal Till			148.05		
	MW-223A	Bedrock	A/B	15.5	174.97	0.119	up
	MW-223B	Basal Till			173.13		
South to Southwest of Expansion	P-202A	Bedrock	A/B	17.2	148.38	0.059	up
	P-202B	Basal Till			147.37		
	P-205A	Washed Till	A/B	22.2	197.75	-0.054	down
	P-205B	Basal Till			198.95		
	P-211A	Bedrock	A/B	12.6	177.70	0.001	up
	P-211B	Basal Till			177.69		
	P-214A	Bedrock	A/B	19.1	189.71	-0.007	down
	P-214B	Till	B/C	27.1	189.84	0.219	up
	P-214C	Basal Till	A/C	46.2	183.90	0.126	up
	P-215A	Bedrock	A/B	21	210.49	0.141	up
	P-215B	Basal Till			207.53		
	MW-216A	Basal Till	A/B	24.6	154.99	-0.013	down
	MW-216B	Basal Till			155.31		
	P-226A	Basal Till	A/B	13.6	212.21	0.438	up
	P-226B	Basal Till			206.25		
	MW-401A	Bedrock	A/B	88.8	153.26	0.031	up
	MW-401B	Basal Till			150.49		
	MW-402A	Bedrock	A/B	83.5	152.2	0.030	up
	MW-402B	Basal Till			149.69		
	P-502A	Washed Till	A/B	31.8	182.93	-0.724	down
	P-502B	Basal Till			205.94		

Note:
1. Groundwater elevations from 2007, as shown on Figures 5-1, 5-2, 5-3 and 5-4; or 2008 if no 2007 data are available. See Appendix D.

PROJECT West Mid Town Landfill Expansion	JOB NO. 03076.09	BORING NO. P-04-06	
DATE COMPLETED 7/20/04	DATE WELLS INSTALLED 7/21/04	DRILLING METHOD Wash Rotary	
GROUND SURFACE ELEVATION (FT) 208.63'	DRILLING CONTRACTOR M.T.B	LOGGED BY T. Riley / JGS	
BOREHOLE DIAMETER (IN) 4.5" O.D.	ROCK CORE DIAMETER (IN.) 2.5"	SHEET 1 OF 1	

DEPTH (FT)	SAMPLE NO.	MATERIAL DESCRIPTION	N	RQD	% Passing #200 Screen	Water Content %
0	1D	0-0.2 Topsoil Brown silty gravelly Fine to Medium Sand w/ Trace of Cobbles	12			
	2D	2'	72			
6	3D	Olive Fine to Medium Sandy Silt w/ little Course Sand and Gravel & Trace of Cobbles	76		62%	12.0%
	4D		50/0.1'			
	5D		50/0.2'			
10	6D		50/0.2'			
	7D		123			
	8D		50/0.1'			
15		16'				
	9D		145			
	10D	Olive Clayey Silty Fine to Medium Sand w/ little Course Sand and gravel. Trace of Cobbles.	88			
20	11D		88			
	12D		36		49.8%	12.4%
25	13D		72			
	14D		102			
	15D	28.5' (Basal Till)	70/0.5'	20%		
30	1R	Gray Meta-Gray Wacke ... wx				
35	2R	... with siltstone laminae		100%?		
40	3R			100%		
		44.4' (Bedrock) B.O.E				
45						
50						
55						
60						

INSTRUMENT LOG



NOTES

Noble Gas Laboratory
Dept. ofEarth and Environmental Sciences
University of Rochester

Sender: Sevee and Maher Organization: Casella Landfill
Sample ID: GW-X06-A-112
Date: 1/26/2005 Temp(°C): Salinity: Altitude (m):

Analysis # 9631 Degas Date 2/10/2005 Measurement Date 3/29/2005

Tritium (TU) 7.02 +/- 0.21 (1 σ)

He bulb blank	3.00	ncc (STP)
He-3 by tritium decay	73.5	fcc (STP)
% tritiogenic He-3	95.3%	

Comments:
average Tritium
consistent with precipitation

Helium Analysis # 9616 Extraction Date 1/26/2005 Measurement Date 3/29/2005

Measured Sample Weight: 22.03 grams

δ^3He (%)= -53.76 +/- 0.22

Solubility He (assumed)
^3He (TU) = -14.52 +/- 0.06

"Solubility Age" -uncorrected
Age (yr) =

Dissolved Gas Concentrations

				Deviation from solubility (%)
^3He:	109.9	+/-	1.10 pcc STP/kg	82
^4He:	177	+/-	1.77 µcc STP/kg	307
Ne:	247	+/-	2.47 µcc STP/kg	36
Ar:	0.34	+/-	0.01 cc STP/kg	11
N_2	14.49	+/-	0.29 cc STP/kg	22
CH_4	0.09	+/-	0.003 cc STP/kg	

Comments
small gas bubble during sampling

Helium concentrations and age corrected for "excess air"
Estimated Solubility Temperature 18.7 °C

Tritiogenic ^3He:	8	TU
Solubility ^4He:	158	µcc STP/kg
Ne:	247	µcc STP/kg
Terrigenic ^4He:	114	µcc STP/kg

"Corrected" Age (years): 14.15

Comments
Correction is too large to provide valid age.
large amount of terrigenic helium -may be mixed water

Comments:
may be mixed water - based on modern tritium with large amount of terrigenic helium

corrected age - very dependent on method of correction

3.3.5 Soil Density. Undisturbed densities of the basal till were measured from the 2008 thin-walled tube samples used for hydraulic conductivity testing. Soil densities were used to support the stability analyses, as presented in Section 3.0 and Appendix F of the Design Report in Volume III of the MEDEP Expansion Application. For each test, the volume of the specimen was determined by measuring its dimension to the nearest thousandth of an inch with calipers. The density results are shown in Appendix Q on the same forms reporting the hydraulic conductivities. The total (wet) density was determined by weighing the sample and dividing its total weight by the calculated volume from the sample dimensions. A moisture content test by ASTM Method D 2216 (1998) was performed on the test specimen and used to calculate the dry density. The dry density of the till ranged from about 115 to 131 pounds per cubic foot (pcf), while the wet density ranged from about 128 to 143 pcf.

For each tube sample of basal till, the total porosity of the specimen was calculated from its dry density using the measured specific gravity of 2.77 (Lambe and Whitman, 1969). The calculated total porosities ranged from 0.24 to 0.34 and agree favorably with total porosities calculated from saturated water contents of the tube samples, which ranged from 0.21 to 0.28. The porosities calculated from densities average slightly greater than from the water contents. This may be due to some disturbance to the density during tube sampling of the dense glacial till. These ranges and their averages are similar to and consistent with the values discussed in Section 3.3.2 above, based on water contents of split-spoon samples. The mean porosity for the Shelby tube water content results was 0.25, which agrees favorably with the 0.26 calculated from the mean till water content discussed above in Section 3.3.2.

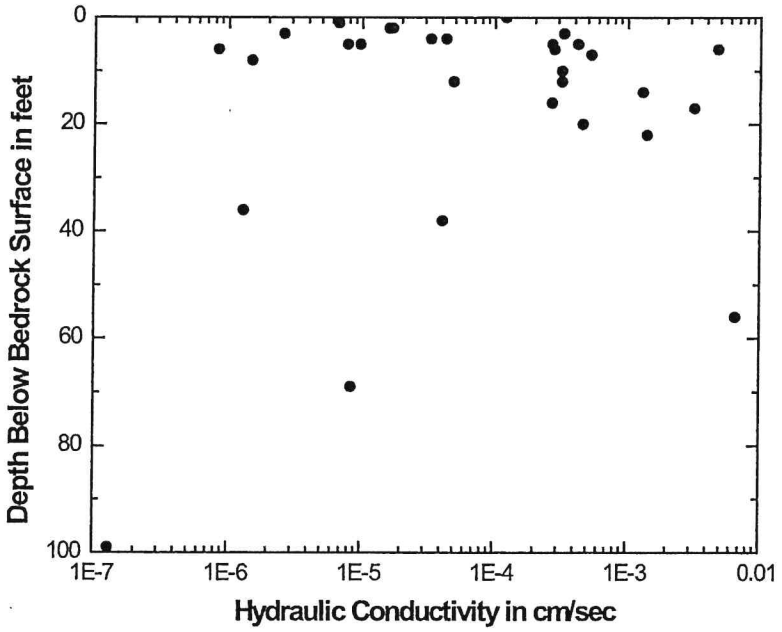
3.3.6 Effective Porosity. Transport time and groundwater velocity through soil is a function of the soil's effective porosity, as further discussed in Sections 5.0 and 7.0. Some references (e.g., de Marsily, 1986) suggest an effective porosity can be less than the total soil porosity for certain clayey soils. Effective porosity of the basal till was measured using a laboratory tracer test, as described in Appendix R. This test showed the total and effective porosities to be the same for the basal till. Thus, a mean effective porosity for the basal till of 0.25 was utilized for the groundwater velocity calculations.

range and mean value of bedrock hydraulic conductivity are generally consistent with the existing JRL investigations.

The pumping tests on the bedrock demonstrated it to be anisotropic in the horizontal plane relative to hydraulic conductivity (see Sections 3.2.9 and 3.2.13). The calculated geometric mean hydraulic conductivity of the bedrock, therefore, represents a composite or effective conductivity of the principal horizontal hydraulic conductivities. The effective conductivity can be expressed as the square root of the product of the two principal conductivities in the horizontal plane (Freeze and Cherry, 1979). Since the long-term bedrock pump test suggests a principal conductivity ratio of about 3.4:1, the geometric mean conductivity can be resolved into the two principal horizontal hydraulic conductivities by this relationship. This yields a maximum conductivity of about 7.8×10^{-5} cm/sec and a minimum value of about 2.3×10^{-5} cm/sec. From the bedrock pump test, the maximum value is oriented about N36E (relative to True North) and the minimum conductivity approximately at a right angle to the maximum's orientation. In the vertical direction, principal hydraulic conductivity will be intermediate between the other two principal values because of the fracture orientations (deMarsily, 1987). Since most of the fractures are nearly vertical, the vertical conductivity will be closer to the 7.8×10^{-5} cm/sec value. We have selected a value of 7×10^{-5} cm/sec for the vertical hydraulic conductivity of the bedrock. These principal hydraulic conductivities were used in simulating the regional groundwater behavior (in Appendix V).

FIGURE 5-10

BEDROCK HYDRAULIC CONDUCTIVITY VERSUS DEPTH INTO BEDROCK



The porosity of the bedrock was calculated from cores and slug tests results. The average effective porosity of 0.001 was selected from these results. Utilizing the typical horizontal hydraulic gradients for the site of 0.02 to 0.05 with a geometric mean hydraulic conductivity and an average effective porosity, a site-wide average horizontal bedrock groundwater velocity of about 2 to 6 feet per day is calculated. However, given the range of hydraulic conductivities, the velocity of individual fractures can vary significantly around this average value. The bedrock tracer tests indicated a local groundwater velocity in the order of 5 ft/day. This tracer test result is within the general range of calculated average site-wide groundwater velocities.

Similar to examining the glacial till hydraulic conductivity horizontal variability, a variogram was developed for the bedrock slug test hydraulic conductivities. The horizontal separation distances between the wells and piezometers where slug tests were performed were used to calculate the lag distance between measurement values; screen depths were ignored for this analysis. The resulting variogram is shown in Figure 5-11. This figure shows that variability of the hydraulic conductivity measurements is not constant. Therefore, the horizontal groundwater

APPENDIX I

BOREHOLE GEOPHYSICAL LOGGING REPORTS

SME
SEVEE & MAHER
ENGINEERS

GEOPHYSICAL LOG RESULTS
OF BOREHOLE MW-06-02
JUNIPER RIDGE PROPERTY
OLD TOWN, MAINE

Northeast Geophysical Services
4 Union Street, Suite 3
Bangor, Maine 04401
March, 2006

GEOPHYSICAL LOG RESULTS
OF BOREHOLE MW-06-02
JUNIPER RIDGE PROPERTY
OLD TOWN, MAINE

Introduction

At the request of Sevee & Maher Engineers, Inc. (SME), a bedrock borehole (MW-06-02) located on the Juniper Ridge Landfill property in Old Town, Maine was geophysically logged. The borehole was logged on March 8, 2006 by Rudy Rawcliffe of Northeast Geophysical Services (NGS) assisted SME personnel. Geophysical logging was used as one of the means to identify the location and orientation of potential water-bearing fractures in the borehole. Caliper, temperature, single point resistance (SPR), spontaneous potential (SP), fluid conductivity, and flowmeter measurements were collected from the borehole. In addition, an acoustic televiewer (ATV) image was also generated for the borehole.

Summary of Results

A composite geophysical log of the borehole is appended. The log shows the results of the caliper, temperature, SPR, SP, fluid conductivity, and ATV logging. Heat pulse flowmeter measurements for ambient and pumping conditions are shown adjacent to the caliper log.

The composite geophysical log shows the possible locations of potential fractures in the borehole. The flowmeter results may provide indications of which of these potential fractures are transmissive.

The ATV log provides the strike and dip of planar features that intersect the borehole. These planar features may be fractures or may represent cleavage or bedding planes. Figure 1 (on the following page) is a rose plot of the strike and dip angle of all the interpreted features for MW-06-02. This plot shows that the predominant strike of about half of the twenty-one interpreted features* is to the northeast at about 35° true and the features generally dip about 45° to the northwest. This probably is the foliation of the rock in this area. However, the strike and dip direction of the fractures that are suspected to be transmissive vary. Figure 3 (page 3) is a polar plot of the dip azimuth and dip direction. This plot shows that several of the suspected transmissive fractures have a dip and dip direction (and strike) that is different from the predominant trend.

MW-06-02 only has about 21 feet of open borehole. The caliper log shows that the upper 8 feet, from 22 to 30 feet, is highly fractured. The temperature and flowmeter measurements indicate that the most transmissive area in the borehole is immediately below the casing from 22 to 25 feet. Other possible transmissive fractures may be at 27-30 feet and at 37 feet.

Methods and Instrumentation

The boreholes were logged with a Mount Sopris MGX II digital logger. The borehole was initially

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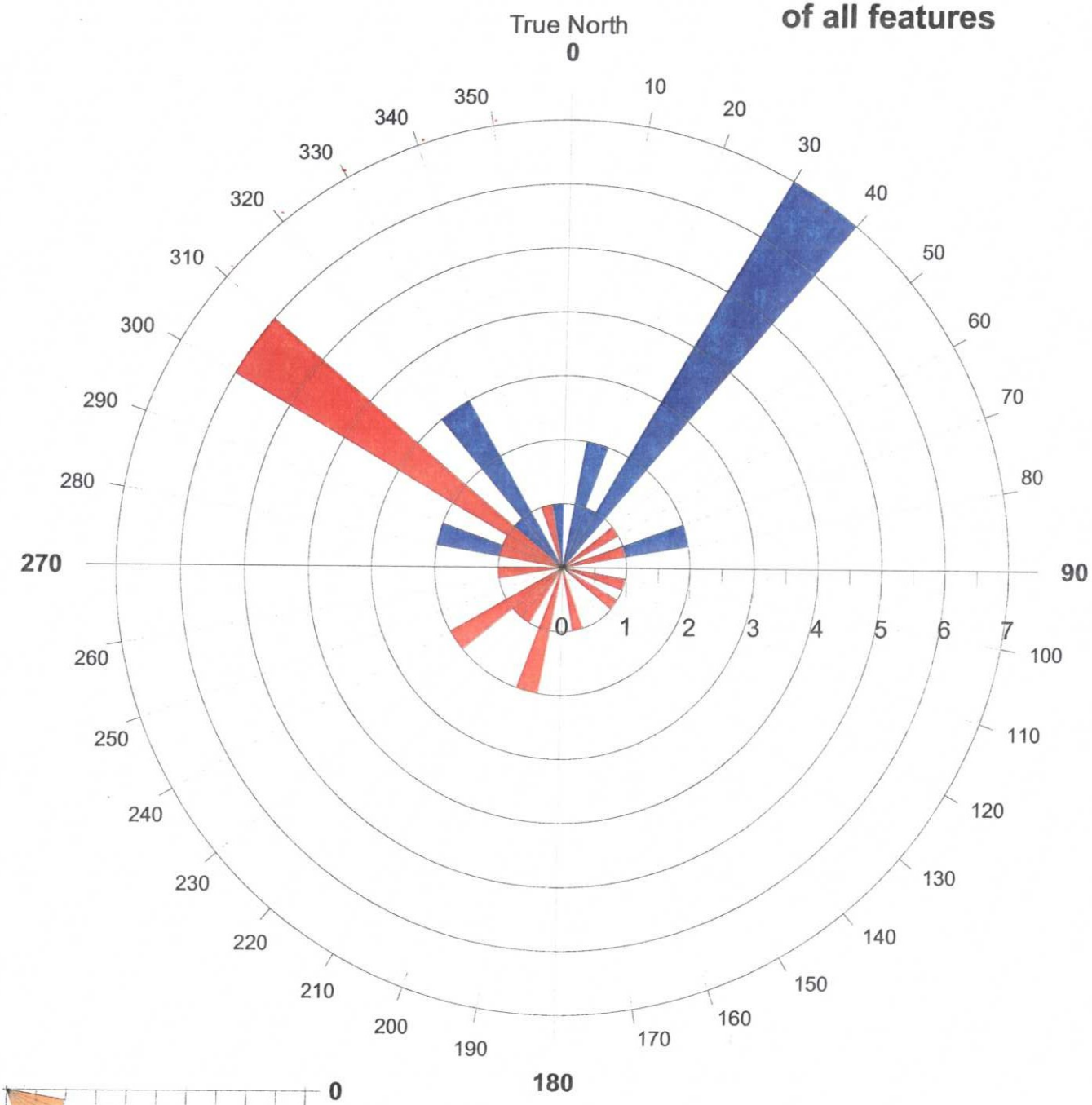
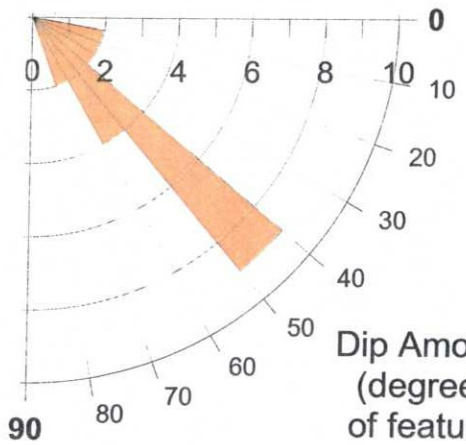
* Only features with dips greater than 10° were used in this plot.

MW-06-02
Old Town, Maine

FIGURE 1
Strike and Dip Direction of all features



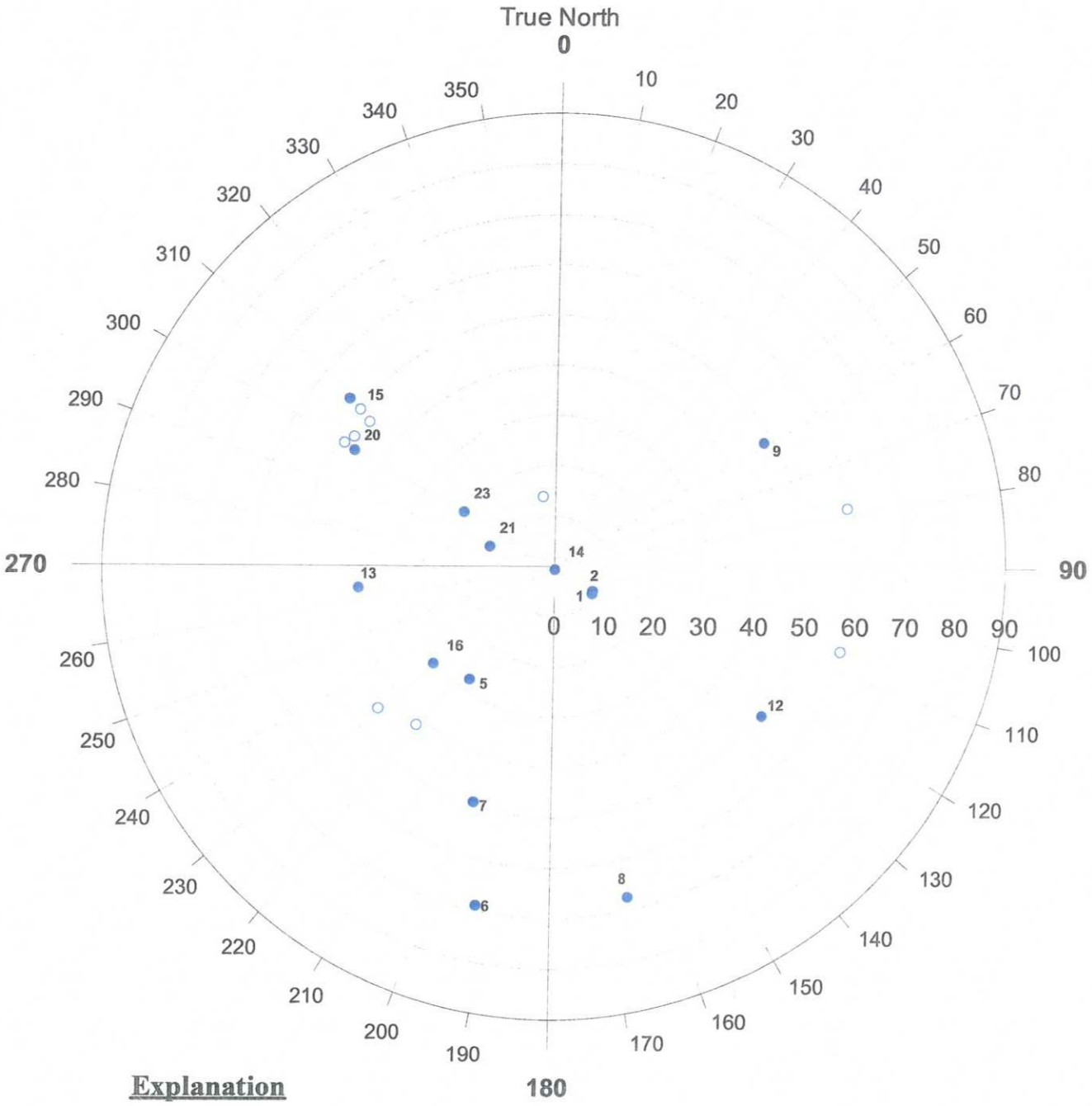


Explanation
- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

Graph based on 21 measurements in MW 06-02 of features having a dip greater than 10 degrees.

Polar Dip Plot of MW-06-02 Old Town, Maine

FIGURE 2
Dip Amount and Dip Azimuth of planar features



Explanation

- ○ All planar features
- ● possible water bearing features

Graph based on 24 measurements in MW 06-02

logged for temperature and fluid conductivity. Temperature (in degrees Celsius) was measured going down the hole. Areas where water is entering or exiting the borehole (transmissive fractures) are sometimes revealed on the temperature log as abrupt temperature changes or sometimes as temperature gradient changes. Transmissive fractures can also be revealed by changes in the fluid conductivity log.

The borehole was then logged with a caliper tool. Caliper measurements, which measure the borehole diameter, are made coming up the hole. Fractures are often revealed on the caliper log as abrupt widenings of the borehole.

The borehole was then logged with a combination single point resistance, spontaneous potential (SP) and natural gamma tool. Single-point-resistance measures the electrical resistance (in ohms) between the probe and a surface electrode. Water-filled fractures will often appear as abrupt spikes of relatively low resistance on this log. The SP log measures the natural voltages (in milli-volts) that occur in the subsurface. There can be different causes for SP, one is called "streaming potential" and is caused when water flows into or out of the borehole. Water filled bedrock fractures sometimes appear as abrupt spikes to the right on the SP log.

The boreholes were then logged with an acoustic televiewer. The ATV log provides an acoustical image of the borehole walls. The ATV works by scanning the borehole wall with an acoustic beam that is produced by a rapidly rotating piezoelectric source. Planar features such as fractures, bedding surfaces, and joints can be identified with the ATV tool and the strike, dip direction and dip angle of these features can often be determined.

Flowmeter Measurements

Flowmeter measurements of the vertical water flow were made in the borehole using a Mount Sopris Heat Pulse Flowmeter. This instrument is capable of measuring flow direction in a borehole (up or down) and has a calibrated measurement range of 1.0 to 0.03 gallons per minute (gpm).

Vertical flow in a borehole is caused when two or more transmissive fractures in the borehole are at hydraulic disequilibrium with one another. When this occurs there is a hydraulic gradient developed and water will flow toward the fracture with the lower hydraulic head. When no vertical flow is measured it can mean that there are less than two transmissive fractures in the borehole or that all the fractures in the borehole are at equilibrium with each other.

Results

A composite geophysical log of the borehole is appended. One or a combination of anomalous geophysical responses identified physical discontinuities that may represent possible fractures. These included abrupt widenings in the caliper log, spikes of lower resistivity in the SPR log, changes in the fluid resistivity log, and deflections or gradient changes in the temperature log. The heat-pulse flowmeter results are also shown. All of the depths on these logs are referenced from the top of the casing (toc). Following is a descriptive summary of the geophysical logging results:

MW-06-02:

Total Depth (TOC):	43.8 feet
Casing Depth:	22 feet
Water Level:	7.6 feet

The caliper log for MW-06-02 shows a nominal borehole diameter of 6.27 inches. The borehole walls in the upper part of MW-06-02 from immediately beneath the casing at 22 feet until about 30 feet are very rough indicating highly fractured bedrock. Below 30 feet there are some smaller

caliper deflections (possible fractures) at 34.5 feet, 37 feet and 42 feet.

The temperature log for MW-06-02 shows an ambient water temperature below the casing averaging 8.0° C. The temperature log shows deflections in the temperature gradient at 22 feet, 23 feet, and 25 feet. These deflections may indicate a transmissive fracture in this area.

The single point resistance (SPR) log shows that the median resistance for MW-06-02 is 1,125 ohms for the uncased portion of the borehole. There are some abrupt deflections toward lower resistance that may indicate bedrock fractures. In most instances these resistance anomalies are associated with caliper anomalies. The most prominent SPR anomaly is at 24 feet. This depth also has a large SP anomaly associated with it. Much smaller SPR anomalies occur at 27, 29.5, 32 and 37 feet.

The fluid conductivity log shows an average conductivity for the borehole fluid below the casing of about 100 µS/cm. The fluid conductivity is fairly constant over the 21 feet of open borehole with no abrupt changes in fluid conductivity.

The ATV log for MW-06-02 indicates that the planar features (possible fractures, bedding planes, joints or cleavages) predominantly strike to the northeast at about 35° true and have a median dip of 46° to the northwest. The strike and dip of identified planar features (possible fractures) for MW-06-02 are shown on the composite log and tabulated in the appendix. The ATV log was examined in the area of the possible transmissive zones to determine if the strike and dip of these fractures could be determined. In the upper part of the borehole from 22 feet to 31 feet there are numerous fractures oriented at various strikes and dips. Some of these fractures are transmissive, however, they are so closely spaced or even intersecting that the identity of which fracture is transmissive cannot be determined. Similarly, at about 34 feet there appear to be several intersecting fractures. The fracture located at about 36.7 feet (feature #16) strikes 321° and dips 31° southwest. Near the bottom of the borehole at 42 feet there are a couple of possible transmissive fractures: feature #20, which strikes 30° and dips 46° northwest and feature #23, which strikes 31° and dips 21° northwest.

The flowmeter measurements for MW-06-02 under ambient conditions indicate no flow in the borehole at 20 feet or at 26 feet. At 32.5 and 35.5 feet a slight downflow of 0.02 gpm was initially measured but then eventually there was no measurable flow at these locations. At 39 and 42.5 feet no flow was measured. Measurements were then repeated while pumping the borehole at 0.25 gpm. Under pumping conditions, flowmeter measurements indicate no measurable flow at the bottom of the borehole until 35.5 feet and 32.5 feet where slight downflows (0.01 gpm) were measured. However, after about 5 minutes the flowrate at these locations diminished to no measurable flow. At 26.5 feet a slight upflow (0.01 gpm) was measured. At 21 feet, which is in the casing, upflow increased to 0.07 gpm.

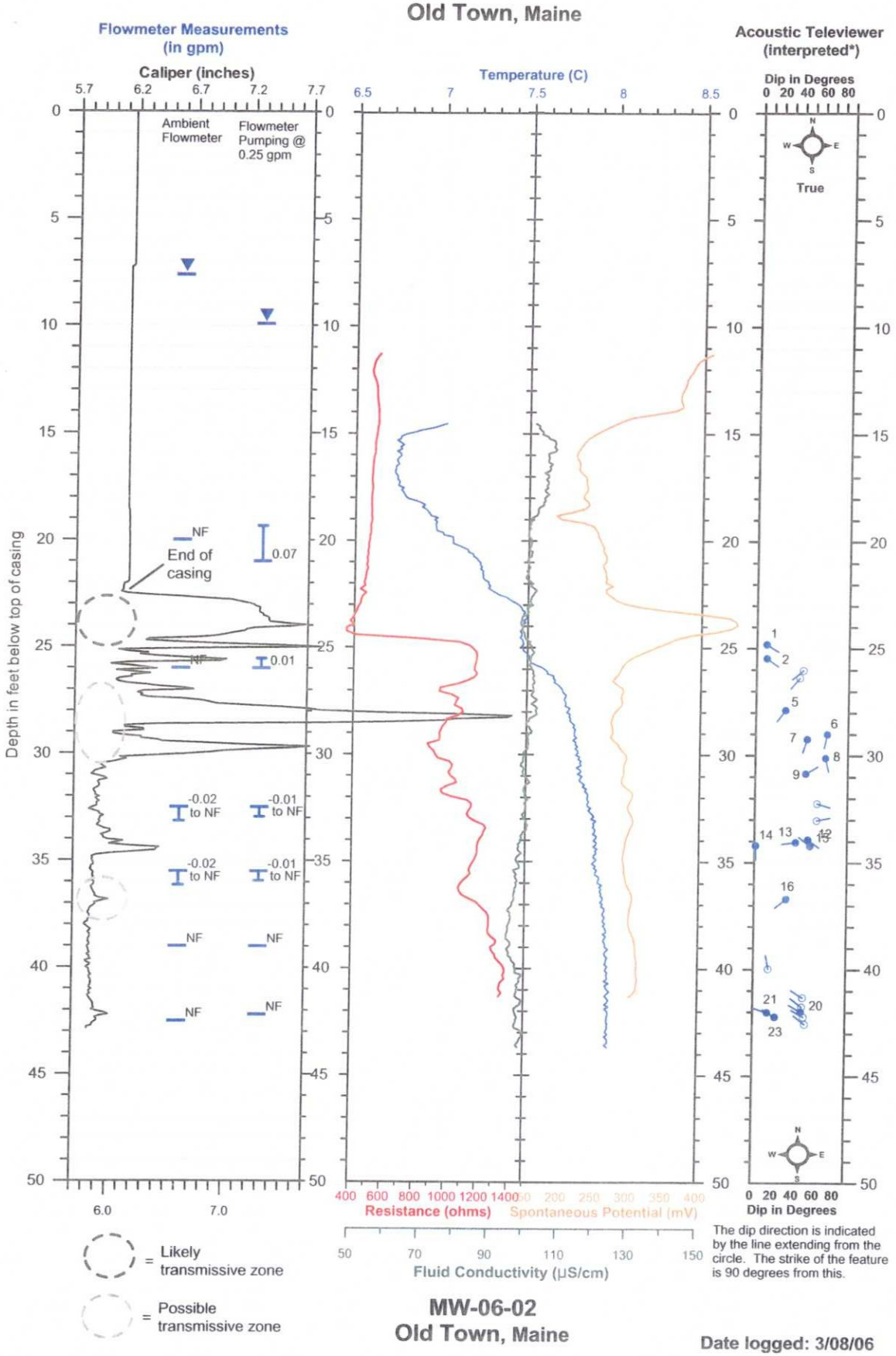
During the 15 minutes of pumping at 0.25 gpm the water level in the borehole dropped 2.3 feet. This indicates that this borehole is not very high yielding. The flowmeter results indicate that the area immediately below the casing from 22 to 25 feet is transmissive. It is also possible that water is entering the borehole at 27 to 30 feet and at about 37 feet.

BOREHOLE GEOPHYSCIAL LOGS

Northeast Geophysical Services

Date logged: 3/08/06

Borehole Geophysical Log
MW-06-02
Old Town, Maine



= Likely transmissive zone

= Possible transmissive zone

The dip direction is indicated by the line extending from the circle. The strike of the feature is 90 degrees from this.

MW-06-02
Old Town, Maine

Date logged: 3/08/06

Northeast Geophysical Services
4 Union Street Bangor, Maine 04401
Tel: 207-942-2700 email: ngsinc@adelphia.net

Log: Acoustical & Caliper Logs

Well: **MW-06-02**

Site: Juniper Ridge Landfill

Location: Old Town, Maine

Date:	3/8/06
Casing Depth:	22 ft
Casing Type:	6 in
Boring Depth:	43.8 ft
Meas. From:	top of casing
Stickup:	2 ft
Water Level:	7.6 ft

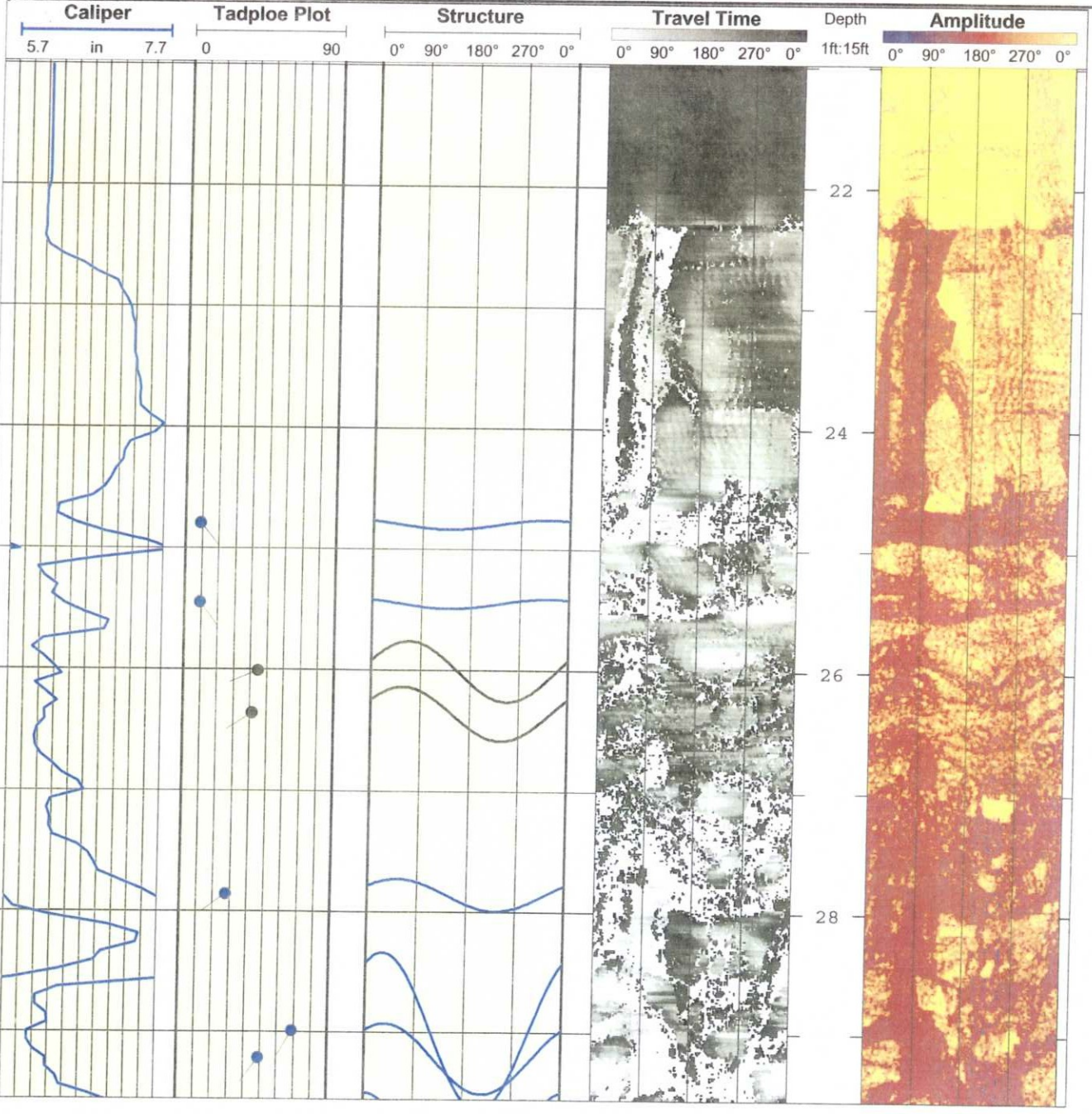
For: Sevee & Maher Engineers

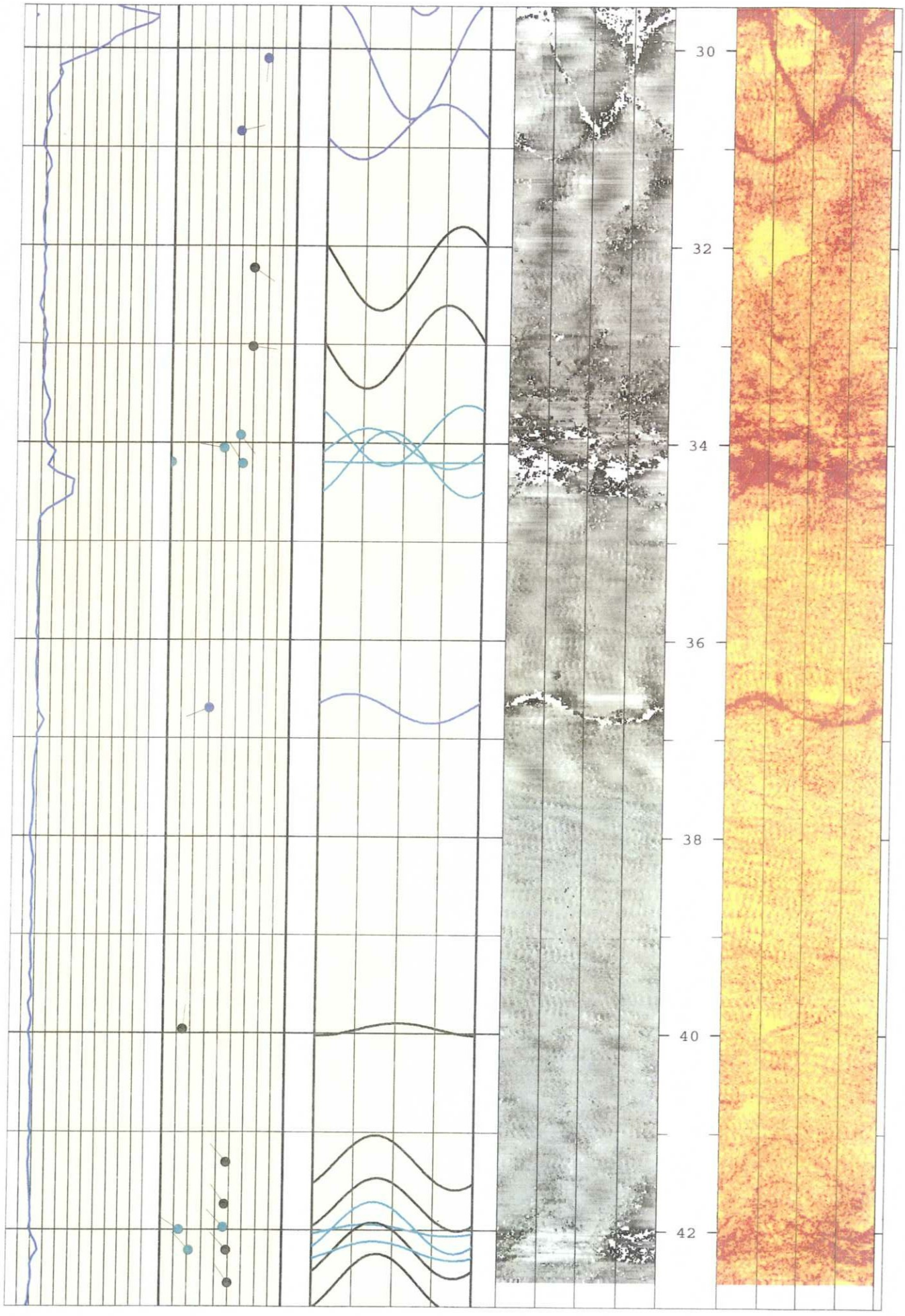
Logged by: R Rawcliffe

Orientation: magnetic

Comments:

Structure & Tadpole Plots:
black = planar features (faults, foliation, joints, etc)
light blue = possibly transmissive fracture
dark blue = likely transmissive fracture




30
32
34
36
38
40
42

Planar Features interpreted from Acoustic Televiewer
MW-06-02 - Old Town, Maine **Logged: 03/08/06**

Borehole	Feature # Number	Feature depth Feet	Dip Degrees	Dip Azimuth magnetic	Strike magnetic	Dip Azimuth True	Strike True	Category Type
MW-06-02	1	24.8	9	140	50	123	33	107
MW-06-02	2	25.5	9	143	53	125	35	107
MW-06-02	3	26.0	45	248	338	231	321	100
MW-06-02	4	26.4	41	238	328	221	311	100
MW-06-02	5	27.9	28	234	324	217	307	107
MW-06-02	6	29.0	69	210	300	192	282	107
MW-06-02	7	29.2	49	216	306	198	288	107
MW-06-02	8	30.1	67	184	274	167	77	107
MW-06-02	9	30.8	48	76	346	59	329	107
MW-06-02	10	32.2	59	124	34	106	16	100
MW-06-02	11	33.0	59	96	6	79	349	100
MW-06-02	12	33.9	51	143	53	125	35	108
MW-06-02	13	34.1	39	281	11	264	354	108
MW-06-02	14	34.2	1	196	286	179	89	108
MW-06-02	15	34.2	53	326	56	309	39	108
MW-06-02	16	36.7	31	248	338	231	321	107
MW-06-02	17	40.0	14	7	277	350	80	100
MW-06-02	18	41.3	48	320	50	303	33	100
MW-06-02	19	41.7	47	325	55	308	38	100
MW-06-02	20	42.0	46	317	47	300	30	108
MW-06-02	21	42.0	14	304	34	287	17	108
MW-06-02	22	42.2	49	317	47	300	30	100
MW-06-02	23	42.2	21	318	48	301	31	108
MW-06-02	24	42.6	50	326	56	308	38	100

Explanation:

Category 100 = planar feature (possible fracture, joint, foliation, bedding, etc.
Category 107 = Likely water bearing feature
Category 108 = Possible water bearing fracture

GEOPHYSICAL LOG RESULTS
OF BOREHOLES PW-08-01, PW-08-02
PW-08-03 AND PW-08-04
JUNIPER RIDGE PROPERTY
OLD TOWN, MAINE

Northeast Geophysical Services
4 Union Street, Suite 3
Bangor, Maine 04401
February, 2009

GEOPHYSICAL LOG RESULTS
OF BOREHOLES PW-08-01, PW-08-02
PW-08-03 AND PW-08-04
JUNIPER RIDGE PROPERTY
OLD TOWN, MAINE

Introduction

At the request of Sevee & Maher Engineers, Inc. (SME), four bedrock boreholes (PW-08-01, PW-08-02, PW-08-03 and PW-08-04) located on the Juniper Ridge Landfill property in Old Town, Maine were geophysically logged. The boreholes were logged between January 8, and January 14, 2009 by Rudy Rawcliffe of Northeast Geophysical Services (NGS). Geophysical logging was used as one of the means to identify the location and orientation of potential water-bearing fractures in the boreholes. Caliper, temperature, single point resistance (SPR), spontaneous potential (SP), fluid conductivity, and flowmeter measurements were collected from each borehole. In addition, an optical televiewer (OTV) image was also generated for each borehole.

Summary of Results

Composite geophysical logs for each borehole are appended to this report. Each composite log shows the results of the caliper, temperature, SPR, fluid conductivity, and OTV logging. Heat pulse flowmeter measurements for ambient and pumping conditions are shown adjacent to the caliper log.

The composite geophysical log shows the possible locations of potential fractures in each of the boreholes. The flowmeter results and, to a lesser extent, the temperature and fluid conductivity results may provide indications of which of these potential fractures are transmissive.

The OTV logs provide the strike and dip of planar features that intersect the boreholes. These planar features may be fractures, or may represent cleavage or bedding planes. The results have been color-coded on the logs to provide an interpretative range of the likelihood that the associated feature signifies a transmissive fracture as follows:

- Dark blue symbol (Category 107) - multiple distinct borehole geophysical logging responses indicating borehole enlargement (caliper, SPR, optical image), or evident change in the borehole fluid characteristic (temperature, conductivity or quantified vertical flow) that provides the strongest data that the indicated bedrock feature represents a likely transmissive water-bearing fracture.
- Light blue symbol (Category 108) - less amount of corroborating geophysical data to support that the indicated feature will transmit groundwater compared to the dark blue symbol. However, the OTV log shows a fairly distinct feature that perhaps under a higher stress condition (e.g. pumping rate), vertical flow could be induced in the borehole. Less degree of confidence that the feature represents a transmissive feature.

- Light gray symbol (Category 103) – quartz or calcite vein
- Black symbol (Category 100) - bedrock feature not interpreted to transmit water; more likely to represent planes of foliation, bedding planes, healed or filled fractures, or mechanical breaks in the rock matrix due to drilling advancement.

Figure 1 on the following page is a rose plot of the strike and dip angle of all the interpreted features in the four boreholes. This plot shows that the predominant strike direction of all the interpreted features in the four boreholes is to the northeast at about 50° and dipping about 59° to the northwest or to the southeast. This most likely represents the cleavage or bedding plane of the rock. The interpreted results of the OTV logs are summarized on the composite logs for each borehole and in tables that provide the depth and calculated strike and dip of each identified feature. A combined caliper, flowmeter and OTV image log for each borehole is also presented in the appendix.

Figure 2 (page 3) is an upper hemisphere polar plot showing the dip amount and dip direction of all the interpreted planar features in the four boreholes. This graph shows that the Category 100 planar features predominantly dip steeply (median 76°) to the southeast or to the northwest. This probably represents the bedrock foliation. The graph shows that the quartz and/or calcite veins (Category 103) predominantly dip moderately (median 50°) to the northwest. The fractures interpreted to be transmissive (Categories 107 and 108), however, do not have a preferred dip or dip direction but rather have a wide range of dip direction and dip amount with some that are nearly horizontal and others that dip to all four quadrants.

Methods and Instrumentation

The borehole was logged with a Mt Sopris Matrix digital logger. Following is a brief description of each parameter that was measured and how that information is used to locate possible bedrock fractures.

Temperature (in degrees Centigrade [°C]) is measured with the probe going down each hole. Generally, temperature rises smoothly with depth at a rate of about 0.5° to 1.0° C per 100 feet due to the local geothermal gradient. Areas where water may be entering or exiting the borehole are sometimes revealed on the temperature log as abrupt temperature changes or sometimes as temperature gradient changes. Other factors that can affect the temperature log besides transmissive fractures include variations in the thermal resistivity of the rock with depth along the borehole, surface climatic changes, thermal effects of drilling activity, and localized heat sources such as radionuclides in the rock or cement setting outside the casing.

Single-point-resistance (SPR) measures the electrical resistance (in ohms) between the probe and a surface electrode. Water-filled fractures will often appear as abrupt spikes of relatively low resistance on this log.

Fluid conductivity measures the conductivity (in milli-Siemens per meter) of the water in the borehole. Fluid conductivity can be useful in identifying transmissive fractures because water entering the borehole through fractures sometimes has a different conductivity than the water that is already in the borehole.

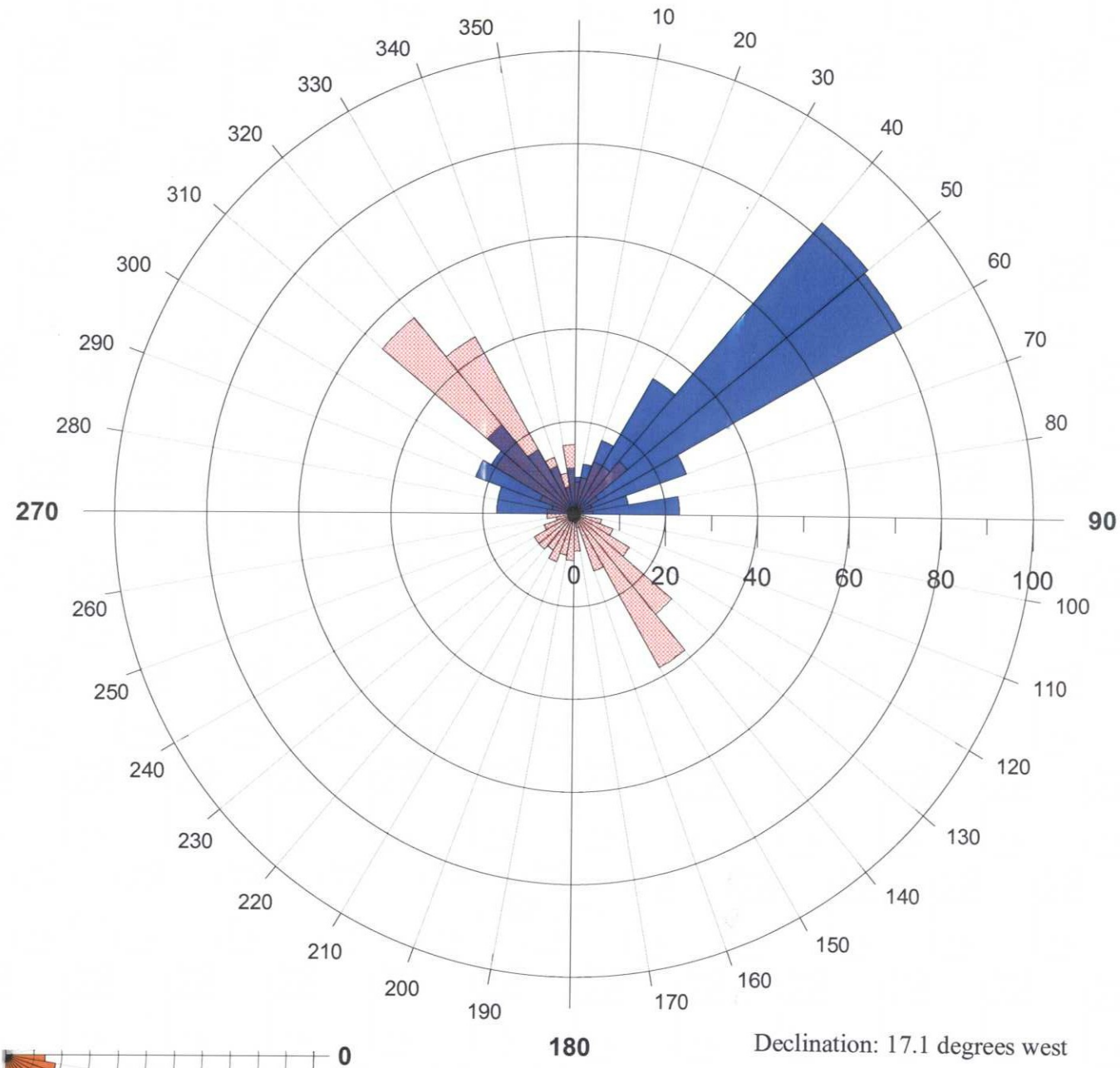
Caliper measures the borehole diameter. Fractures are often revealed on the caliper log as abrupt widenings of the borehole.

The OTV log provides a digital optical image of the borehole walls. The OTV can identify planar features such as fractures, bedding surfaces, and joints and the strike, dip direction and dip angle

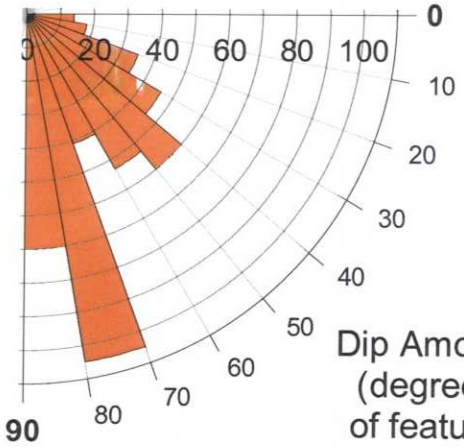
Northeast Geophysical Services

Juniper Ridge Site
Old Town, Maine

FIGURE 1
Strike and Dip Direction
of all features in
PW-08-01, 02, 03, & 04



Declination: 17.1 degrees west

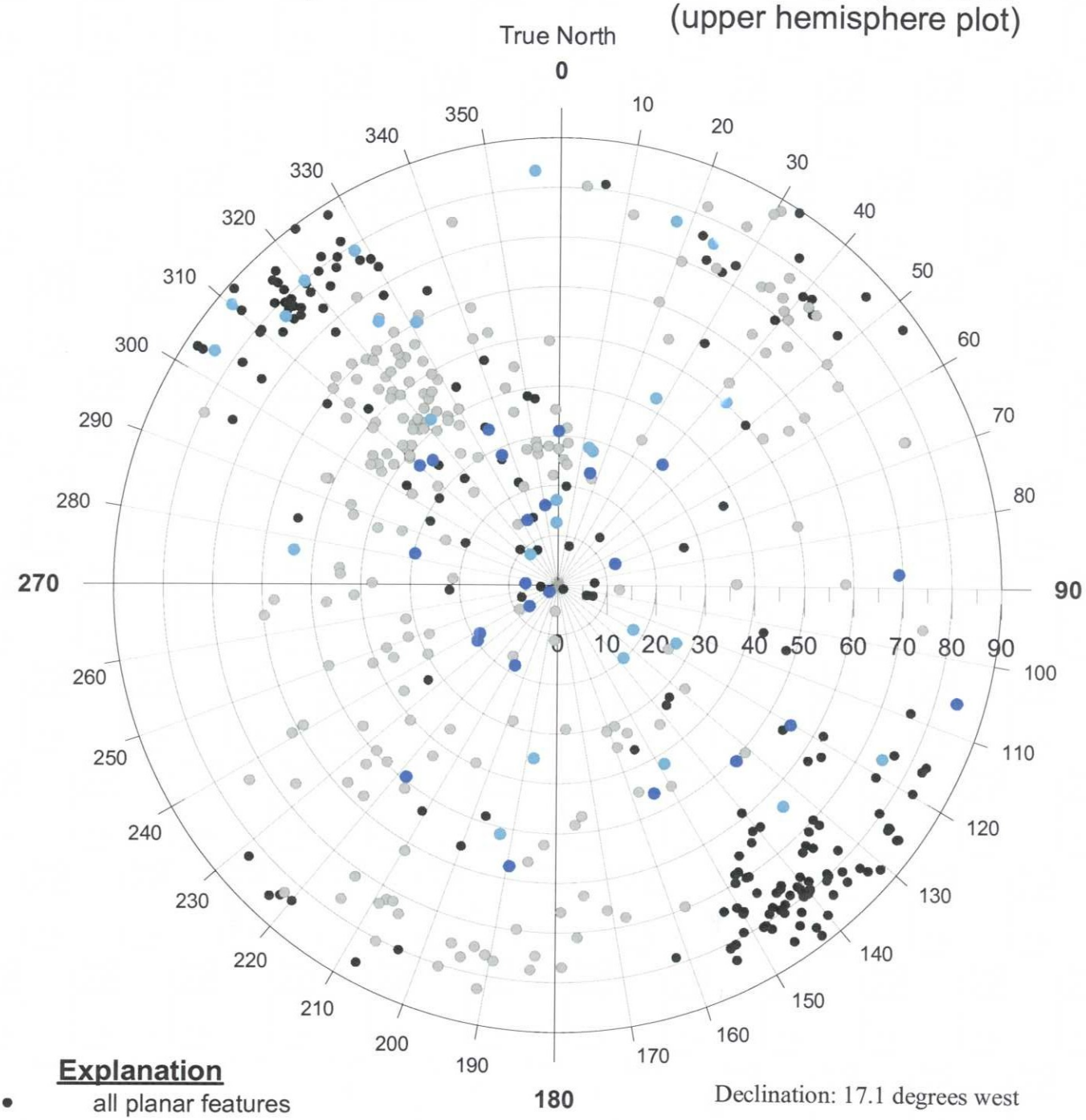


Explanation
- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

Based on 442 measurements

Juniper Ridge Site
Old Town, Maine

FIGURE 2
Dip Amount and Dip Azimuth of planar features in PW-08-01, 02, 03 & 04
(upper hemisphere plot)



Explanation

- all planar features
- Likely water bearing
- Possibly water bearing
- Qzt/calcite veins

Declination: 17.1 degrees west

Based on 440 measurements

of these features can often be determined.

The temperature, caliper, SPR, fluid conductivity and OTV logs were examined and possible bedrock fractures were identified. This information was used to select measurement locations for the flowmeter instrument. Generally, flowmeter measurements were taken in the zone above and below locations where potential fractures might exist in the boreholes.

Flowmeter Measurements

Flowmeter measurements of the vertical water flow were made in the boreholes using a Mount Sopris Heat Pulse Flowmeter. This instrument is capable of measuring flow direction in a borehole (up or down) and has a calibrated measurement range of 1.0 to 0.03 gallons per minute (gpm).

Vertical flow in a borehole is caused when two or more transmissive fractures in the borehole are at hydraulic disequilibrium with one another. When this occurs there is a hydraulic gradient developed and water will flow toward the fracture with the lower hydraulic head. When no vertical flow is measured it can mean that there are less than two transmissive fractures in the borehole or that all the fractures in the borehole are at equilibrium with each other.

Results

Composite geophysical logs for each of the boreholes are appended to this report (Appendix A). One or a combination of anomalous geophysical responses identified physical discontinuities that may represent possible fractures. These included abrupt widenings in the caliper log, spikes of lower resistivity in the SPR log, changes in the fluid conductivity log, and deflections or gradient changes in the temperature log. The heat-pulse flowmeter results are shown alongside the caliper log. Tadpole plots of the dip and dip direction of the identified planar features (possible fractures, foliations, bedding, etc.) determined from the OTV logs are also shown on this log. All of the depths on these logs are referenced from the top of the casing (toc). Following is a descriptive summary of the geophysical logging results for each of the boreholes:

PW-08-01:

Total Depth (TOC):	261.6 feet
Casing Depth:	67 feet
Water Level:	11.66 feet

The caliper log for PW-08-01 shows a nominal borehole diameter of 6.27 inches. There are several locations in the borehole where the borehole diameter abruptly widens and may represent bedrock fractures. The largest of these caliper anomalies occurs at 124 feet (9.22 inches). Other relatively wide anomalies occur at 196.4 feet (7.14 inches), 222.8 feet (6.81 inches), 226.3 feet (7.28 inches) and 242.6 feet (6.98 inches). In addition to these caliper anomalies there are some smaller caliper deflections that are shown on the log that may also represent bedrock fractures.

The temperature log for PW-08-01 shows an ambient water temperature below the casing averaging 7.96° C. The temperature log is fairly constant over the entire length of the open borehole with no abrupt deflections or gradient changes.

The single point resistance (SPR) log shows that the median resistance for PW-08-01 is 2,831 ohms for the uncased portion of the borehole. There are some abrupt deflections toward lower resistance that may indicate bedrock fractures. In most instances these resistance anomalies are associated with caliper anomalies. The most prominent SPR anomalies are at 124.5, 195.5, 211,

222, 226 and 242 feet. These SPR anomalies also have SP anomalies (deflections to the right) associated with them, which is another indication of a likely bedrock fracture.

The fluid conductivity log shows an average conductivity for the borehole fluid below the casing of about 115 μS/cm. The fluid conductivity is fairly constant over the entire length of the open borehole with no abrupt changes in fluid conductivity.

The optical televiewer log for PW-08-01 indicates that the planar features (possible fractures, bedding planes, joints or cleavages) predominantly strike to the northeast at between 50° to 60° true and have a median dip of 54° to the southeast or to the northwest. The strike and dip of identified planar features including likely and possibly transmissive fractures for PW-08-01 are shown on the composite log and tabulated in the appendix.

The flowmeter measurements for PW-08-01 under ambient conditions are quite interesting. Near the bottom of the borehole at 254 and 246 feet there was no measurable flow. At 235 feet a downflow of 0.04 gpm was measured and from 235 to 200 feet downflow measurements ranged from 0.04 to 0.02 gpm. At 190 feet a strong upflow of 0.18 gpm was measured. From 190 to 129 feet upflow measurements increased from 0.18 to 0.27 gpm. At 120 feet the upflow measurement diminished to 0.05 gpm and at 72.6 feet there was no measurable flow.

These results indicate that, under ambient conditions, water is entering PW-08-01 through fractures located at around 196 feet. Within this vicinity of the borehole there are several fractures that likely or possibly to be transmissive (Features #80 and 82-85(see Table A-1)). From this transmissive zone water moves both upwards and downwards in the borehole. Most of the water that migrates downwards exits the borehole through a fracture (feature #112) located at 242.1 feet. Most of the water that migrates upwards from 196 feet exits the borehole through a fracture (feature #27) located at 123.5 feet. A smaller percentage of the water apparently exits the borehole at 77.8 feet of 74.9 feet (features #6 and 5).

Measurements were then repeated while pumping the borehole at about 0.8 gpm. Under pumping conditions the flowmeter measurements show that water enters the borehole through the fracture located at 242.1(feature #112) and moves upwards at 0.14 gpm. At 224.6 feet upflow measured 0.68 gpm and from here until 65 feet, which is within the casing the upflow rate measured between 0.68 and 0.72 gpm. This indicates that under these pumping conditions most of the water apparently enters the borehole through the fracture at 195.8 feet (features #83).

PW-08-02:

Total Depth (TOC):	235.9 feet
Casing Depth:	40 feet
Water Level:	29.30 feet

The caliper log for PW-08-02 shows a nominal borehole diameter of 6.46 inches. There are several locations in the borehole where the borehole diameter abruptly widens and may represent bedrock fractures. The largest of these caliper anomalies occur in the upper part of the borehole from the bottom of casing at 40 feet until about 98 feet. Within this zone by far the largest caliper anomaly is at about 96 feet, which was over 18 inches wide. Other relatively wide anomalies occur at 85.3 feet (7.92 inches), 55 feet (7.49 inches), 49.6 feet (8.27 inches), 43.7 feet (8.41inches), 41.9 feet (7.41inches) and 40.6 feet, which is just below the casing, (7.32 inches). Below 98 feet the borehole walls are quite smooth with only small caliper deflections.

The temperature log for PW-08-02 shows an ambient water temperature below the casing averaging 8.10° C. The temperature decreases at a steep gradient from the bottom of casing at 40 feet to about 110 feet where the temperature levels off. At about 175 feet the temperature begins increasing with depth. There is a gradient change in the temperature log at about 85 feet that may represent a transmissive fracture.

The fluid conductivity log for PW-08-02 shows a median conductivity for the borehole fluid below the casing of about 376 µS/cm. The fluid conductivity is relatively high in the upper part of the borehole from 40 feet to about 87 feet averaging 918 µS/cm. This was the highest conductivity measured in all of the four boreholes that were logged. From 87 feet to about 180 feet the fluid conductivity decreased leveling to a median of 136 µS/cm near the bottom of the borehole from 180 to 235.9 feet.

The single point resistance (SPR) log shows that the median resistance for PW-08-02 is 1,235 ohms for the uncased portion of the borehole. There are some abrupt deflections toward lower resistance that may indicate bedrock fractures. In most instances these resistance anomalies are associated with caliper anomalies. The most prominent SPR anomaly is associated with the very large caliper anomaly at 96 feet. This SPR anomaly also has an SP anomaly (deflection to the right) associated with it, which is another indication of a likely transmissive bedrock fracture.

The optical televiewer log for PW-08-02 indicates that the planar features (possible fractures, bedding planes, joints or cleavages) have varied strike and dip directions. This is different from the other three boreholes in which the predominant strike direction of the planar features was to the northeast. The two major orientations in PW-08-02 are a northwest strike at roughly 300° true and having a median dip of 72° to the northeast or southwest or a northeast strike at about 50° true and having a median dip of 42° mainly to the northwest. The strike and dip of the planar features including the likely and possible transmissive fractures for borehole PW-08-02 are shown on the composite log and tabulated in the appendix.

The flowmeter measurements for PW-08-02 under ambient conditions indicate no flow in the borehole at 38 feet, which is in the casing and a slight downflow of 0.02 gpm at 48 feet. At 52 feet a strong downflow of 0.18 gpm was measured. Strong downflow was measured at greater depths in the borehole until 103.5 feet where there was no measurable flow. These measurements indicate that under ambient conditions water enters PW-08-02 through fractures just under the casing between 40 and 52 feet and moves downward in the borehole. The water exits the borehole mainly through the large fracture located at 96 feet.

Measurements were then repeated while pumping the borehole at ~0.7 gpm. Under pumping conditions, flowmeter measurements indicate no measurable flow at the bottom of the borehole until 92 feet where an upflow of 0.31 gpm was measured. At 28.5 feet, which is within the casing, an upflow of 0.65 gpm was measured. Similar to the ambient measurements the flowmeter results while pumping PW-08-02 indicate that the large fracture at 96 feet and the fractures between 40 and 52 feet are the most transmissive fractures.

PW-08-03:

Total Depth (TOC):	235.0 feet
Casing Depth:	40 feet
Water Level:	10.0 feet

The caliper log for PW-08-03 shows a nominal borehole diameter of 6.25 inches. There are several locations in the borehole where the borehole diameter abruptly widens and may represent bedrock fractures. The largest of these caliper anomalies occur at 61.7 feet (6.72 inches), 83.3 feet (6.54 inches), 134.5 feet (6.5 inches) and 191 feet (654 inches). In addition to these caliper anomalies there are some smaller caliper deflections that are shown on the log that may also represent bedrock fractures.

The temperature log for PW-08-03 shows an ambient water temperature below the casing averaging 7.84° C. The temperature decreases at a steep gradient from the bottom of casing at 40 feet to about 63 feet where the temperature levels off. From about 70 feet until the bottom of the borehole the temperature rises very gradually. The abrupt gradient change in temperature at about 63 feet may indicate a transmissive fracture in this area.

The fluid conductivity log for PW-08-03 shows an average conductivity for the borehole fluid below the casing of about 135 µS/cm. The fluid conductivity is fairly constant over the entire length of the open borehole with no abrupt changes in fluid conductivity.

The single point resistance (SPR) log shows that the median resistance for PW-08-03 is 2,150 ohms for the uncased portion of the borehole. There are some abrupt deflections toward lower resistance that may indicate bedrock fractures. In most instances these resistance anomalies are associated with caliper anomalies. The most prominent SPR anomalies are at 60-65 feet, 98 feet, and 192 feet. These SPR anomalies also have SP anomalies (deflections to the right) associated with them, which is another indication of a likely bedrock fracture.

The optical televiewer log for PW-08-03 indicates that the planar features (possible fractures, bedding planes, joints or cleavages) predominantly strike to the northeast at about 40° true and have a median dip of 51° to the southeast or to the northwest. The strike and dip of the planar features including the likely and possible transmissive fractures for borehole PW-08-03 are shown on the composite log and tabulated in the appendix.

The flowmeter measurements for PW-08-03 under ambient conditions indicate no flow in bottom of the borehole until 130 feet where a downflow of 0.04 was measured. Downflow of 0.04 gpm was measured in successive depths going upwards in the borehole until 51 feet where there was no measurable flow. These measurements indicate that under ambient conditions water enters PW-08-03 through fractures between 60 and 66 feet and moves downward in the borehole. The water exits the borehole mainly through the fracture located at 134.5 feet.

Measurements were then repeated while pumping the borehole at ~0.8 gpm. Under pumping conditions, flowmeter measurements indicate no measurable flow at the bottom of the borehole until 189 feet where an upflow of 0.02 gpm was measured. At 130 feet upflow increased to 0.60 gpm and at 59 feet upflow increased to 1.68 gpm. The flowmeter results while pumping PW-08-03 indicate that the fracture at 134.5 feet and the fractures between 60 and 65 feet are transmissive fractures, similar to the ambient measurements. The flowmeter results while pumping also indicate the fracture at 191 feet is also transmissive.

PW-08-04:

Total Depth (TOC):	215.0 feet
Casing Depth:	20 feet
Water Level:	9.3 feet

The caliper log for PW-08-04 shows a nominal borehole diameter of 6.26 inches. There are several locations in the borehole where the borehole diameter abruptly widens and may represent bedrock fractures. The largest of these caliper anomalies occur at 64.4 feet (6.59 inches), 145.3 feet (6.80 inches), 150.4 feet (6.65 inches) and 162.4 feet (6.53 inches). In addition to these caliper anomalies there are some smaller caliper deflections that are shown on the log that may also represent bedrock fractures.

The temperature log for PW-08-04 shows an ambient water temperature below the casing averaging 7.75° C. The temperature increases at a steep gradient from the bottom of casing at 20 feet to about 34 feet where the temperature levels off. At about 40 feet the temperature decreases at a steep gradient until about 63 feet where there is a gradient change. At about 95 feet the temperature flattens and from here to the bottom of the borehole the temperature is fairly constant. The areas of gradient changes may be areas of transmissive fractures.

The fluid conductivity log for PW-08-04 shows an average conductivity for the borehole fluid below the casing of about 126 µS/cm. The fluid conductivity is fairly constant over the entire length of the open borehole with no abrupt changes in fluid conductivity. There are some subtle changes in fluid resistivity at about 62 feet and at 168 feet that may indicate transmissive fractures in these areas.

The single point resistance (SPR) log shows that the median resistance for PW-08-04 is 2,247 ohms for the uncased portion of the borehole. There are some abrupt deflections toward lower resistance that may indicate bedrock fractures. In most instances these resistance anomalies are associated with caliper anomalies. The most prominent SPR anomalies are at 49, 62, 96, 145.5 and 162 feet. These SPR anomalies also have SP anomalies (deflections to the right) associated with them, which is another indication of a likely bedrock fracture.

The optical televiewer log for PW-08-04 indicates that the planar features (possible fractures, bedding planes, joints or cleavages) predominantly strike to the northeast at about 50° true and have a median dip of 62° mainly to the northwest. The strike and dip of the planar features including the likely and possible transmissive fractures for borehole PW-08-04 are shown on the composite log and tabulated in the appendix.

The flowmeter measurements for PW-08-04 under ambient conditions indicate no flow at 18.4 feet, which is in the casing. At 25 feet a downflow of 0.04 was measured. At 67 feet downflow increased to 0.07 gpm. Downflow measurements increased in successive depths going downwards in the borehole and by 133 feet downflow measured 0.23 gpm. At 143 feet downflow decreased to 0.13 gpm and at 148.2 feet downflow decreased to 0.06 gpm. At 165 feet there was no measurable flow. These measurements indicate that under ambient conditions water enters PW-08-04 through fractures in the upper part of the borehole just below the casing at 20 feet. Additional water enters the borehole through fractures between 60 and 66 feet, 83.4 feet, and 96-101 feet and moves downward in the borehole. The water exits the borehole mainly through a series of fractures located from 137 to 163 feet.

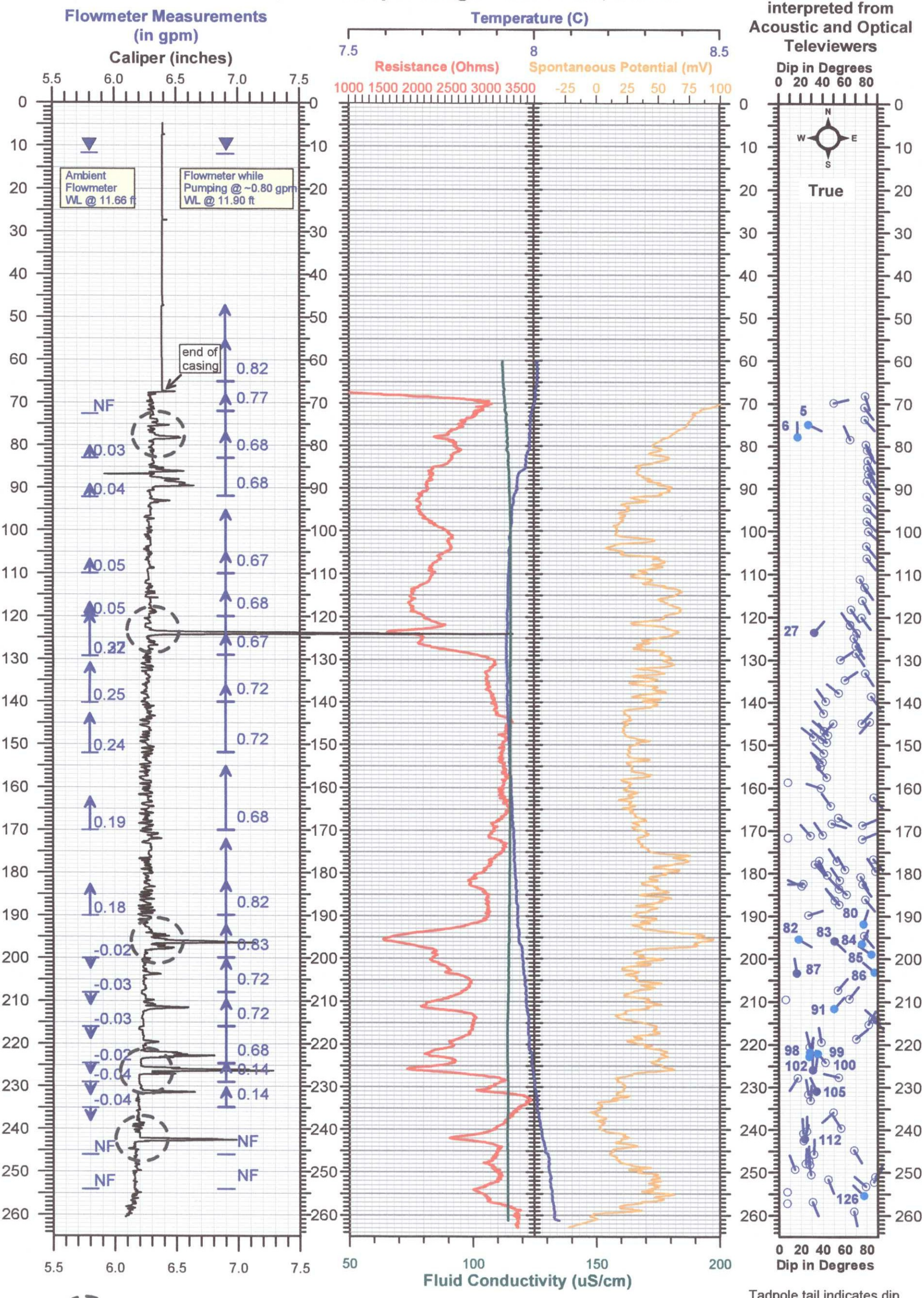
Measurements were then repeated while pumping the borehole at ~0.8 gpm. Under pumping conditions, flowmeter measurements indicate no measurable flow at the bottom of the borehole until 155 feet where a downflow of 0.04 gpm was measured. At 143 feet a strong upflow of 0.23 gpm was measured. At 99 feet upflow increased to 0.60 gpm and at 91 feet upflow increased to 1.07 gpm. Upflow measurements generally increased with successive measurements going upwards in the borehole. The flowmeter measurements from 91 feet to 18.6 feet all exceeded 1 gpm, which is the upper calibrated limit of the flowmeter and so the differences in these measurements may not be significant. The flowmeter results while pumping PW-08-04 indicate that the fracture at 162.2 feet, the fractures at 150.7 and 146 feet and the fractures between 96 and 101 feet are transmissive fractures.

BOREHOLE GEOPHYSCIAL LOGS

Northeast Geophysical Services

FIGURE A-1
Borehole Geophysical Log
PW-08-01
Juniper Ridge - Old Town, Maine

Date logged: 1/08/09



= Likely transmissive zone

= Possible transmissive zone

Tadpole tail indicates dip direction.
The solid tadpoles with a feature number are the ones interpreted to be likely or possibly transmissive.

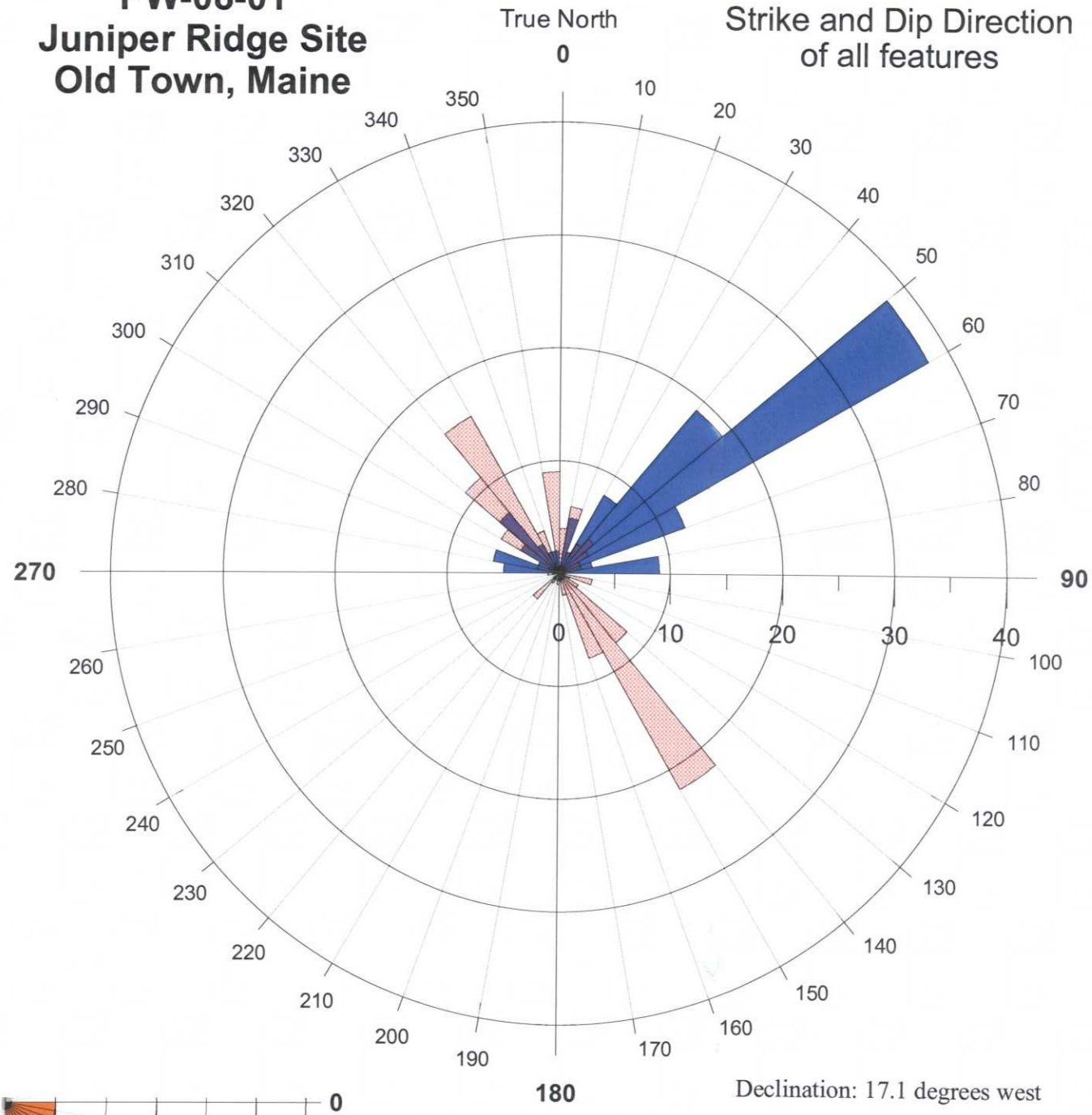
Borehole Geophysical Log
PW-08-01
Juniper Ridge - Old Town, Maine

Northeast Geophysical Services

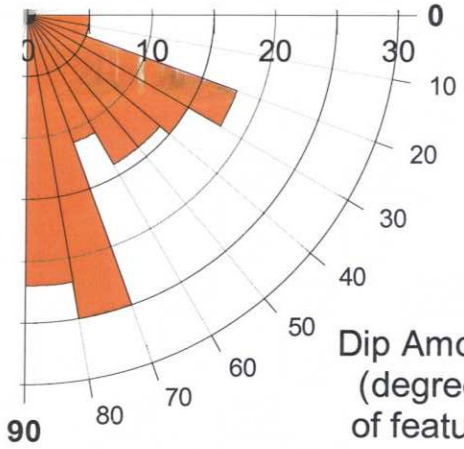
FIGURE A-2

PW-08-01
Juniper Ridge Site
Old Town, Maine

Strike and Dip Direction of all features



Declination: 17.1 degrees west



Explanation

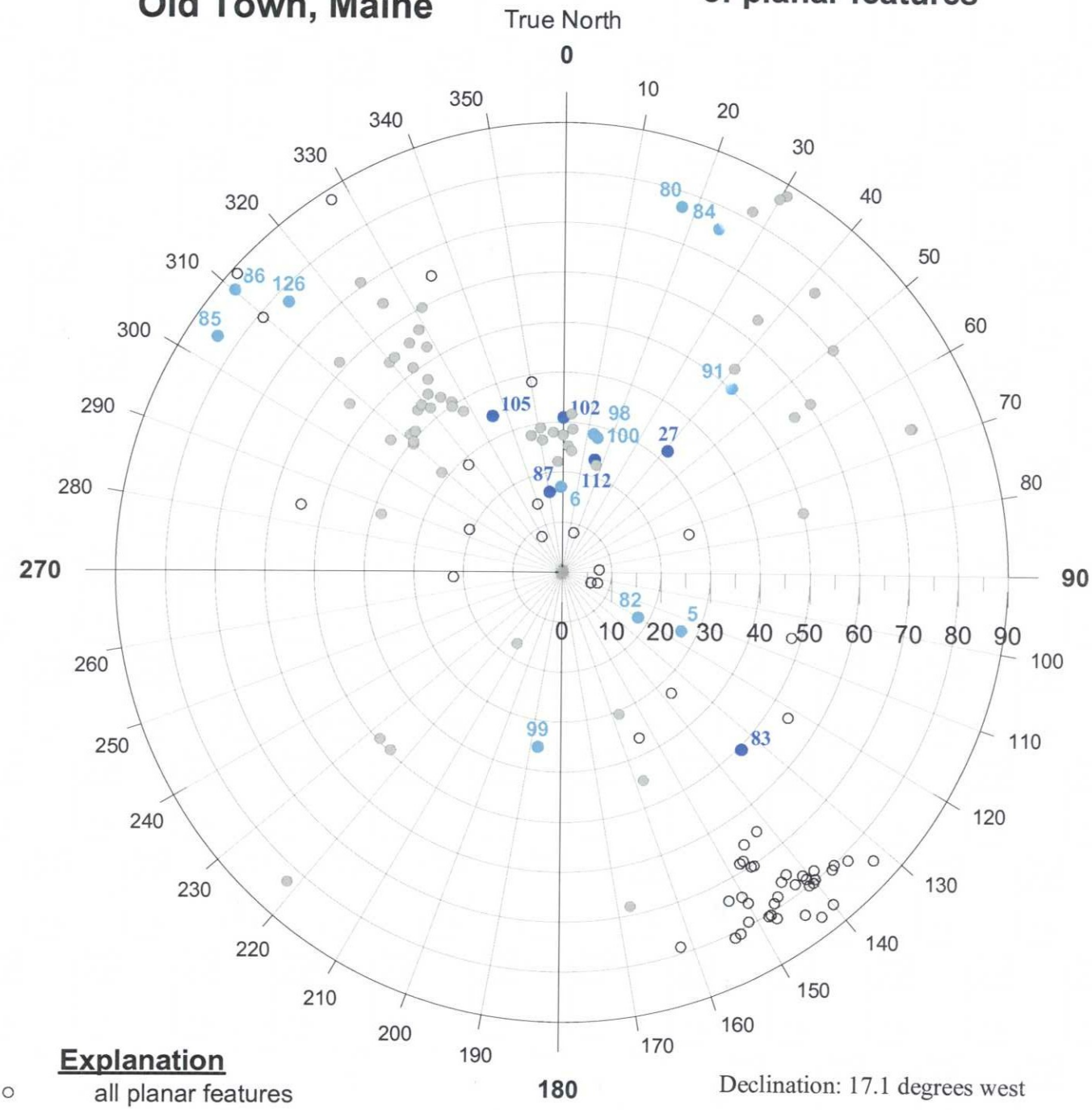
- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

Based on 129 measurements

FIGURE A-3

PW-08-01
Juniper Ridge Site
Old Town, Maine

Dip Amount and Dip Azimuth of planar features



Explanation

- all planar features
- Likely water bearing
- Possibly water bearing
- Qzt/calcite veins

Declination: 17.1 degrees west

Based on 129 measurements

TABLE A1 - PW-08-01 Interpreted Structure							Declination	17.1
Borehole	Feature #	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-01	1	68.2	79	179	89	162	72	100
PW-08-01	2	69.8	50	93	3	76	346	103
PW-08-01	3	70.8	78	160	70	143	53	100
PW-08-01	4	73.7	78	156	66	139	49	100
PW-08-01	5	74.9	27	133	43	116	26	108
PW-08-01	6	77.8	17	16	286	359	89	108
PW-08-01	7	78.4	65	353	83	335	65	100
PW-08-01	8	79.6	79	168	78	151	61	100
PW-08-01	9	80.9	80	165	75	148	58	100
PW-08-01	10	83.3	81	171	81	154	64	100
PW-08-01	11	84.9	81	170	80	153	63	100
PW-08-01	12	86.5	82	165	75	147	57	100
PW-08-01	13	88.1	80	165	75	148	58	100
PW-08-01	14	91.8	80	157	67	140	50	100
PW-08-01	15	94.6	81	154	64	137	47	100
PW-08-01	16	97.6	80	153	63	136	46	100
PW-08-01	17	99.9	82	152	62	135	45	100
PW-08-01	18	103.4	80	157	67	140	50	100
PW-08-01	19	106.2	80	158	68	141	51	100
PW-08-01	20	111.1	74	169	79	152	62	100
PW-08-01	21	113.0	78	163	73	146	56	100
PW-08-01	22	116.1	76	167	77	150	60	100
PW-08-01	23	118.2	66	163	73	146	56	100
PW-08-01	24	120.1	75	160	70	143	53	100
PW-08-01	25	121.7	65	159	69	142	52	100
PW-08-01	26	121.8	65	343	73	326	56	103
PW-08-01	27	123.5	32	58	328	41	311	107
PW-08-01	28	123.6	71	342	72	324	54	103
PW-08-01	29	124.8	68	164	74	147	57	100
PW-08-01	30	126.7	70	164	74	147	57	100
PW-08-01	31	128.4	70	163	73	146	56	100
PW-08-01	32	129.9	56	73	343	56	326	103
PW-08-01	33	133.1	79	164	74	147	57	100
PW-08-01	34	134.7	60	73	343	56	326	103
PW-08-01	35	137.8	55	325	55	308	38	103
PW-08-01	36	138.5	84	161	71	144	54	100
PW-08-01	37	139.7	43	341	71	324	54	103
PW-08-01	38	142.5	41	343	73	326	56	103
PW-08-01	39	144.5	83	239	329	222	312	103
PW-08-01	40	144.9	76	59	329	42	312	103
PW-08-01	41	144.9	50	241	331	224	314	103
PW-08-01	42	146.6	41	329	59	311	41	103
PW-08-01	43	147.7	45	339	69	322	52	103
PW-08-01	44	148.1	31	326	56	309	39	103
PW-08-01	45	148.6	40	327	57	310	40	103
PW-08-01	46	149.4	44	324	54	307	37	103
PW-08-01	47	151.9	41	330	60	313	43	103
PW-08-01	48	154.0	40	328	58	310	40	103
PW-08-01	49	155.1	38	345	75	328	58	103
PW-08-01	50	157.5	44	335	65	317	47	103
PW-08-01	51	158.7	8	33	303	16	286	100
PW-08-01	52	160.0	38	304	34	287	17	103
PW-08-01	53	162.1	87	159	69	142	52	100
PW-08-01	54	164.1	47	341	71	324	54	103
PW-08-01	55	166.9	54	139	49	122	32	100
PW-08-01	56	168.2	48	123	33	105	15	100
PW-08-01	57	168.7	76	85	355	67	337	103

TABLE A1 - PW-08-01 Interpreted Structure							Declination	17.1
Borehole	Feature #	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-01	58	170.9	40	343	73	326	56	103
PW-08-01	59	171.1	29	335	65	318	48	100
PW-08-01	60	171.6	8	346	76	329	59	100
PW-08-01	61	171.9	76	84	354	67	337	103
PW-08-01	62	176.6	86	157	67	140	50	100
PW-08-01	63	176.9	37	171	81	154	64	100
PW-08-01	64	177.1	53	345	75	328	58	103
PW-08-01	65	177.8	33	154	64	137	47	100
PW-08-01	66	179.1	60	348	78	331	61	103
PW-08-01	67	179.4	88	345	75	328	58	100
PW-08-01	68	180.3	44	336	66	319	49	103
PW-08-01	69	180.8	74	167	77	150	60	100
PW-08-01	70	181.6	55	343	73	325	55	103
PW-08-01	71	182.4	22	284	14	267	357	100
PW-08-01	72	182.5	76	161	71	144	54	100
PW-08-01	73	182.9	21	311	41	294	24	100
PW-08-01	74	183.6	55	337	67	320	50	103
PW-08-01	75	184.9	62	330	60	313	43	103
PW-08-01	76	186.1	79	158	68	141	51	100
PW-08-01	77	186.3	51	340	70	323	53	103
PW-08-01	78	187.3	55	338	68	321	51	103
PW-08-01	79	189.7	27	90	0	73	343	100
PW-08-01	80	191.9	77	35	305	18	288	108
PW-08-01	81	194.6	78	158	68	141	51	100
PW-08-01	82	195.4	18	137	47	120	30	108
PW-08-01	83	195.8	51	151	61	134	44	107
PW-08-01	84	196.5	76	41	311	24	294	108
PW-08-01	85	198.9	84	321	51	304	34	108
PW-08-01	86	203.1	87	327	57	310	40	108
PW-08-01	87	203.4	16	7	277	350	80	107
PW-08-01	88	207.3	54	57	327	40	310	103
PW-08-01	89	209.3	64	55	325	38	308	103
PW-08-01	90	209.5	6	127	37	110	20	100
PW-08-01	91	211.6	50	60	330	43	313	108
PW-08-01	92	214.0	85	149	59	132	42	100
PW-08-01	93	214.2	89	329	59	312	42	100
PW-08-01	94	215.3	82	45	315	28	298	103
PW-08-01	95	218.6	70	68	338	50	320	103
PW-08-01	96	219.4	39	7	277	350	80	100
PW-08-01	97	220.5	28	4	274	346	76	103
PW-08-01	98	221.8	28	30	300	13	283	108
PW-08-01	99	222.1	35	205	295	188	278	108
PW-08-01	100	222.8	28	31	301	14	284	108
PW-08-01	101	224.1	42	338	68	320	50	103
PW-08-01	102	225.9	31	17	287	360	90	107
PW-08-01	103	227.6	54	301	31	284	14	100
PW-08-01	104	227.8	17	229	319	212	302	103
PW-08-01	105	230.9	34	352	82	335	65	107
PW-08-01	106	231.6	27	8	278	351	81	103
PW-08-01	107	233.1	29	21	291	4	274	103
PW-08-01	108	235.9	50	245	335	227	317	103
PW-08-01	109	239.6	56	346	76	329	59	103
PW-08-01	110	240.3	25	19	289	2	272	103
PW-08-01	111	240.8	22	14	284	357	87	103
PW-08-01	112	242.1	23	33	303	16	286	107
PW-08-01	113	242.5	22	34	304	17	287	103
PW-08-01	114	244.7	68	165	75	148	58	100

TABLE A1 - PW-08-01 Interpreted Structure							Declination	17.1
Borehole	Feature #	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-01	115	245.7	32	20	290	3	273	103
PW-08-01	116	247.3	27	17	287	360	90	103
PW-08-01	117	247.9	24	21	291	4	274	103
PW-08-01	118	248.2	28	13	283	356	86	103
PW-08-01	119	249.2	14	356	86	339	69	100
PW-08-01	120	250.5	29	8	278	351	81	103
PW-08-01	121	251.0	88	48	318	31	301	103
PW-08-01	122	251.6	45	175	85	158	68	103
PW-08-01	123	252.2	87	47	317	30	300	103
PW-08-01	124	253.2	79	327	57	310	40	100
PW-08-01	125	254.5	7	103	13	86	356	100
PW-08-01	126	255.3	77	331	61	314	44	108
PW-08-01	127	256.8	31	175	85	158	68	103
PW-08-01	128	257.2	7	124	34	107	17	100
PW-08-01	129	259.0	68	185	275	168	78	103
Explanation of Categories:								
		100	planar feature: bedding, joint, fracture, foliation etc.					
		103	quartz or calcite vein					
		107	likely transmissive fracture					
		108	possible transmissive fracture					

Northeast Geophysical Services
4 Union Street Bangor, Maine 04401
Tel: 207-942-2700 email: negeophysical.com

Log: Optical Televiewer & Caliper logs

Well: **PW-08-01**

Site: Juniper Ridge

Location: West Old Town, Maine

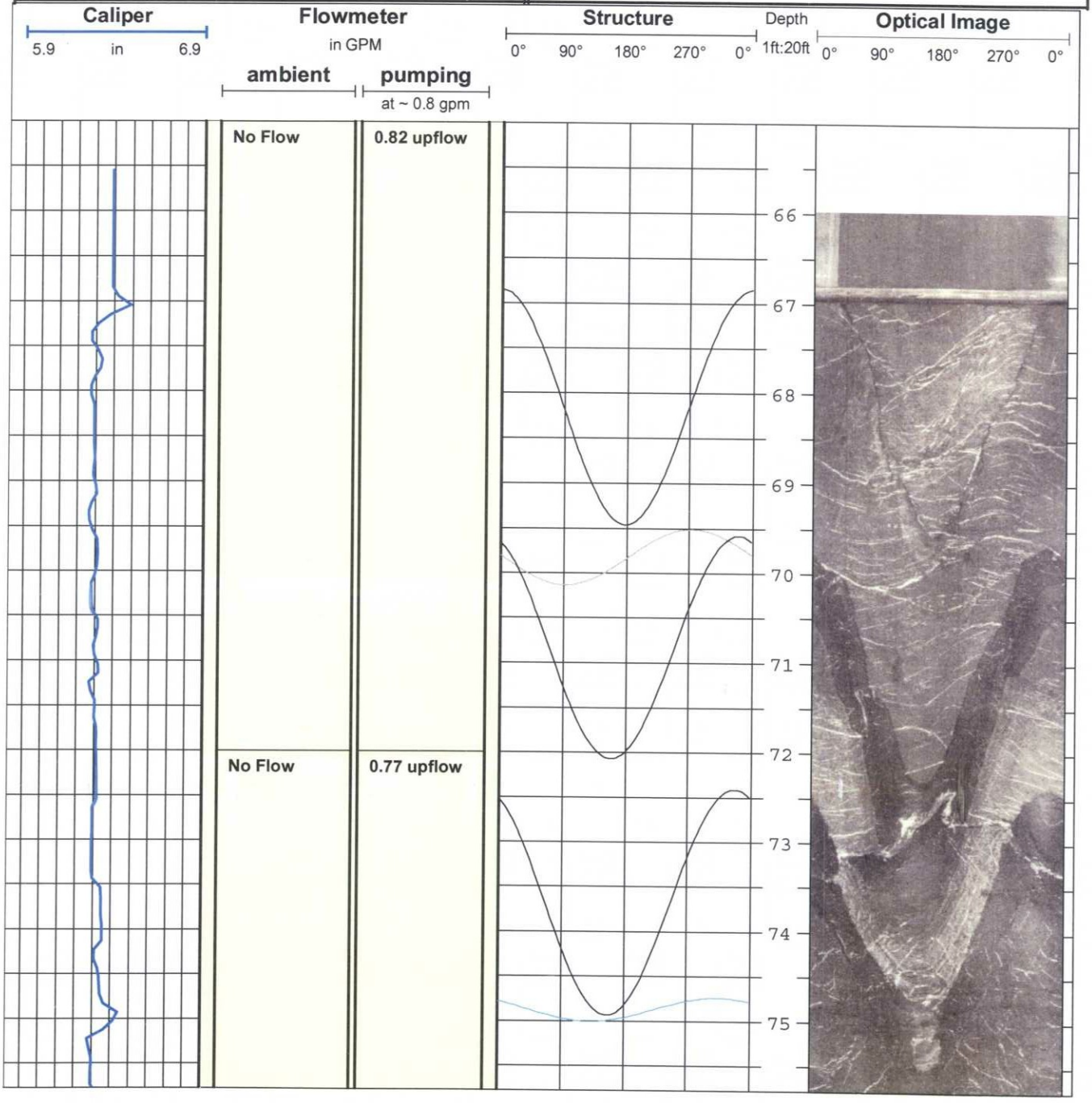
Date:	1/08/09
Casing Depth:	67 ft
Casing Type:	6 in steel
Boring Depth:	261.6 ft
Meas. From:	top of casing
Stickup:	2.6 ft
Water Level:	11.66 ft

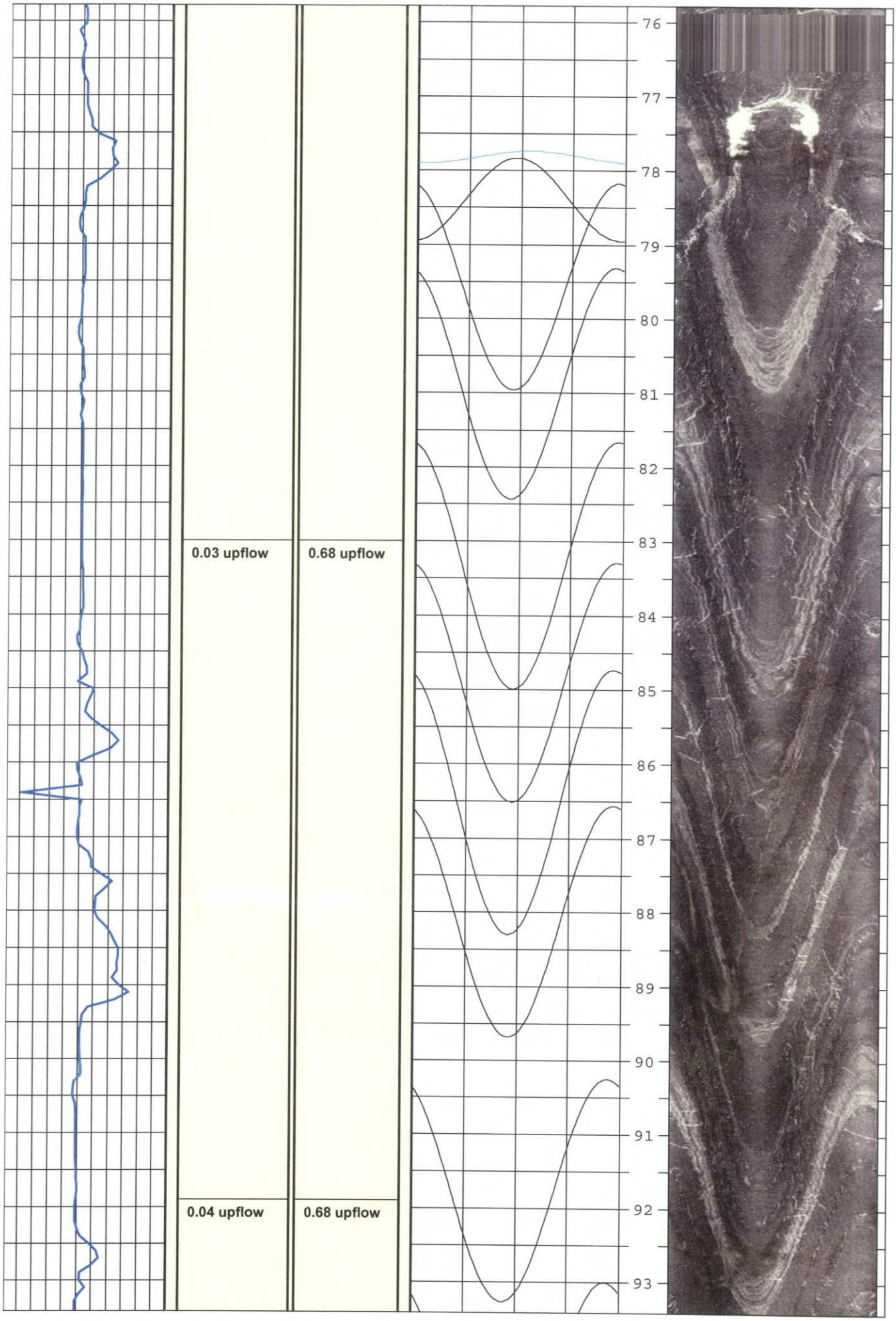
For: Sevee & Maher Engineers

Logged by: R Rawcliffe

Orientation: magnetic

Structure Plots:
black = planar features (joints, fractures, bedding, foliation, etc.)
lt gray = veins of porbably quartz or calcite
lt blue = possibly transmissive fractures
dark blue = likely transmissive fractures

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0.68 upflow
0.04 upflow
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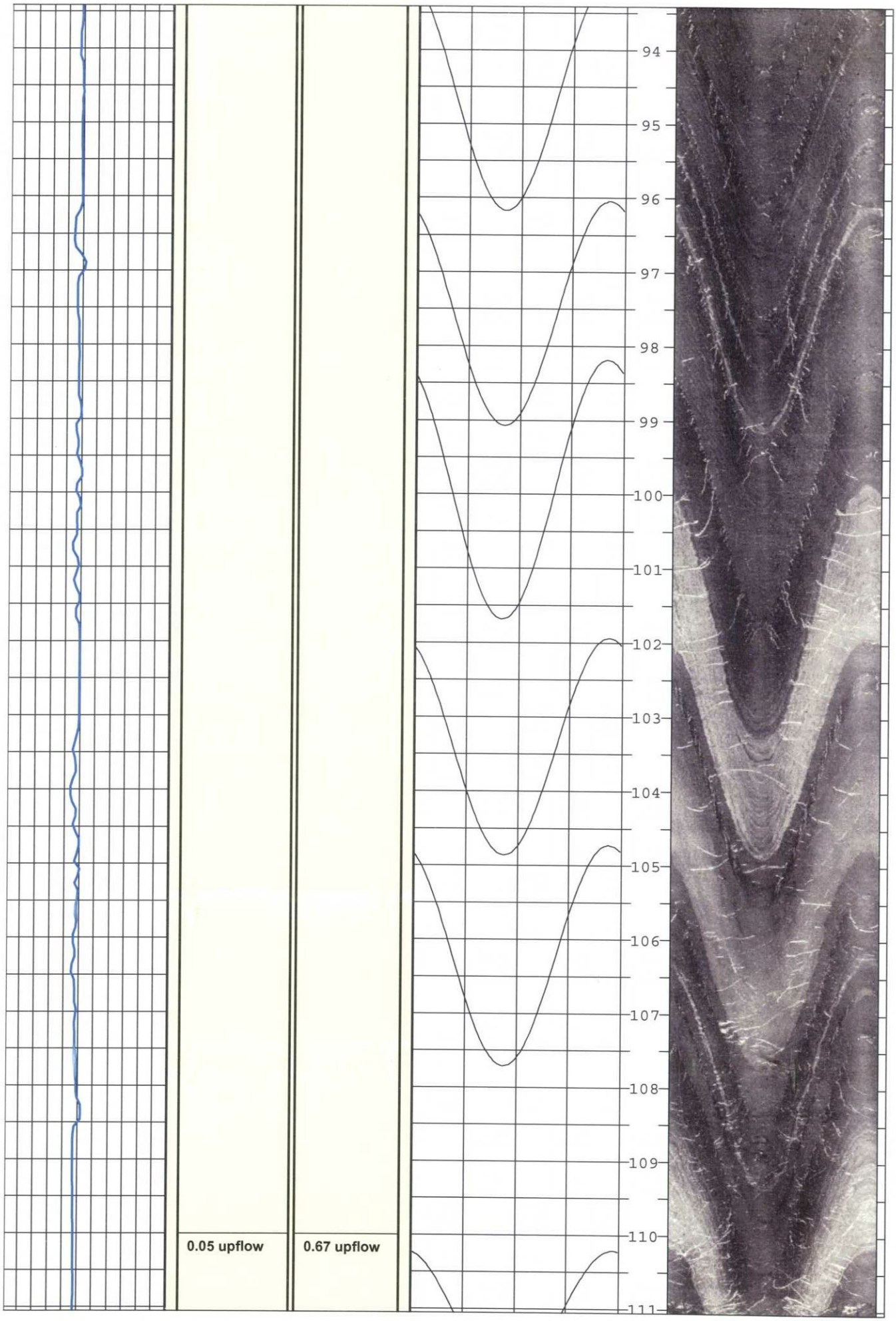
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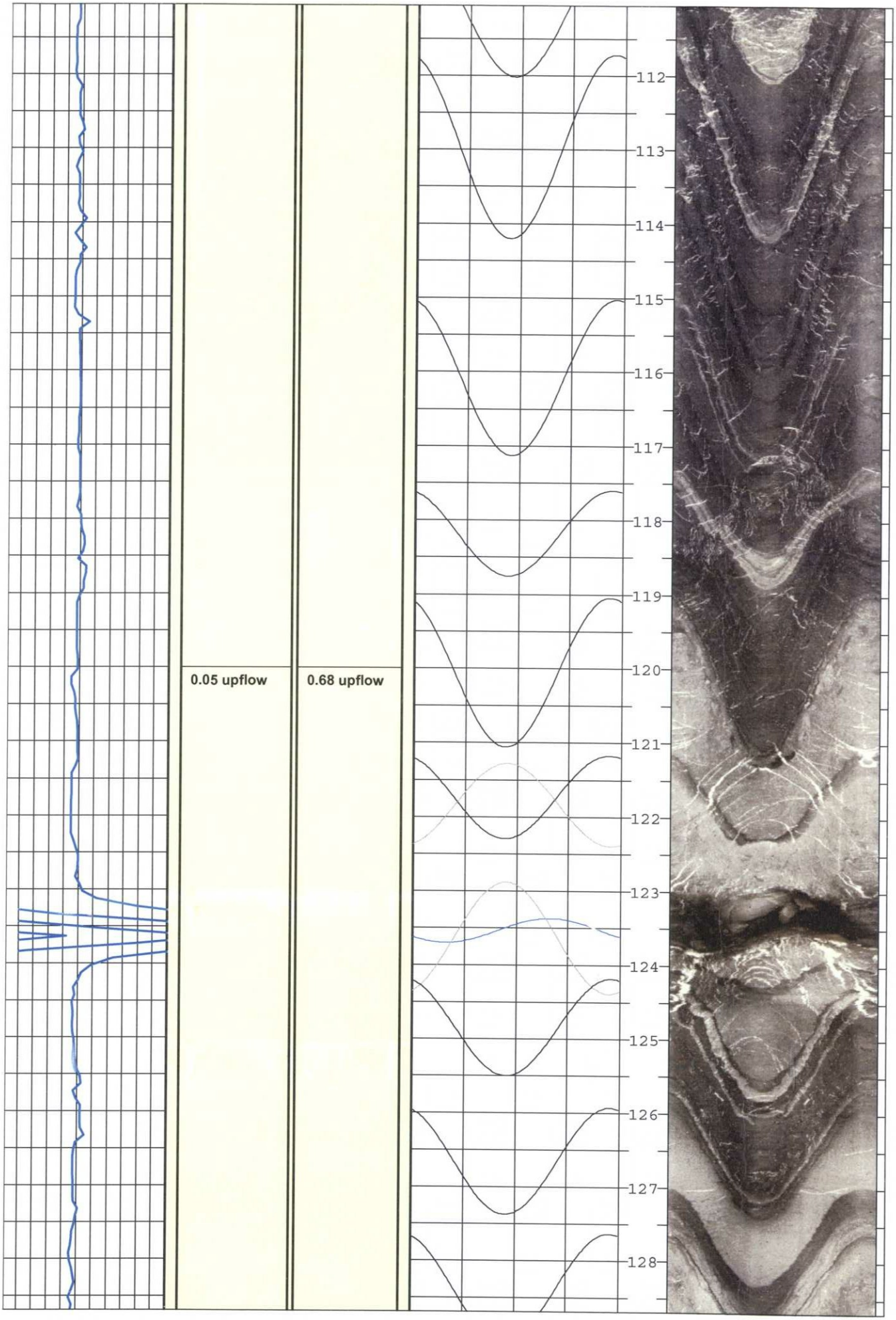
0.05 upflow
0.67 upflow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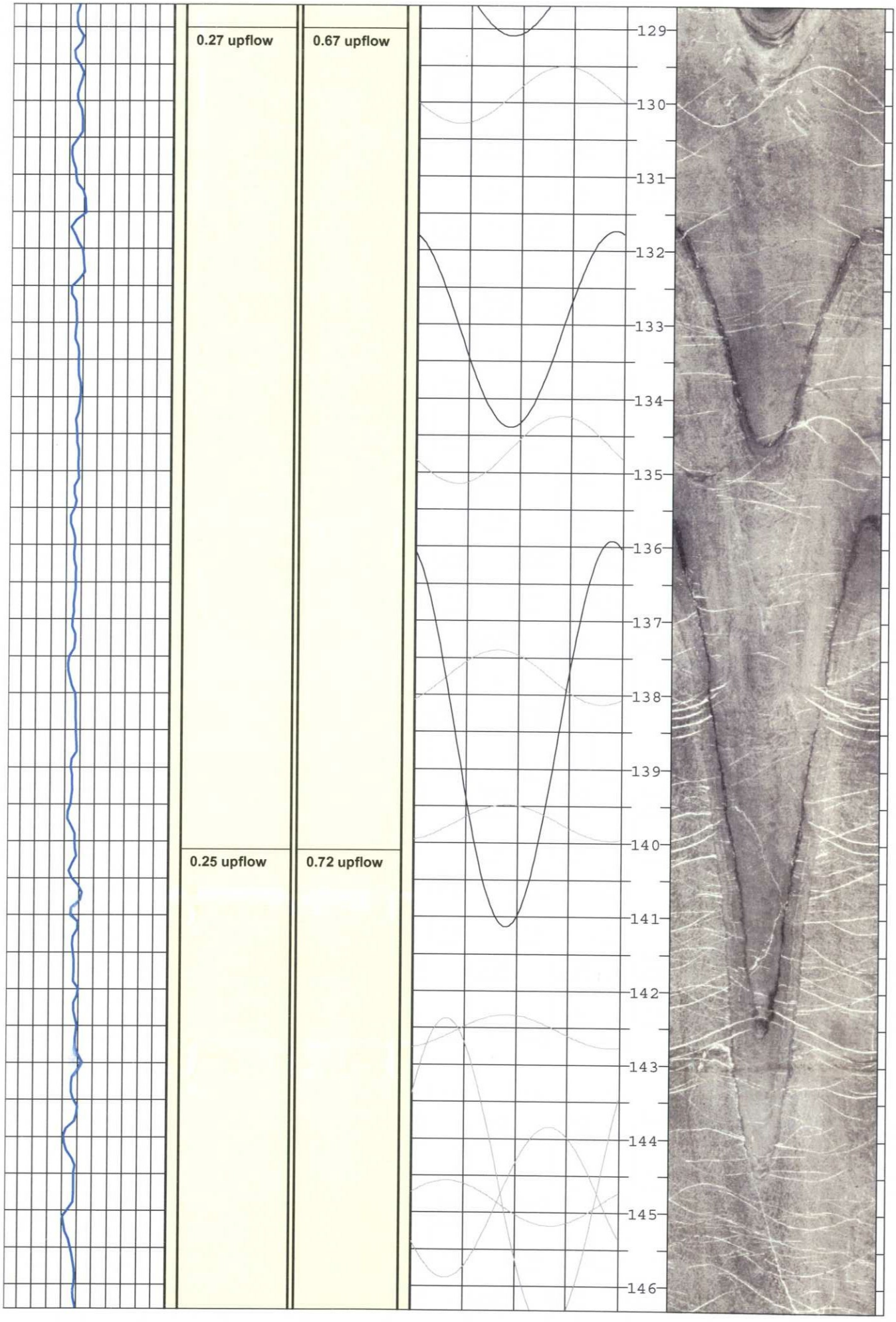
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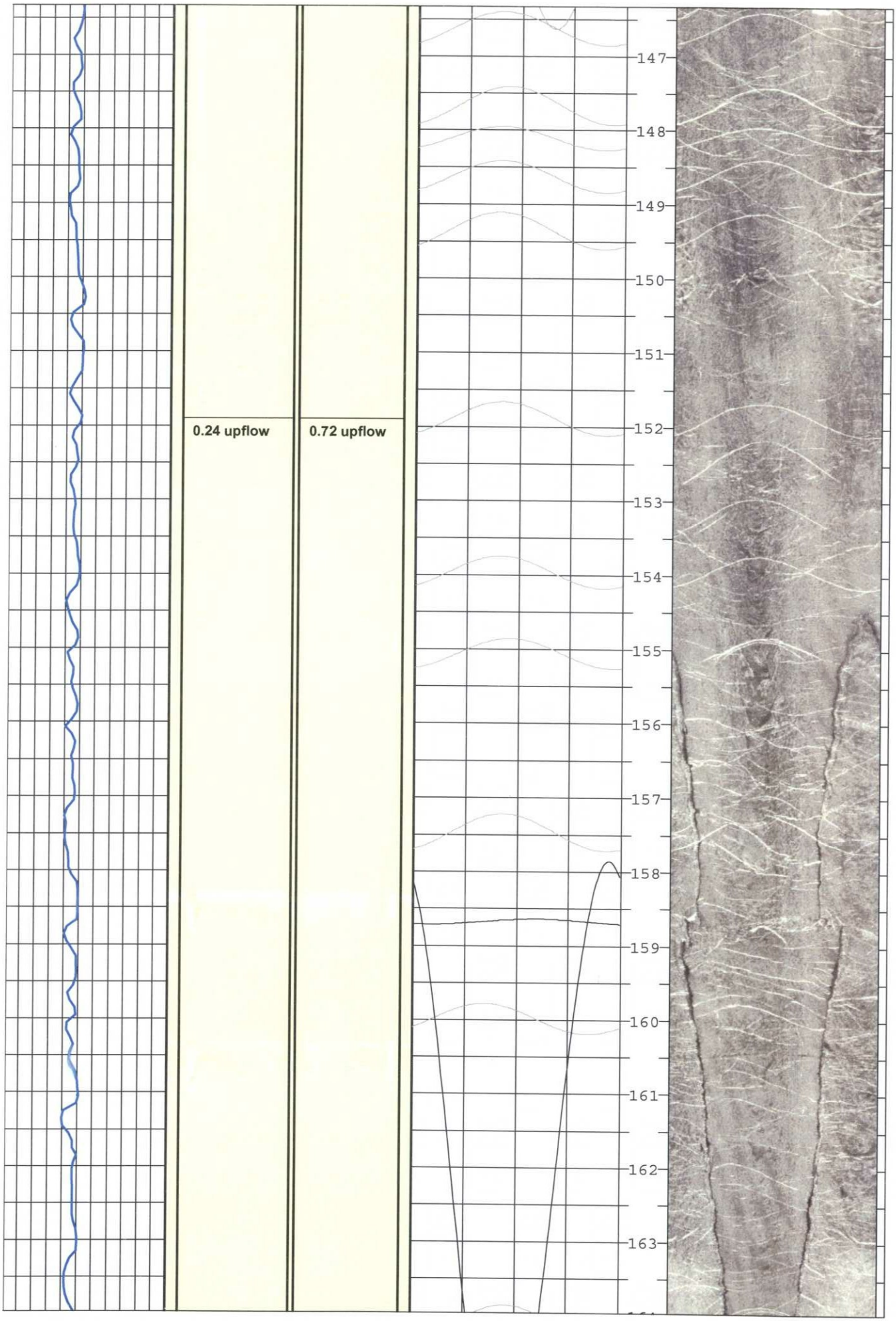
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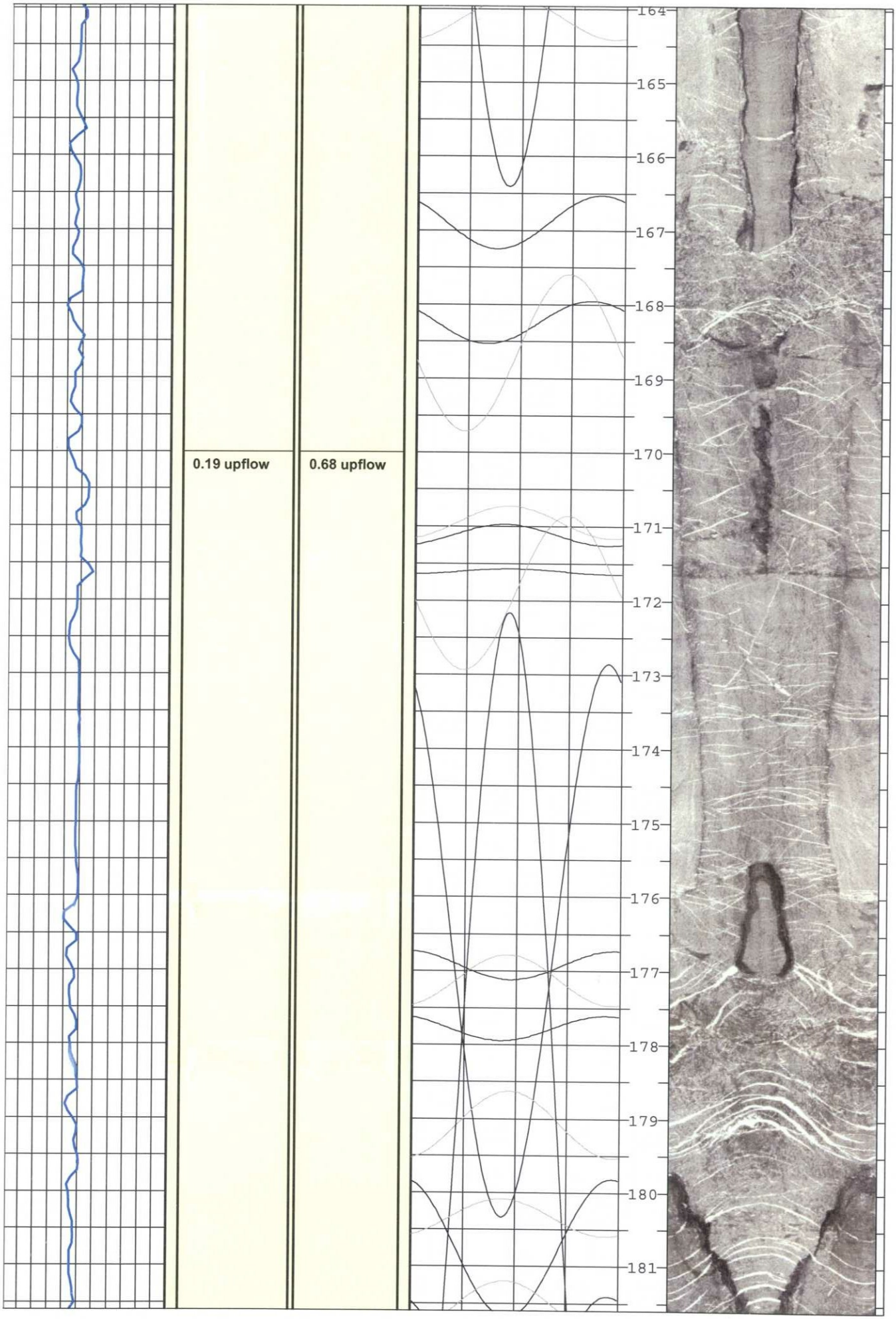
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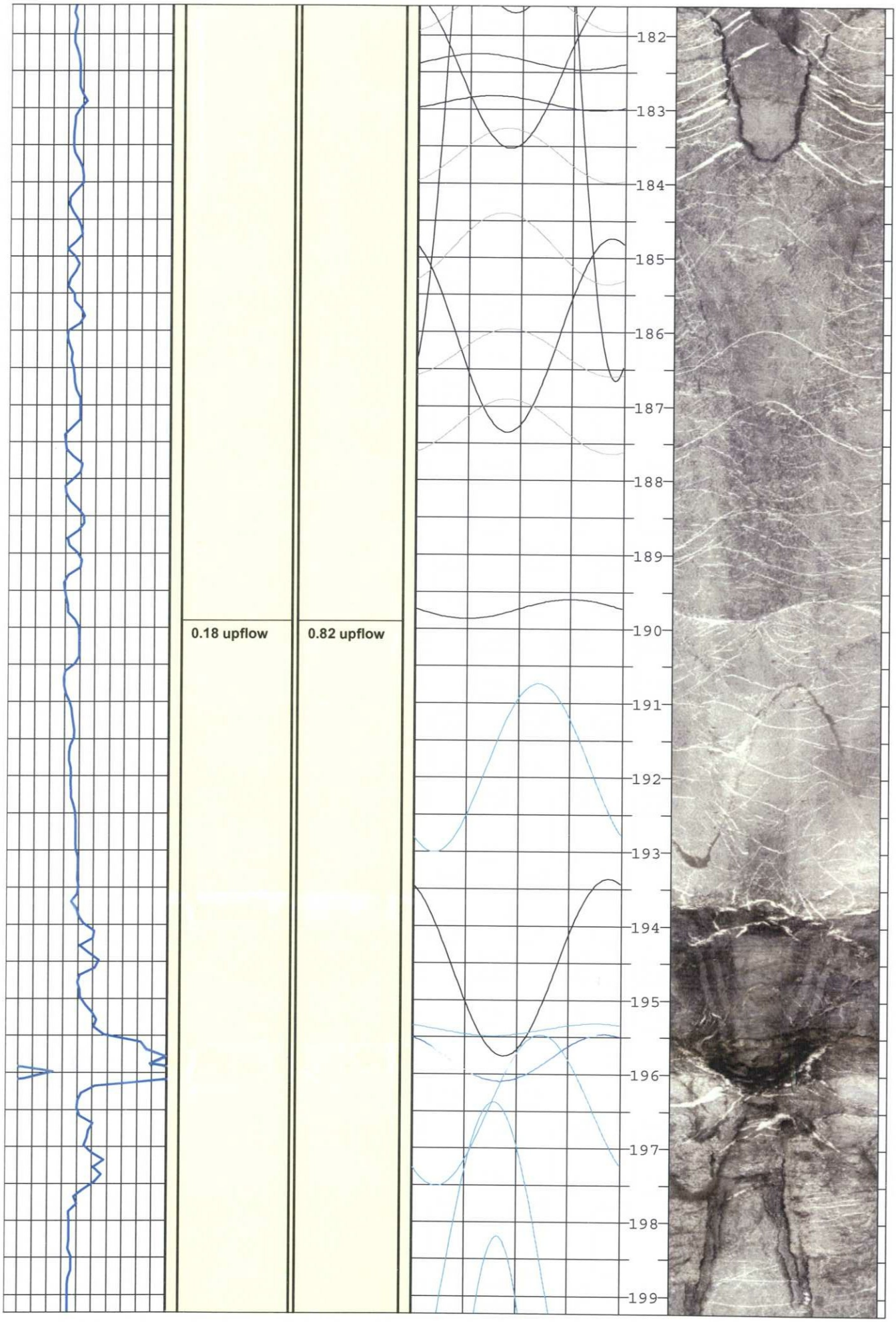
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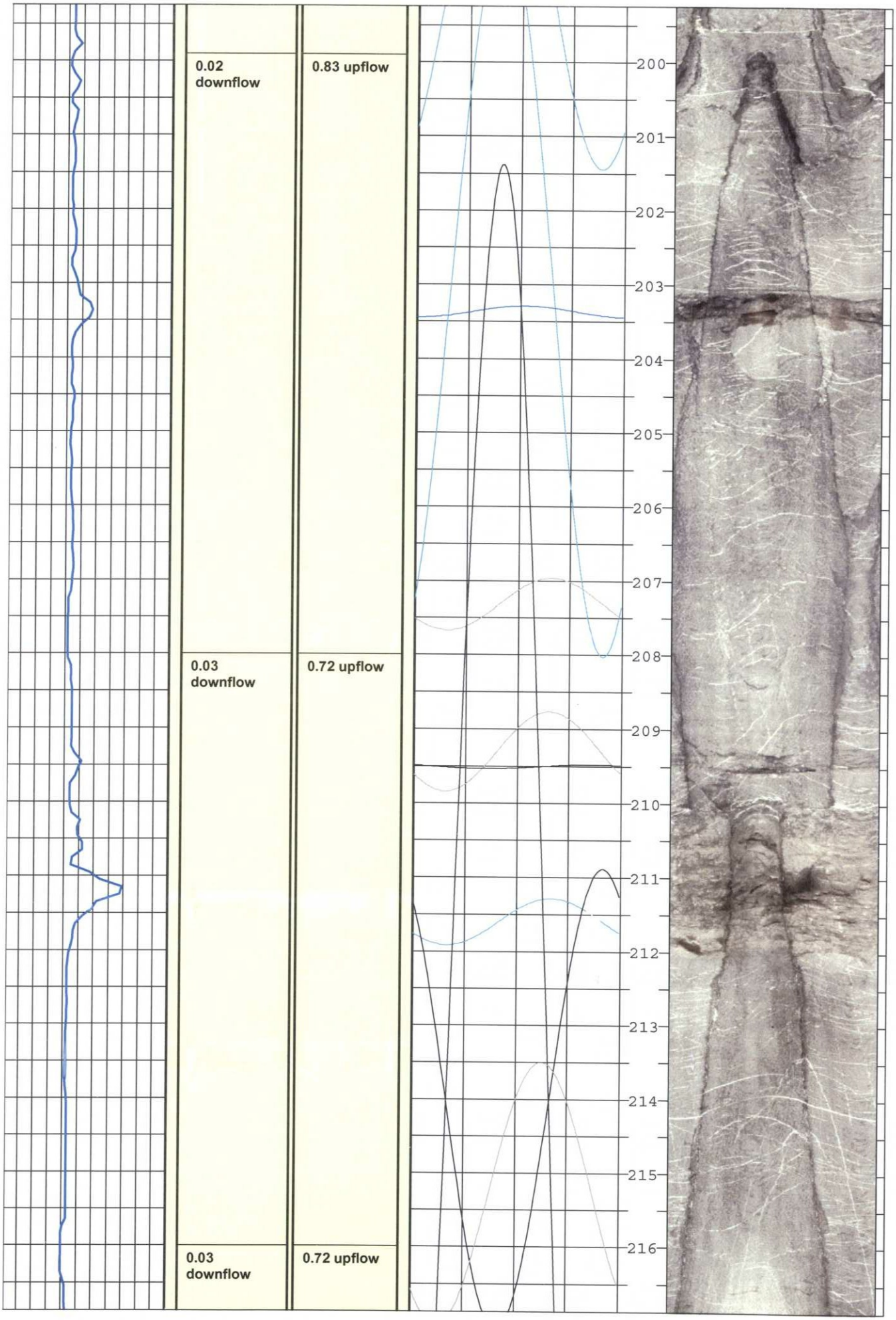
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0.83 upflow
0.03
downflow
0.72 upflow
0.03
downflow
0.72 upflow
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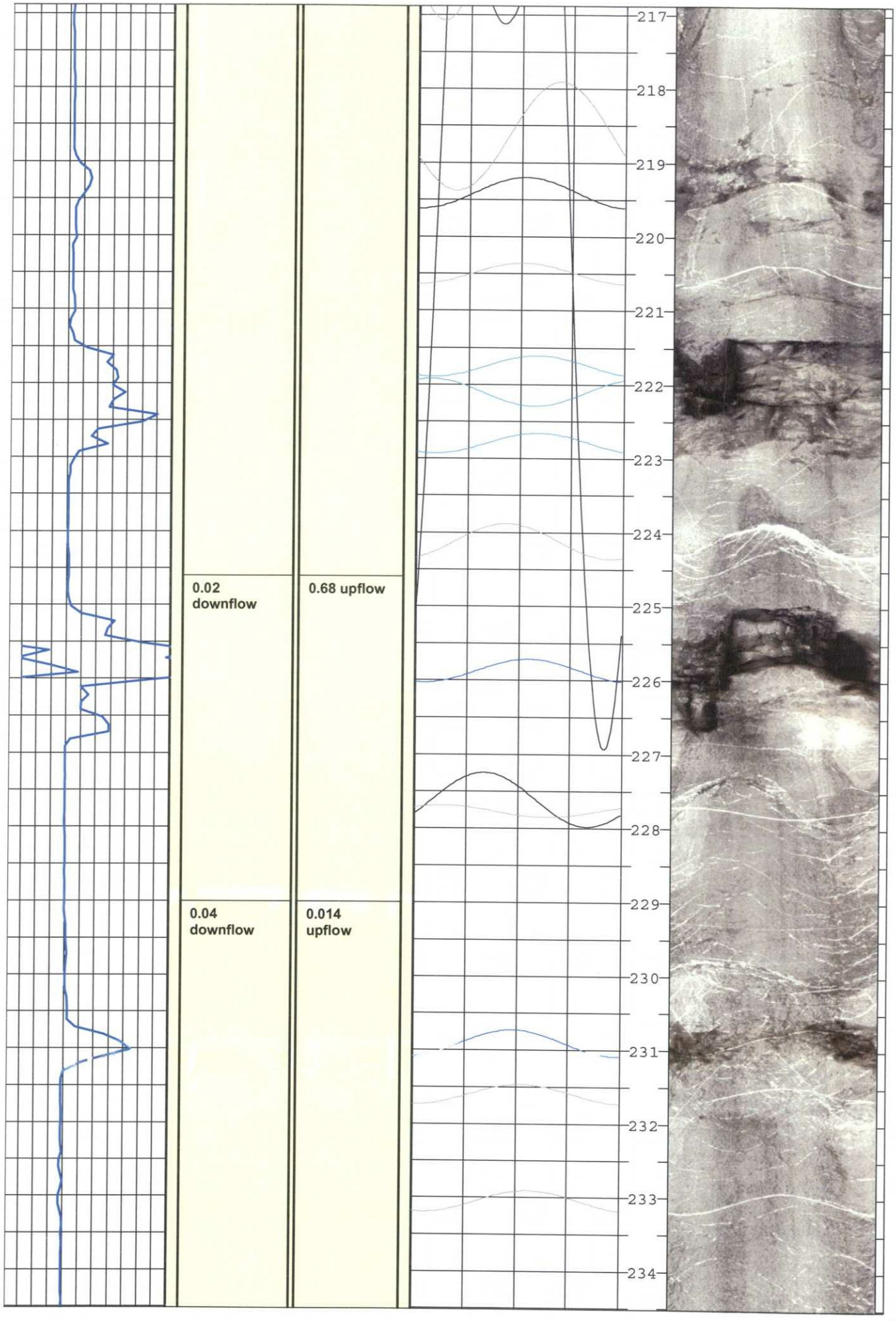
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0.68 upflow
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downflow
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upflow
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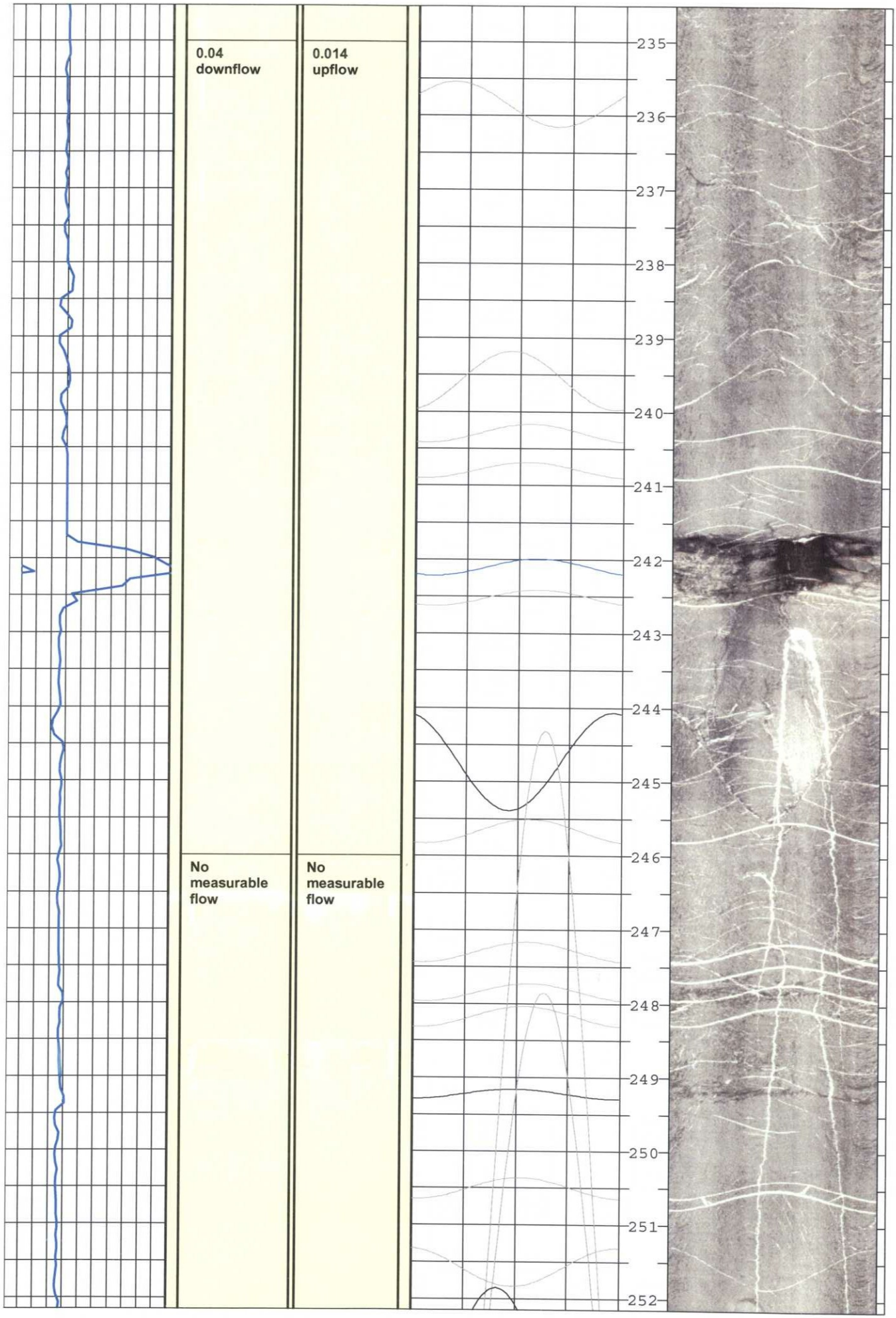
0.04
downflow
0.014
upflow
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measurable
flow
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measurable
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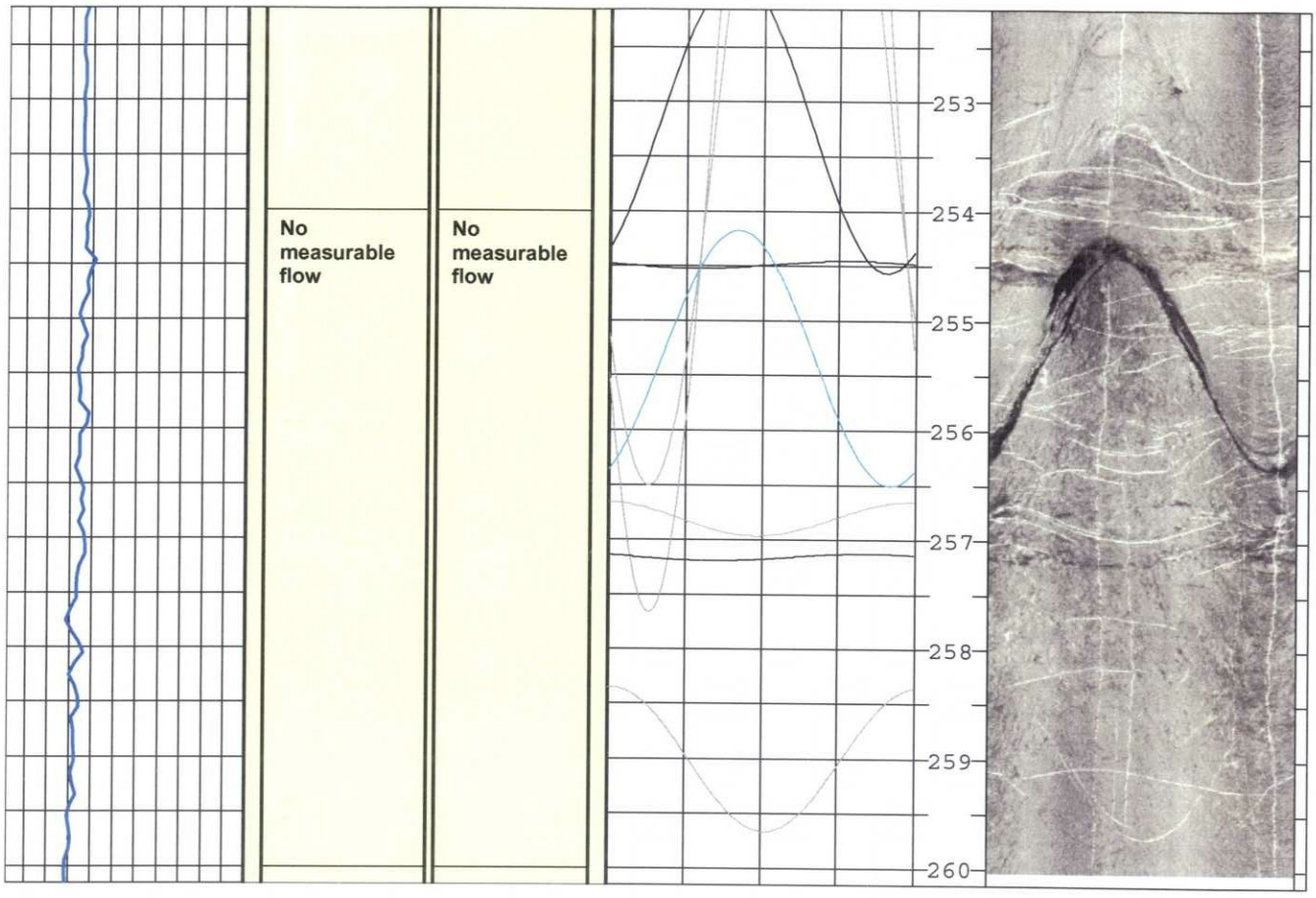
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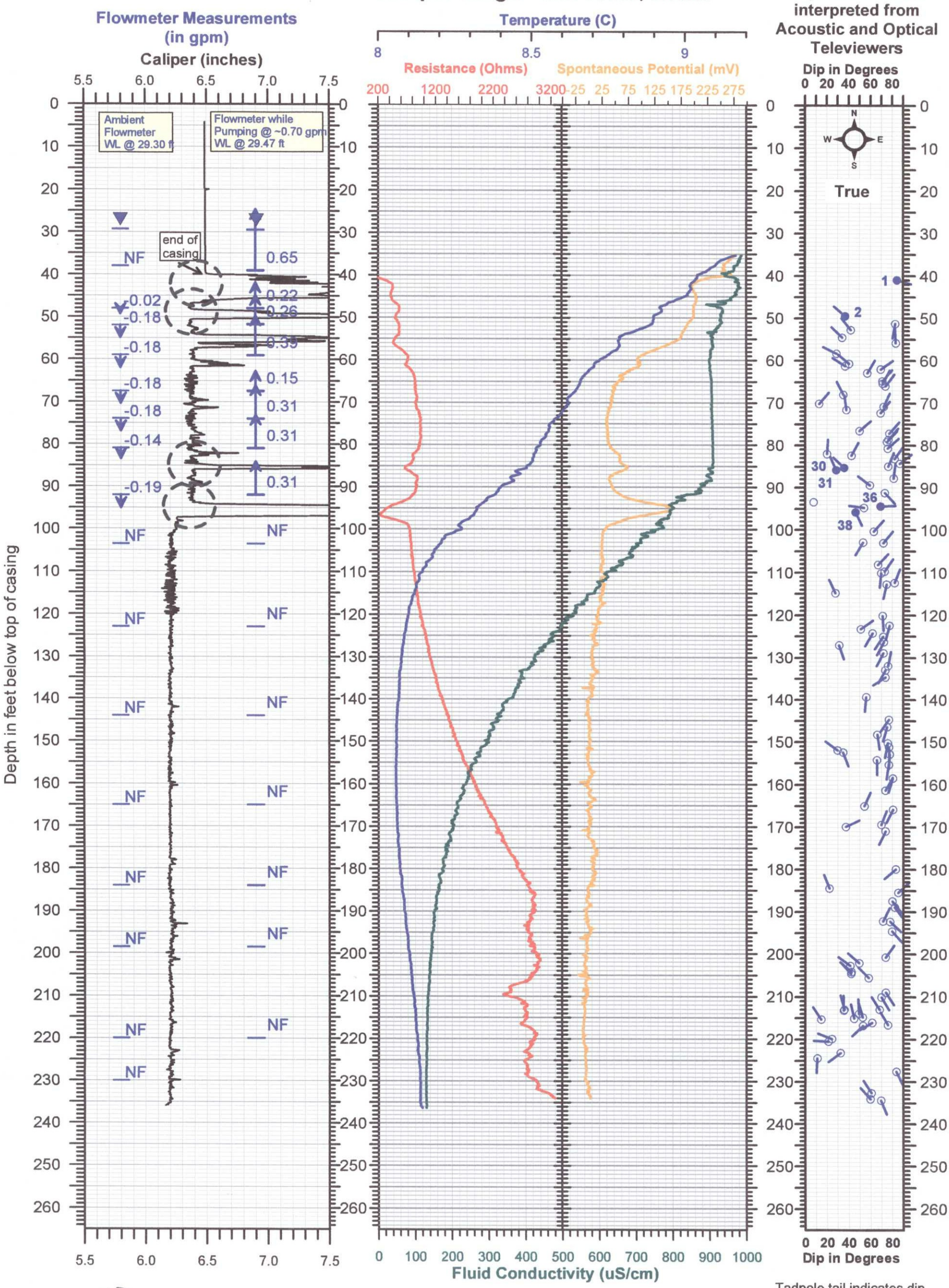
Northeast Geophysical Services

FIGURE B-1
Borehole Geophysical Log
PW-08-02
Juniper Ridge - Old Town, Maine

Date logged: 1/09/09



= Likely transmissive zone

= Possible transmissive zone

Tadpole tail indicates dip direction.
The solid tadpoles with a feature number are the ones interpreted to be likely or possibly transmissive.

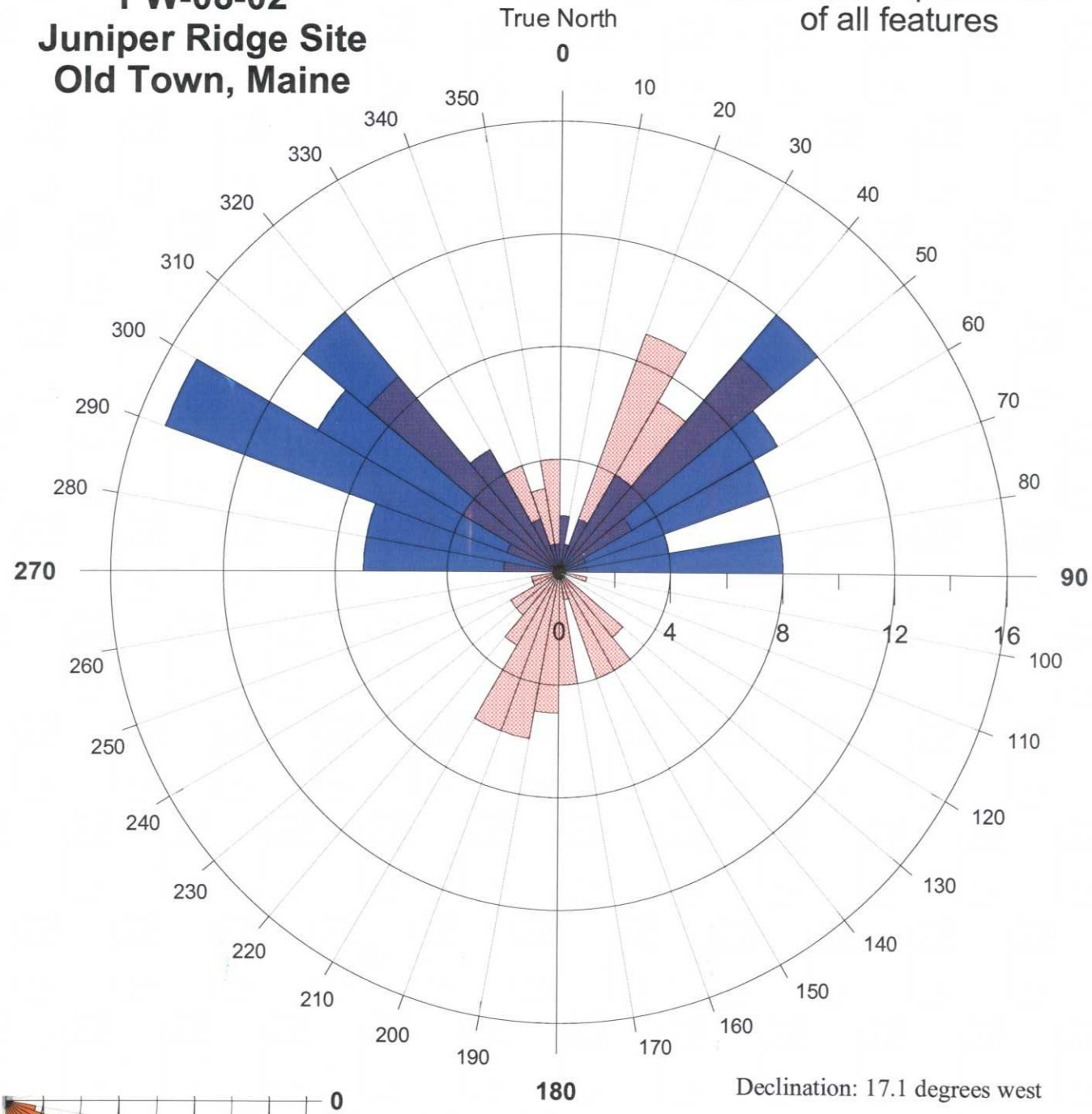
Borehole Geophysical Log
PW-08-02
Juniper Ridge - Old Town, Maine

Northeast Geophysical Services

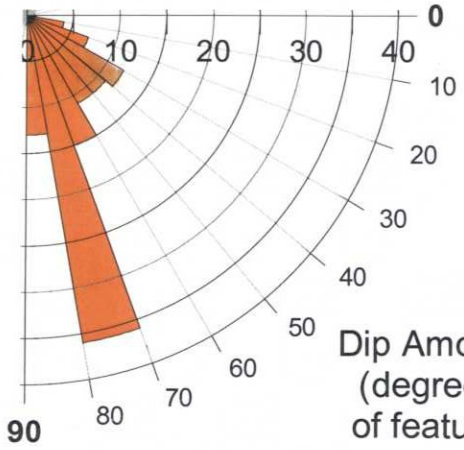
FIGURE B-2

PW-08-02
Juniper Ridge Site
Old Town, Maine

Strike and Dip Direction
of all features



Declination: 17.1 degrees west



Explanation

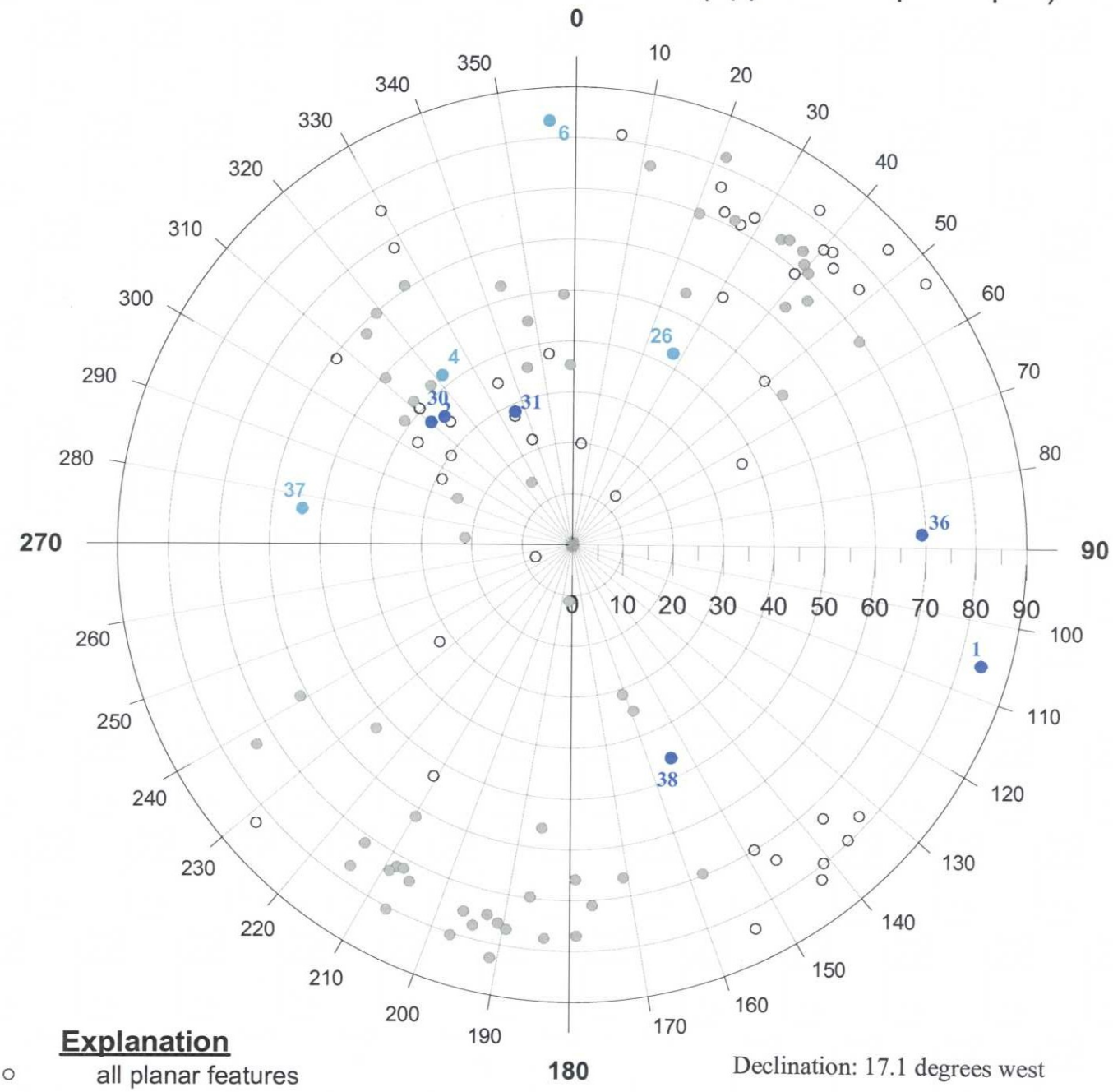
- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

Based on 110 measurements

FIGURE B-3

PW-08-02
Juniper Ridge Site
Old Town, Maine

Dip Amount and Dip Azimuth of planar features
(upper hemisphere plot)



Explanation

- all planar features
- Likely water bearing
- Possibly water bearing
- Qzt/calcite veins

Declination: 17.1 degrees west

Based on 110 measurements

TABLE B-1 - PW-08-02 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-02	1	41.0	84	123	33	106	16	107
PW-08-02	2	49.5	37	327	57	310	40	107
PW-08-02	3	51.3	83	208	298	191	281	103
PW-08-02	4	52.8	42	339	69	322	52	108
PW-08-02	5	54.6	34	332	62	314	44	100
PW-08-02	6	55.8	83	13	283	356	86	108
PW-08-02	7	58.3	29	313	43	296	26	100
PW-08-02	8	60.7	40	328	58	311	41	100
PW-08-02	9	61.2	37	320	50	303	33	100
PW-08-02	10	62.0	69	72	342	55	325	103
PW-08-02	11	62.9	57	48	318	31	301	100
PW-08-02	12	64.8	71	58	328	41	311	103
PW-08-02	13	65.4	71	45	315	27	297	100
PW-08-02	14	66.0	74	55	325	38	308	103
PW-08-02	15	68.0	35	352	82	334	64	100
PW-08-02	16	70.1	13	58	328	41	311	100
PW-08-02	17	70.8	72	41	311	24	294	100
PW-08-02	18	71.6	38	9	279	352	82	100
PW-08-02	19	72.3	69	56	326	39	309	100
PW-08-02	20	76.6	50	66	336	49	319	100
PW-08-02	21	77.1	77	59	329	41	311	100
PW-08-02	22	78.6	76	57	327	40	310	100
PW-08-02	23	79.2	75	60	330	43	313	100
PW-08-02	24	80.7	76	65	335	48	318	100
PW-08-02	25	82.0	20	22	292	4	274	100
PW-08-02	26	82.4	43	45	315	28	298	108
PW-08-02	27	83.1	82	53	323	36	306	100
PW-08-02	28	84.3	87	70	340	53	323	100
PW-08-02	29	85.0	76	39	309	22	292	100
PW-08-02	30	85.3	36	331	61	314	44	107
PW-08-02	31	85.8	28	353	83	336	66	107
PW-08-02	32	87.8	81	24	294	6	276	100
PW-08-02	33	89.4	59	325	55	308	38	100
PW-08-02	34	91.2	73	154	64	137	47	100
PW-08-02	35	93.5	8	269	359	252	342	100
PW-08-02	36	94.4	69	105	15	88	358	107
PW-08-02	37	94.7	54	294	24	277	7	108
PW-08-02	38	95.8	46	172	82	155	65	107
PW-08-02	39	100.3	63	59	329	42	312	103
PW-08-02	40	102.9	53	228	318	211	301	100
PW-08-02	41	103.0	72	56	326	39	309	103
PW-08-02	42	108.1	67	61	331	44	314	103
PW-08-02	43	109.7	73	51	321	34	304	103
PW-08-02	44	110.1	70	204	294	187	277	103
PW-08-02	45	112.4	82	38	308	21	291	103
PW-08-02	46	112.8	75	210	300	193	283	103
PW-08-02	47	114.8	28	352	82	335	65	100
PW-08-02	48	120.2	71	194	284	176	86	103

TABLE B-1 - PW-08-02 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-02	49	122.4	77	212	302	194	284	103
PW-08-02	50	123.3	51	71	341	54	324	103
PW-08-02	51	124.3	62	227	317	210	300	103
PW-08-02	52	125.1	72	232	322	215	305	103
PW-08-02	53	126.3	72	225	315	208	298	103
PW-08-02	54	127.0	31	178	88	161	71	103
PW-08-02	55	128.9	72	224	314	207	297	103
PW-08-02	56	131.9	76	28	298	11	281	103
PW-08-02	57	133.0	74	226	316	209	299	103
PW-08-02	58	134.7	74	255	345	238	328	103
PW-08-02	59	139.3	56	203	293	186	276	103
PW-08-02	60	144.7	77	232	322	214	304	103
PW-08-02	61	146.4	75	213	303	196	286	103
PW-08-02	62	148.2	66	188	278	171	81	103
PW-08-02	63	150.2	76	208	298	191	281	103
PW-08-02	64	151.1	77	196	286	179	89	103
PW-08-02	65	151.9	30	323	53	306	36	100
PW-08-02	66	152.4	35	176	86	159	69	103
PW-08-02	67	152.8	78	201	291	184	274	103
PW-08-02	68	154.2	66	196	286	179	89	103
PW-08-02	69	155.3	77	207	297	190	280	103
PW-08-02	70	158.5	80	214	304	197	287	103
PW-08-02	71	161.3	74	46	316	29	299	100
PW-08-02	72	165.0	54	41	311	24	294	103
PW-08-02	73	165.8	81	224	314	207	297	103
PW-08-02	74	169.4	70	38	308	21	291	103
PW-08-02	75	169.9	37	81	351	64	334	100
PW-08-02	76	170.9	74	223	313	206	296	103
PW-08-02	77	179.9	83	246	336	229	319	100
PW-08-02	78	184.5	22	355	85	338	68	100
PW-08-02	79	185.5	85	64	334	47	317	100
PW-08-02	80	187.5	80	158	68	141	51	100
PW-08-02	81	188.9	82	160	70	143	53	100
PW-08-02	82	192.2	71	43	313	26	296	103
PW-08-02	83	192.3	78	150	60	133	43	100
PW-08-02	84	194.6	80	153	63	136	46	100
PW-08-02	85	200.7	74	52	322	35	305	103
PW-08-02	86	202.1	49	328	58	311	41	103
PW-08-02	87	202.7	41	323	53	306	36	103
PW-08-02	88	204.2	42	328	58	311	41	103
PW-08-02	89	204.6	42	335	65	318	48	103
PW-08-02	90	205.6	58	332	62	315	45	103
PW-08-02	91	209.0	74	164	74	146	56	100
PW-08-02	92	210.1	70	166	76	149	59	100
PW-08-02	93	213.0	36	2	272	345	75	103
PW-08-02	94	213.0	68	345	75	328	58	100
PW-08-02	95	213.2	35	16	286	359	89	103
PW-08-02	96	214.0	49	15	285	357	87	103

TABLE B-1 - PW-08-02 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-02	97	214.8	53	1	271	344	74	103
PW-08-02	98	215.1	45	5	275	348	78	103
PW-08-02	99	215.4	15	343	73	326	56	103
PW-08-02	100	216.1	62	258	348	241	331	103
PW-08-02	101	216.6	76	347	77	330	60	100
PW-08-02	102	216.8	53	244	334	227	317	103
PW-08-02	103	219.9	25	308	38	291	21	103
PW-08-02	104	220.5	21	290	20	273	3	103
PW-08-02	105	223.2	33	251	341	234	324	100
PW-08-02	106	224.4	11	201	291	183	273	103
PW-08-02	107	227.5	84	171	81	154	64	100
PW-08-02	108	232.6	61	343	73	326	56	103
PW-08-02	109	234.1	60	336	66	319	49	103
PW-08-02	110	234.4	70	175	85	158	68	103
Explanation of Categories:								
		100	planar feature: bedding, joint, fracture, foliation etc.					
		103	quartz or calcite vein					
		107	likely transmissive fracture					
		108	possible transmissive fracture					

Northeast Geophysical Services
4 Union Street Bangor, Maine 04401
Tel: 207-942-2700 email: negeophysical.com

Log: Optical Televiewer & Caliper logs

Well: **PW-08-02**

Site: Juniper Ridge

Location: Old Town, Maine

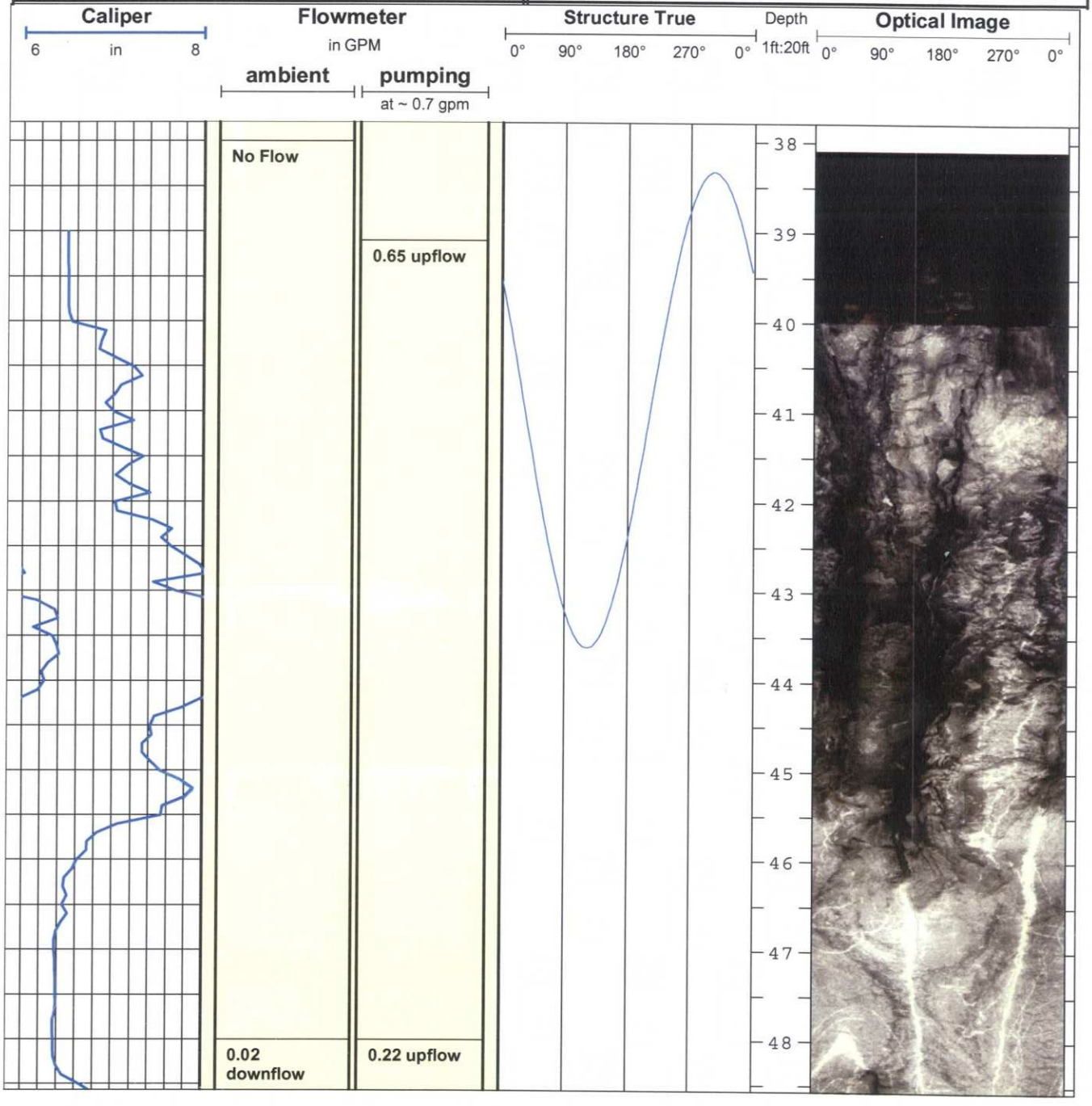
Date:	1/09/09
Casing Depth:	40 ft
Casing Type:	6 in
Boring Depth:	236.9 ft
Meas. From:	top of casing
Stickup:	2.2 ft
Water Level:	29.3 ft

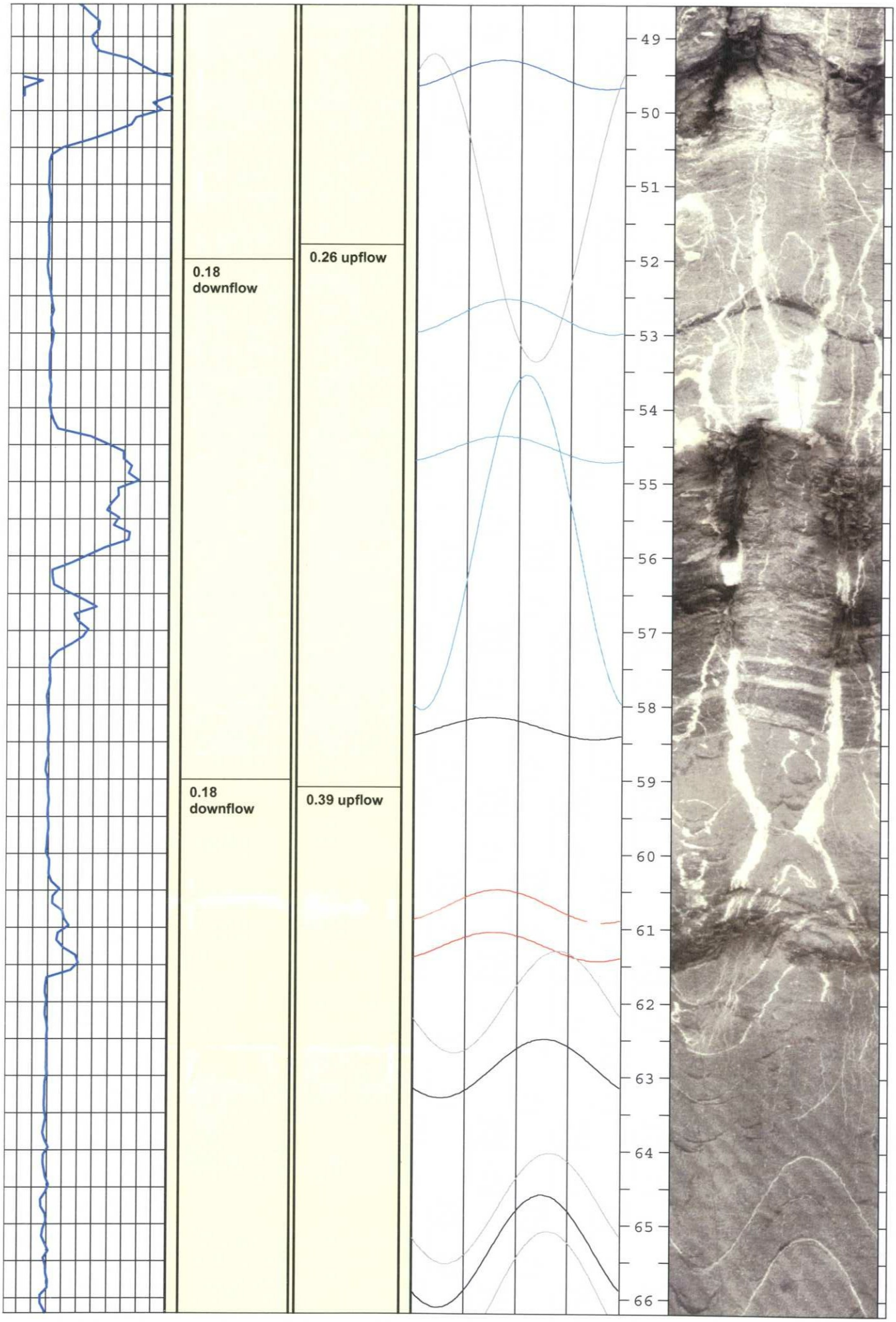
For: SME

Logged by: R. Rawcliffe

Orientation: magnetic

Structure Plots:
black = planar features (joints, fractures, bedding, foliation, etc.)
lt gray = veins of porbably quartz or calcite
lt blue = possibly transmissive fractures
dark blue = likely transmissive fractures

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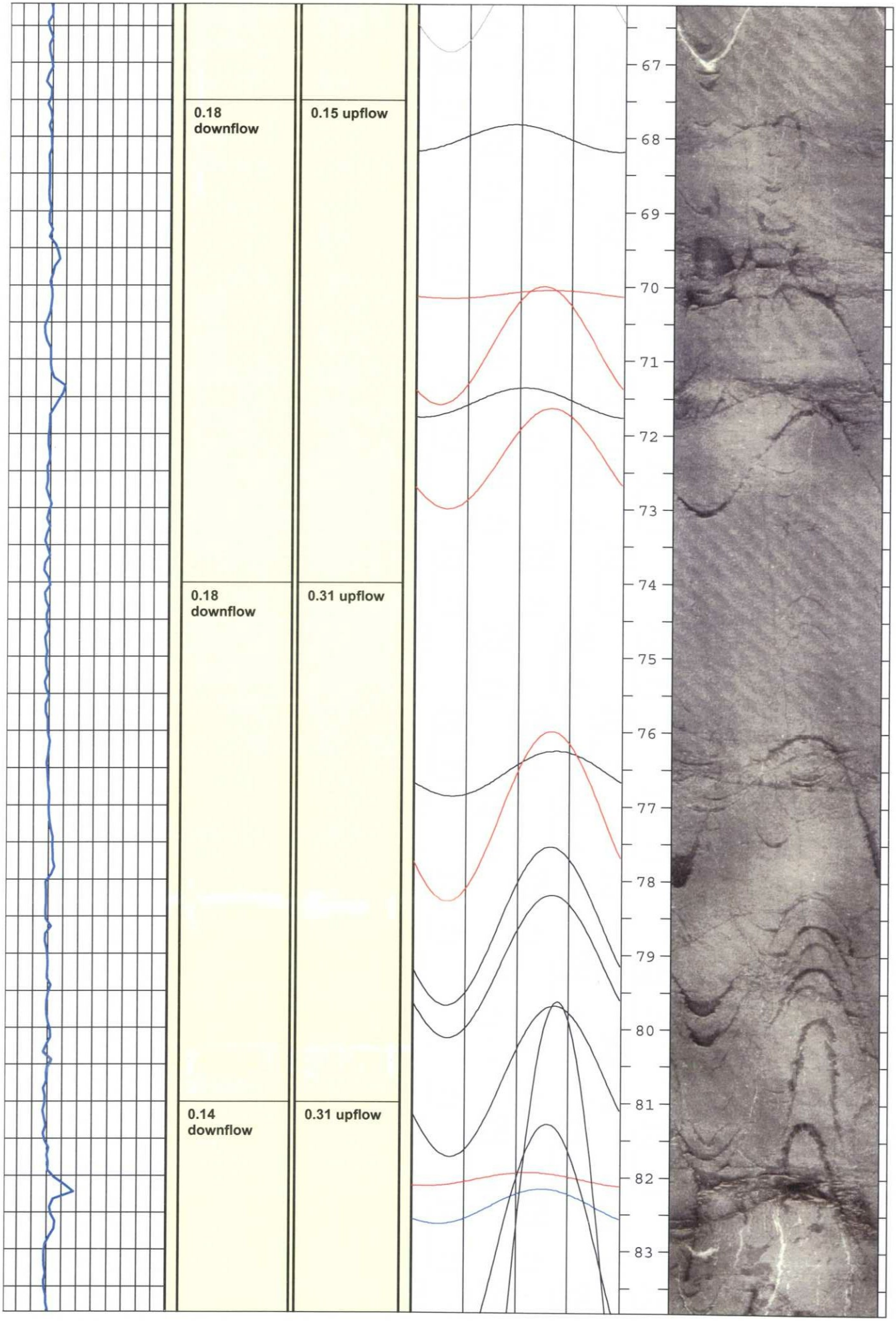
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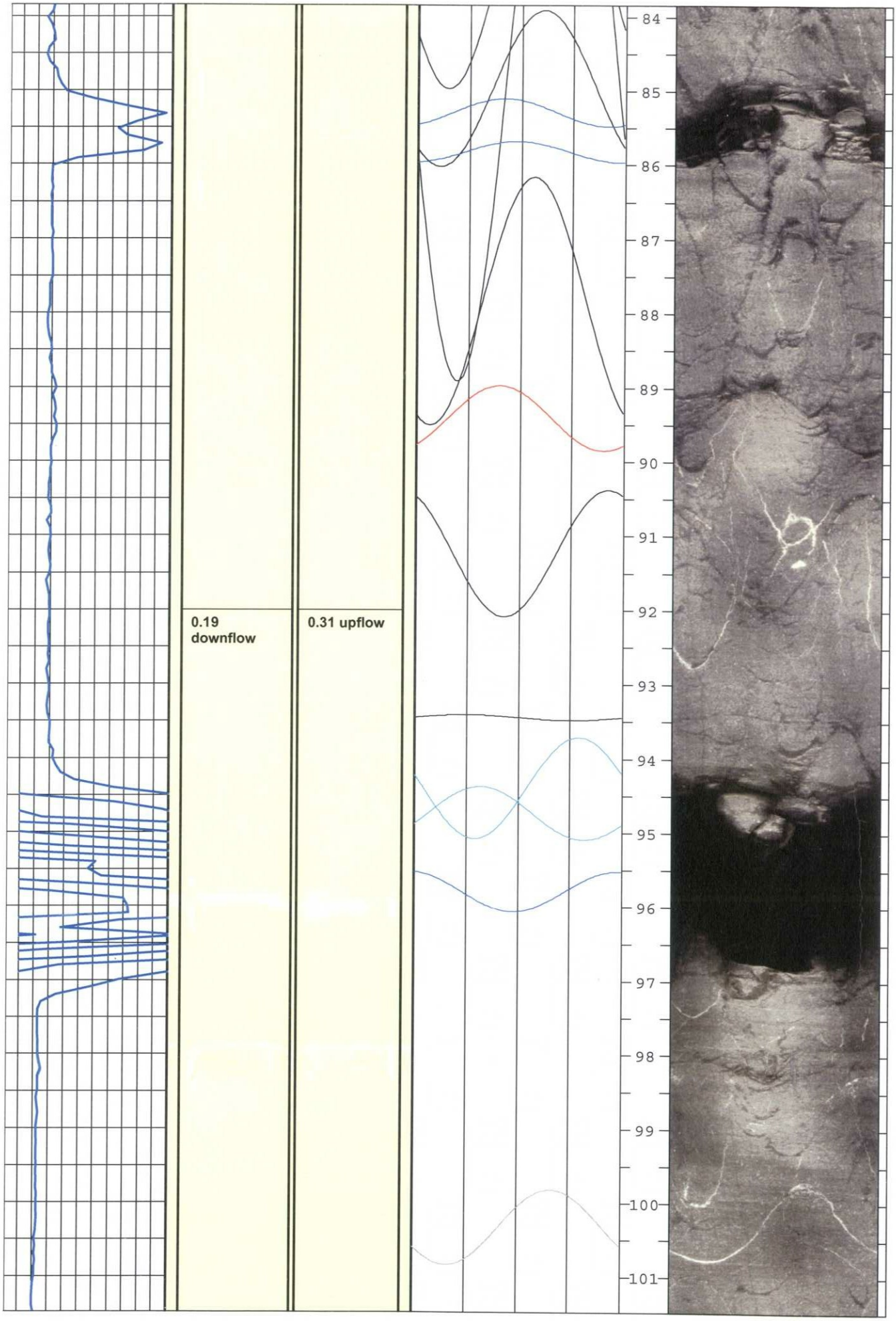
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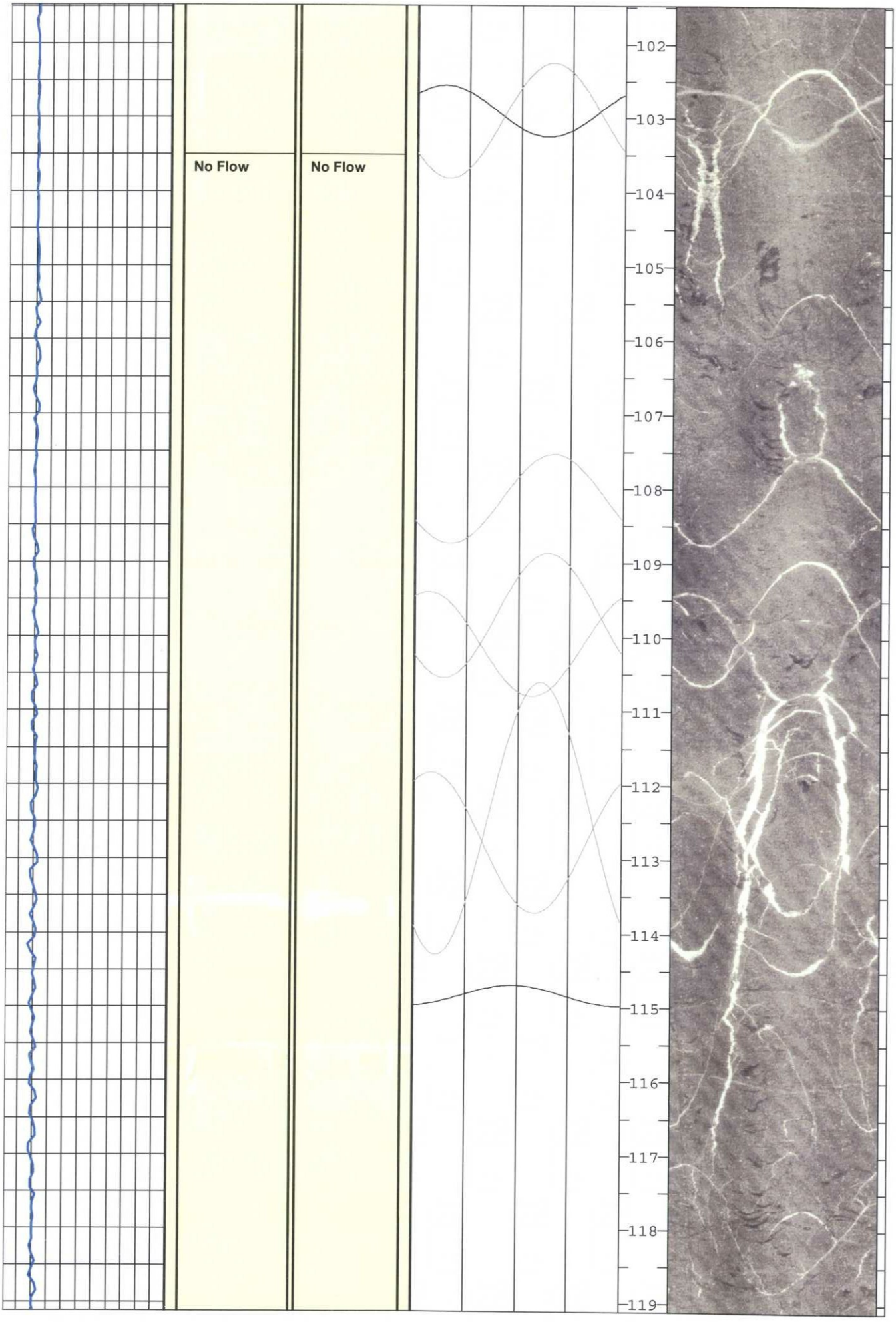
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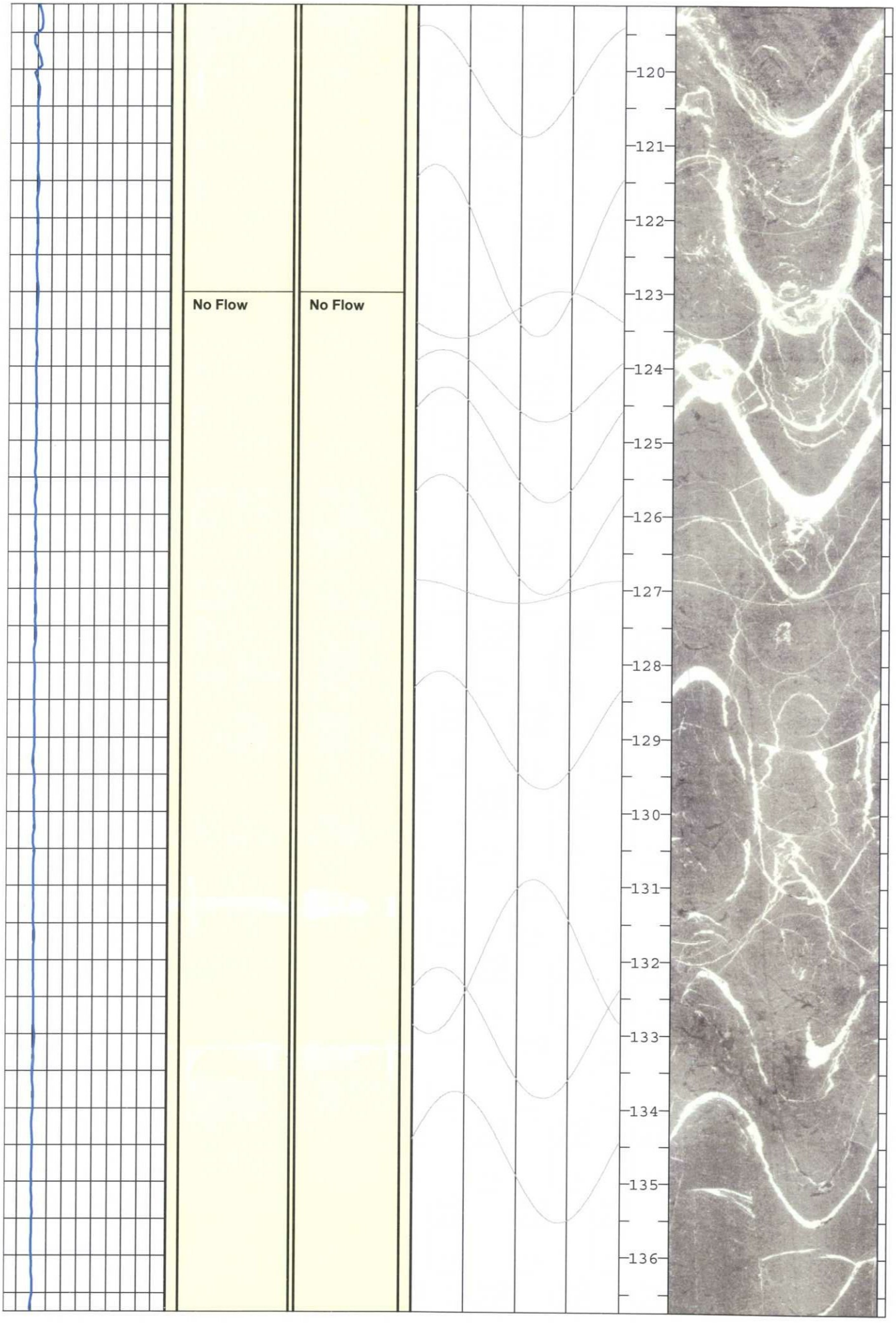
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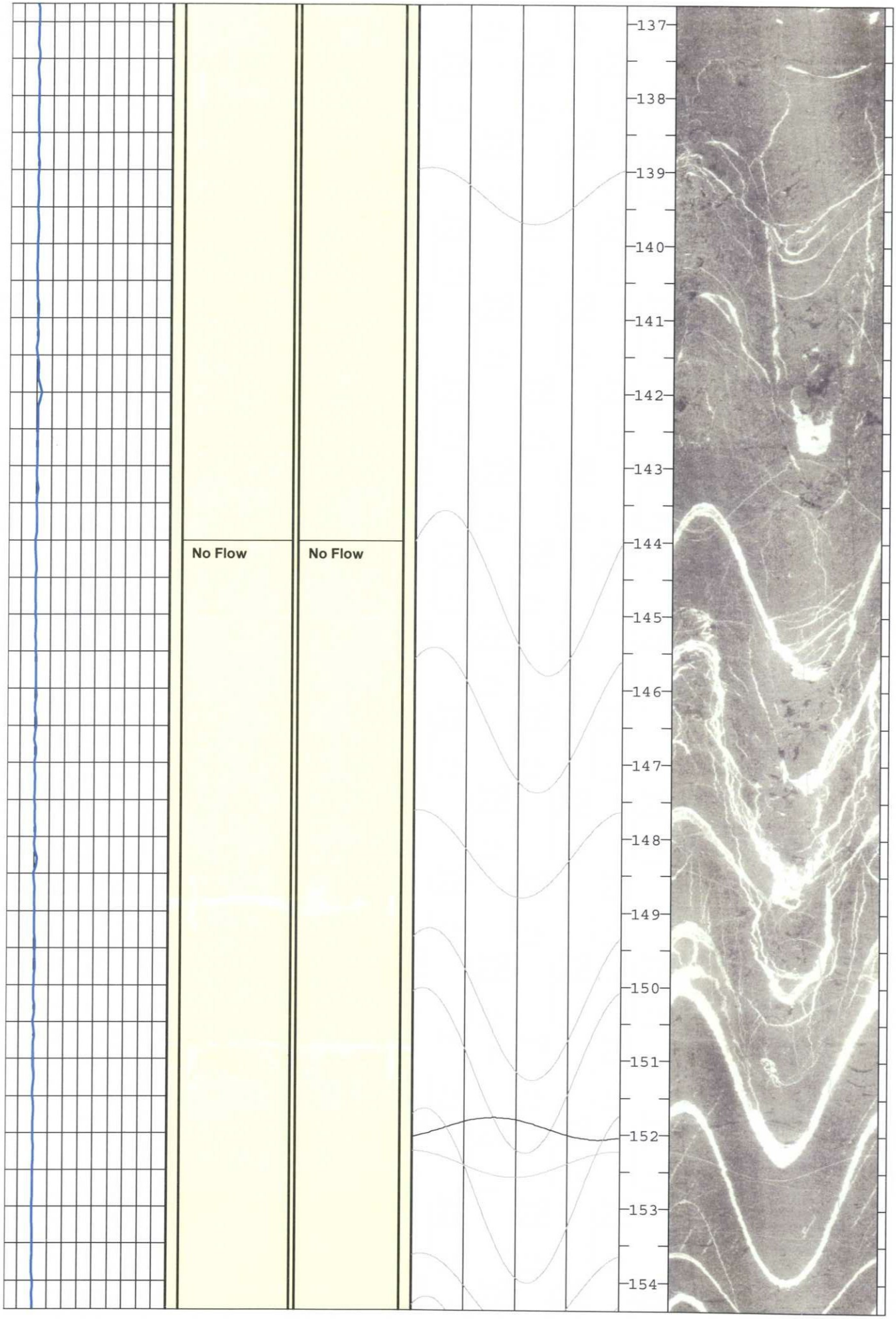
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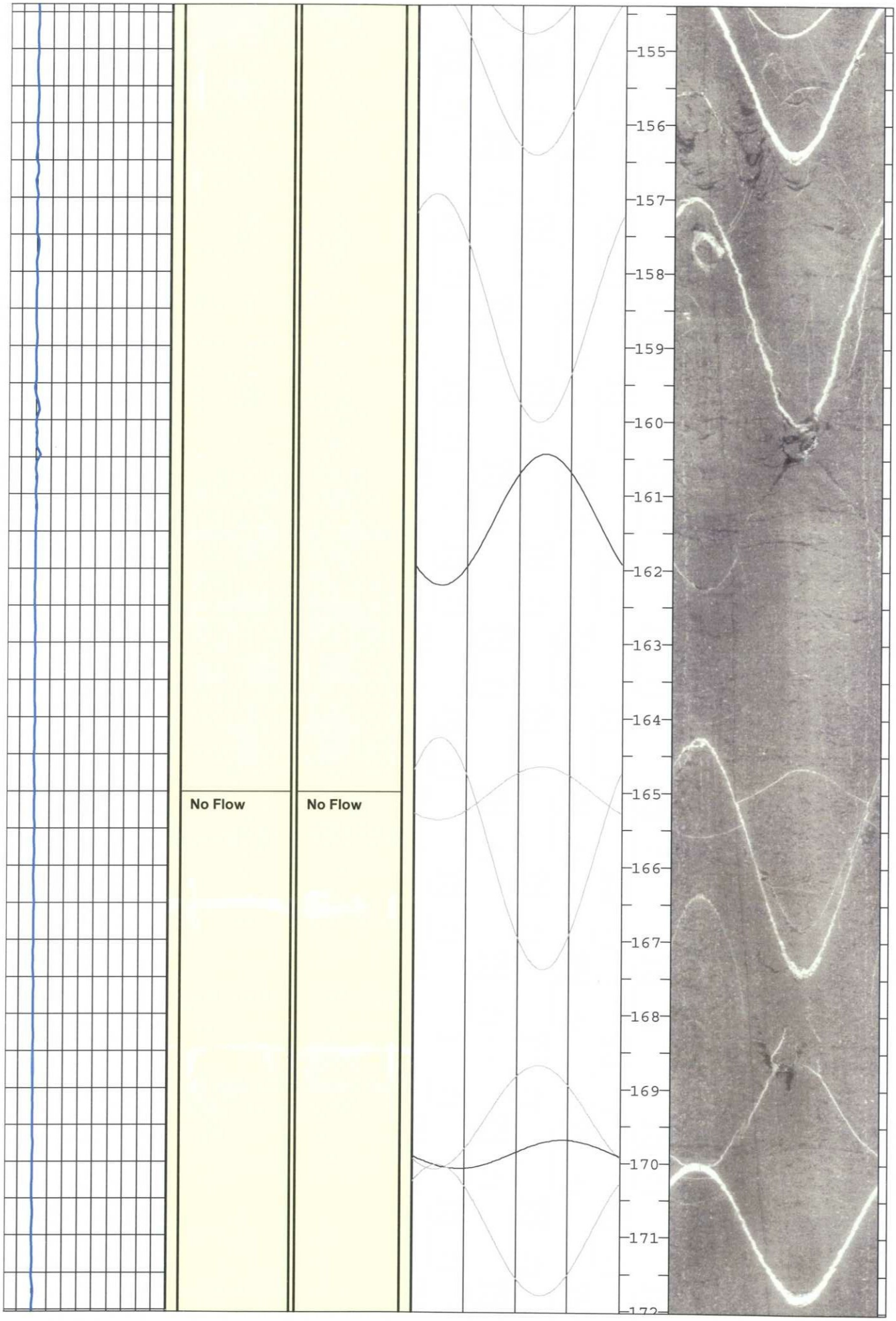
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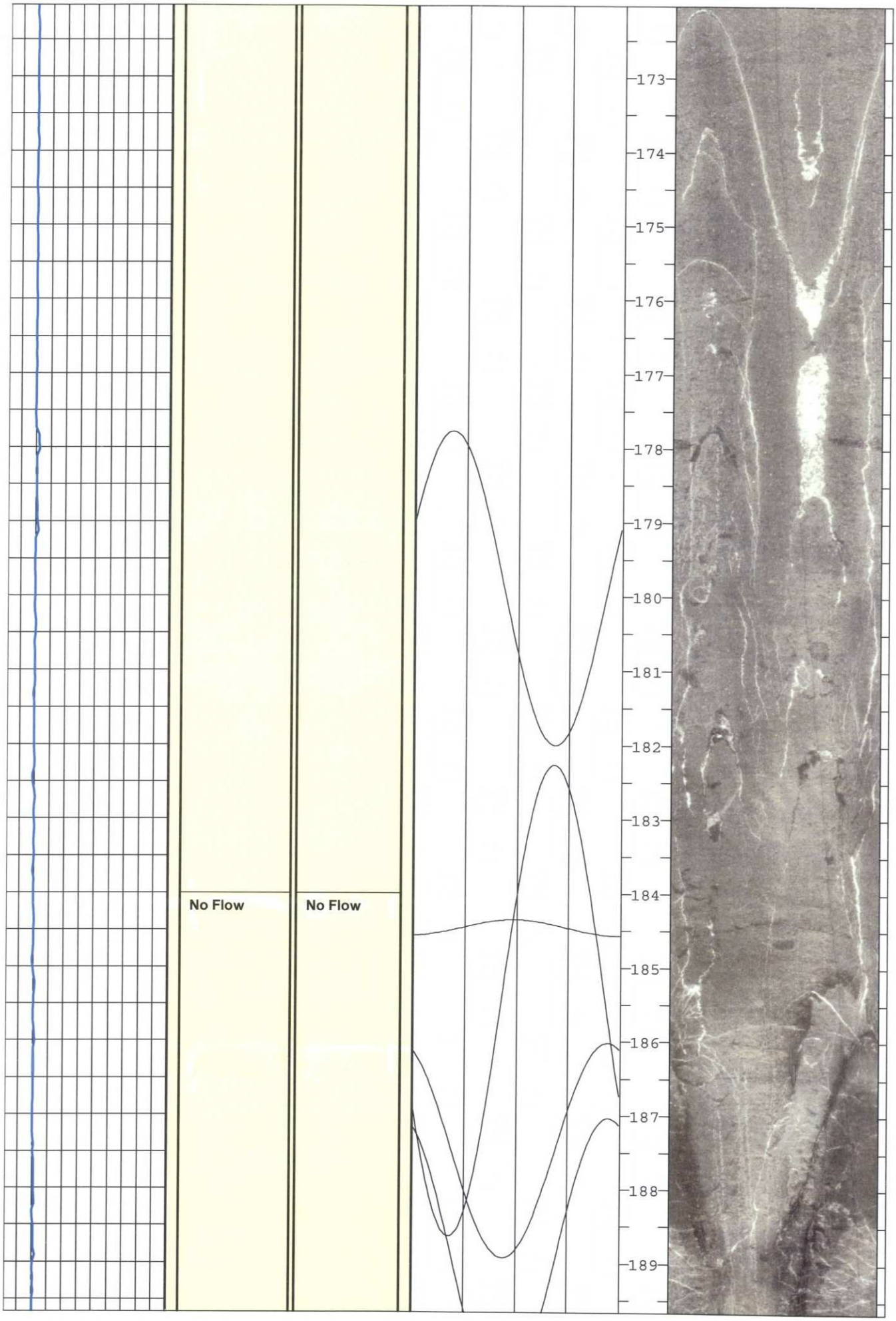
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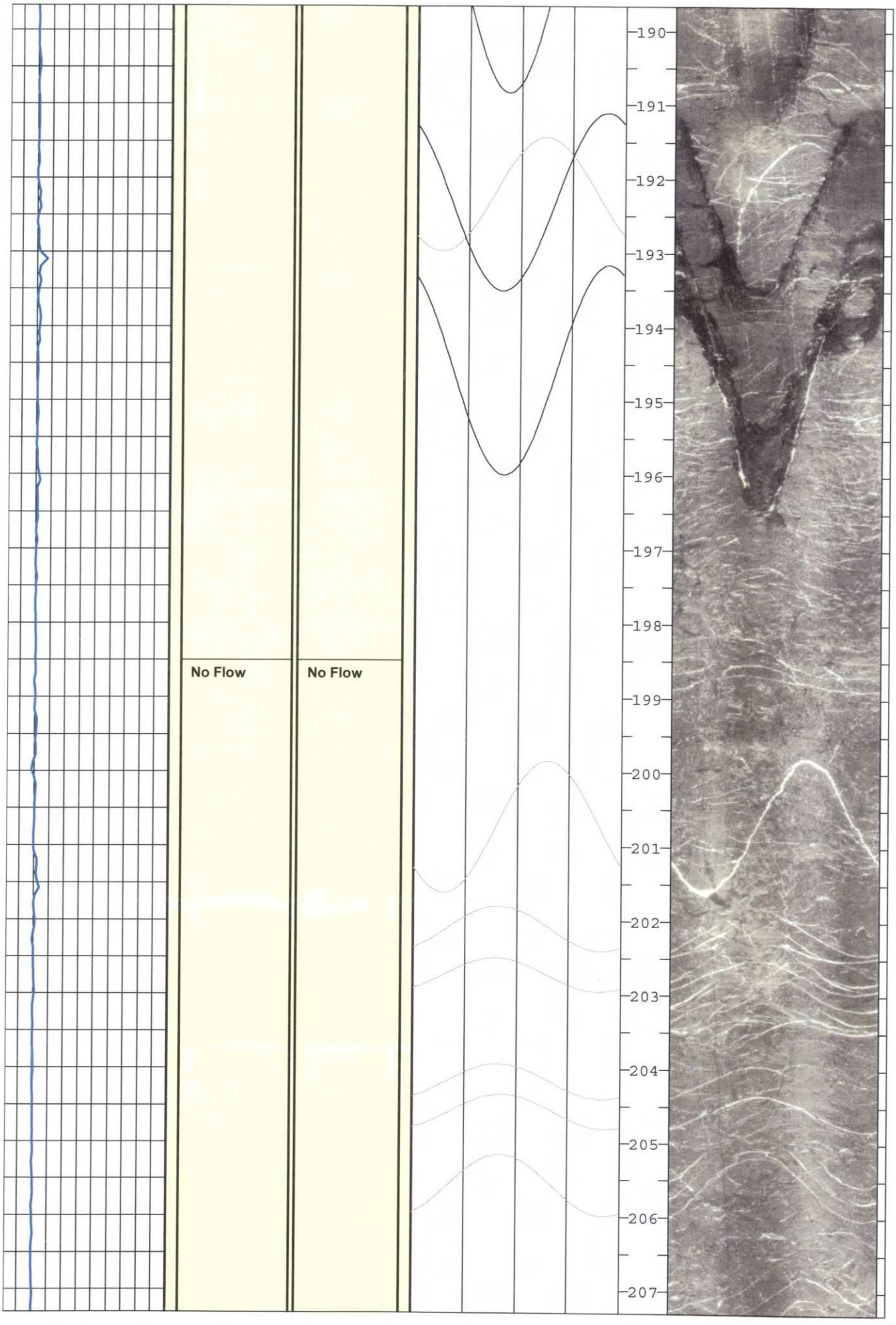
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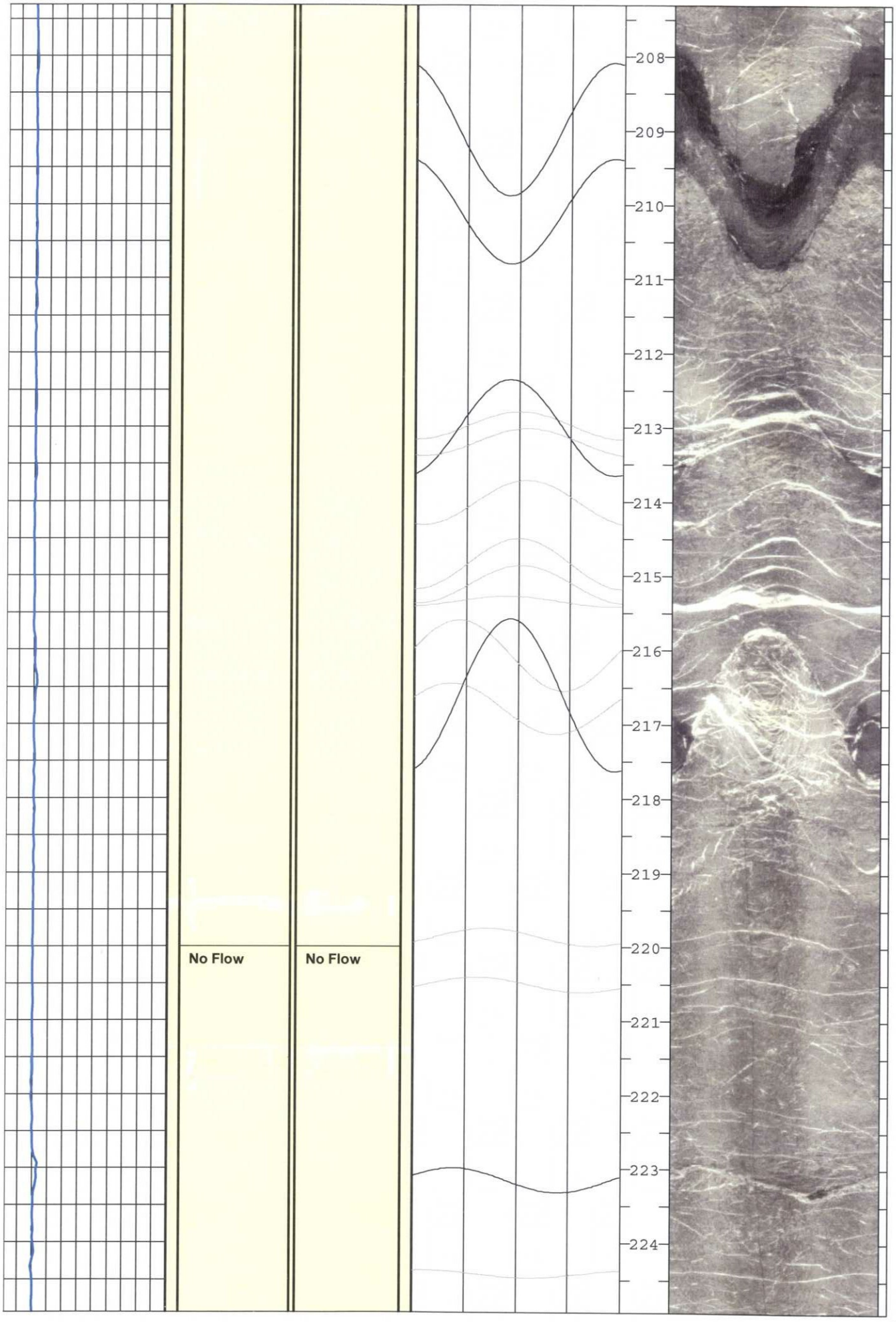
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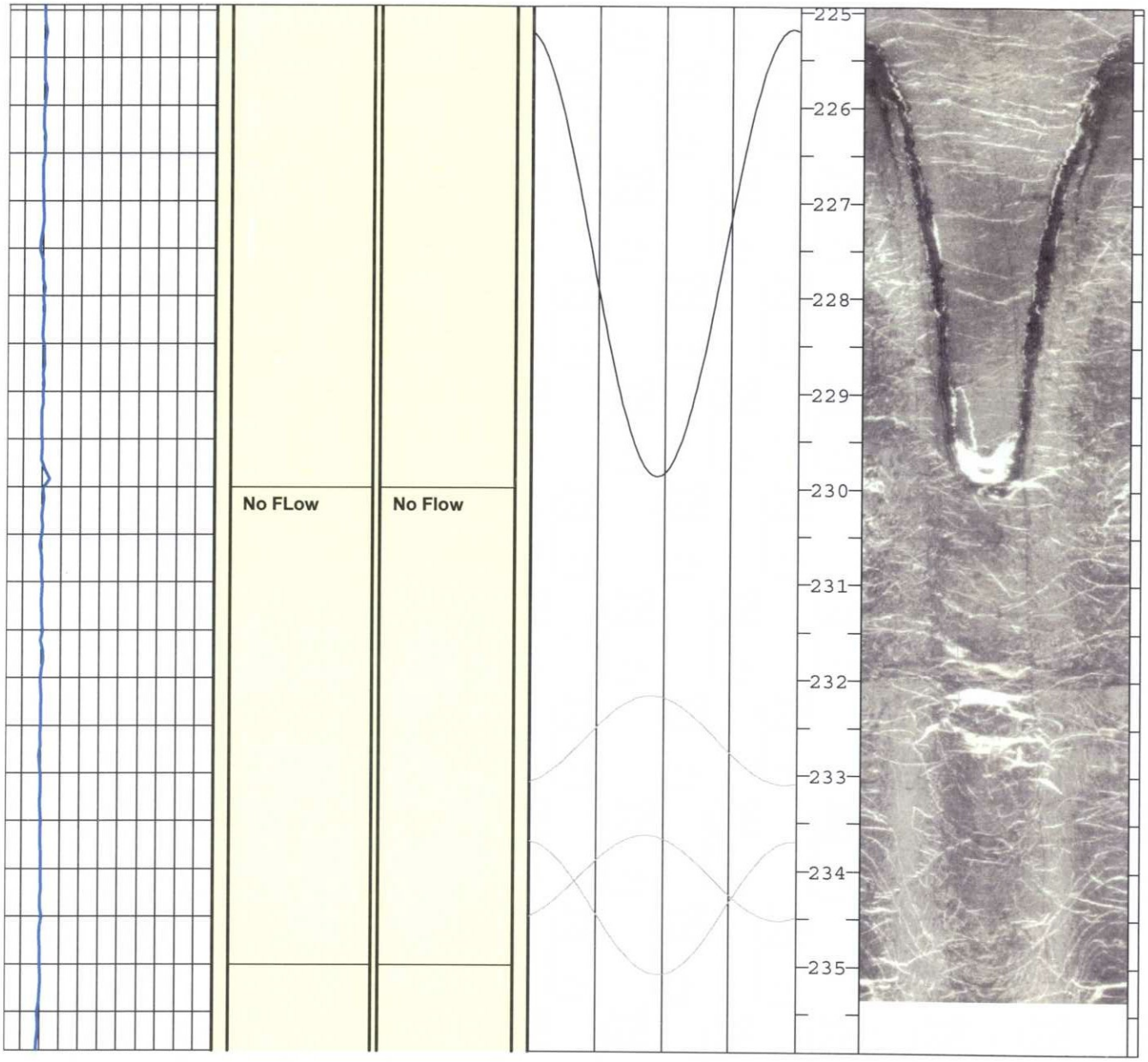
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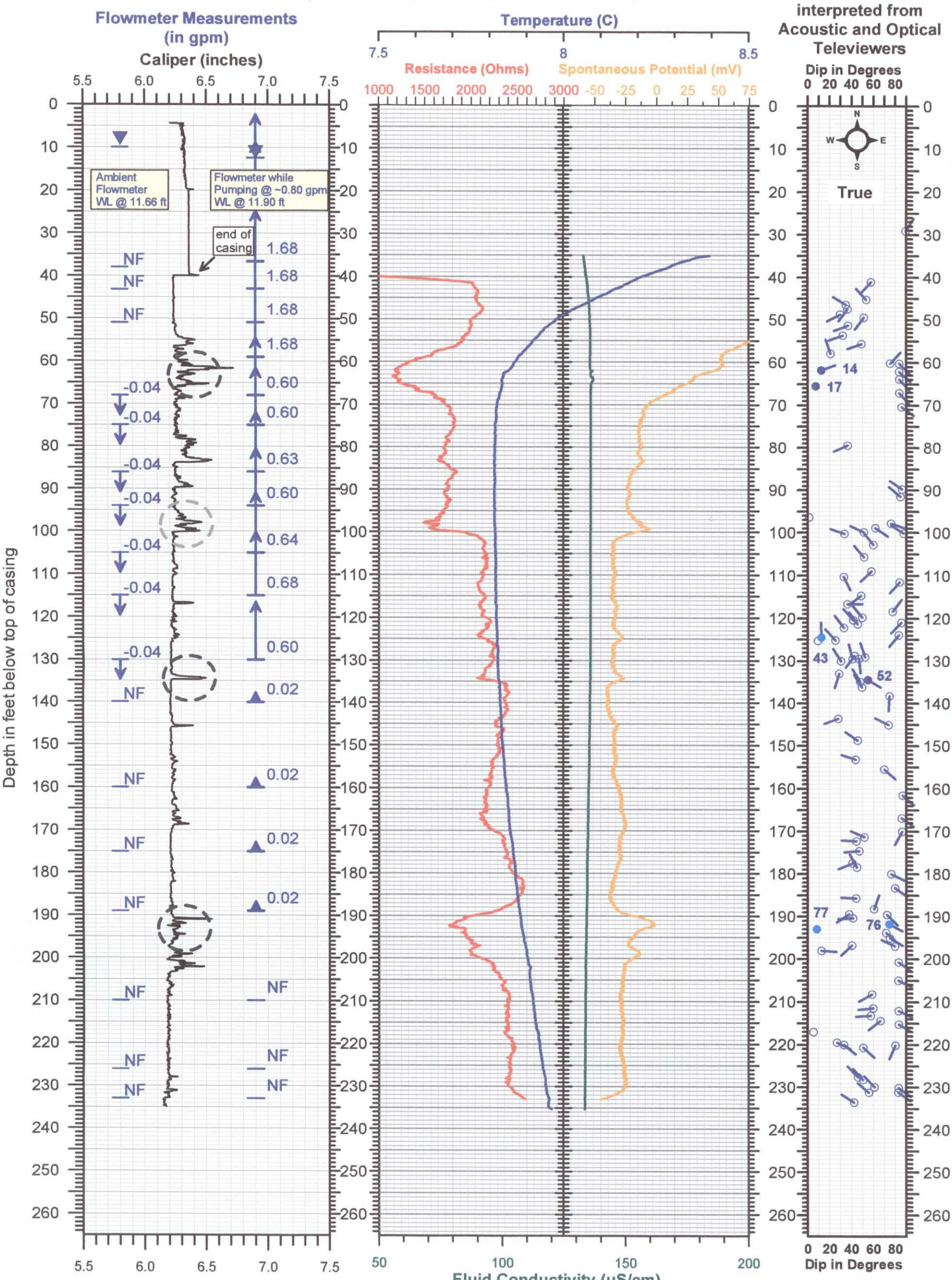
Northeast Geophysical Services

FIGURE C-1
Borehole Geophysical Log
PW-08-03
Juniper Ridge - Old Town, Maine

Date logged: 1/13/09



= Likely transmissive zone

= Possible transmissive zone

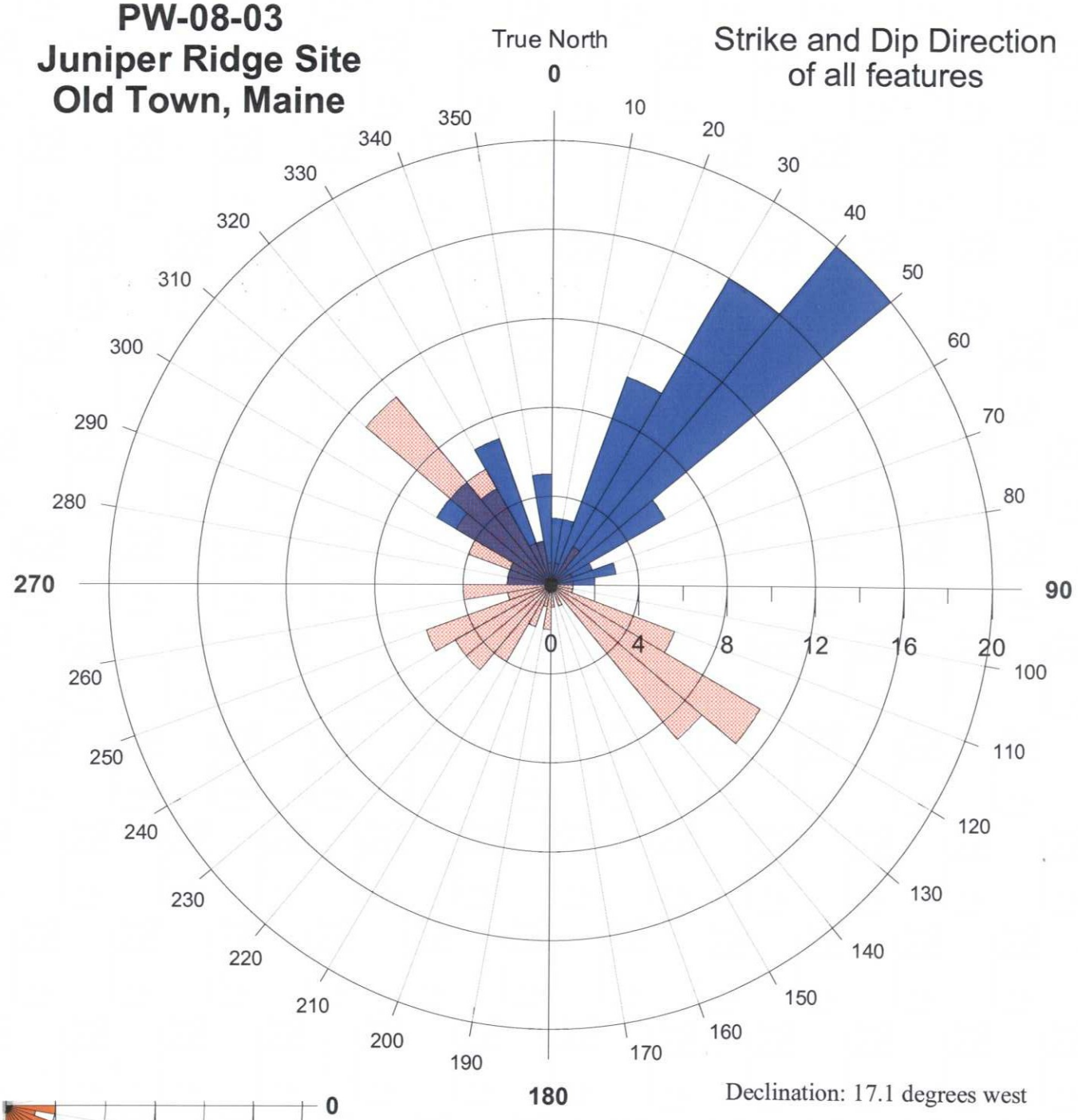
Tadpole tail indicates dip direction.
The solid tadpoles with a feature number are the ones interpreted to be likely or possibly transmissive.

Borehole Geophysical Log
PW-08-03
Juniper Ridge - Old Town, Maine

Northeast Geophysical Services

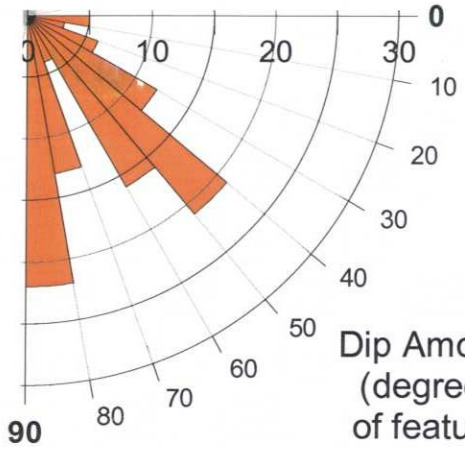
FIGURE C-2

PW-08-03
Juniper Ridge Site
Old Town, Maine



Strike and Dip Direction of all features

Declination: 17.1 degrees west



Explanation

- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

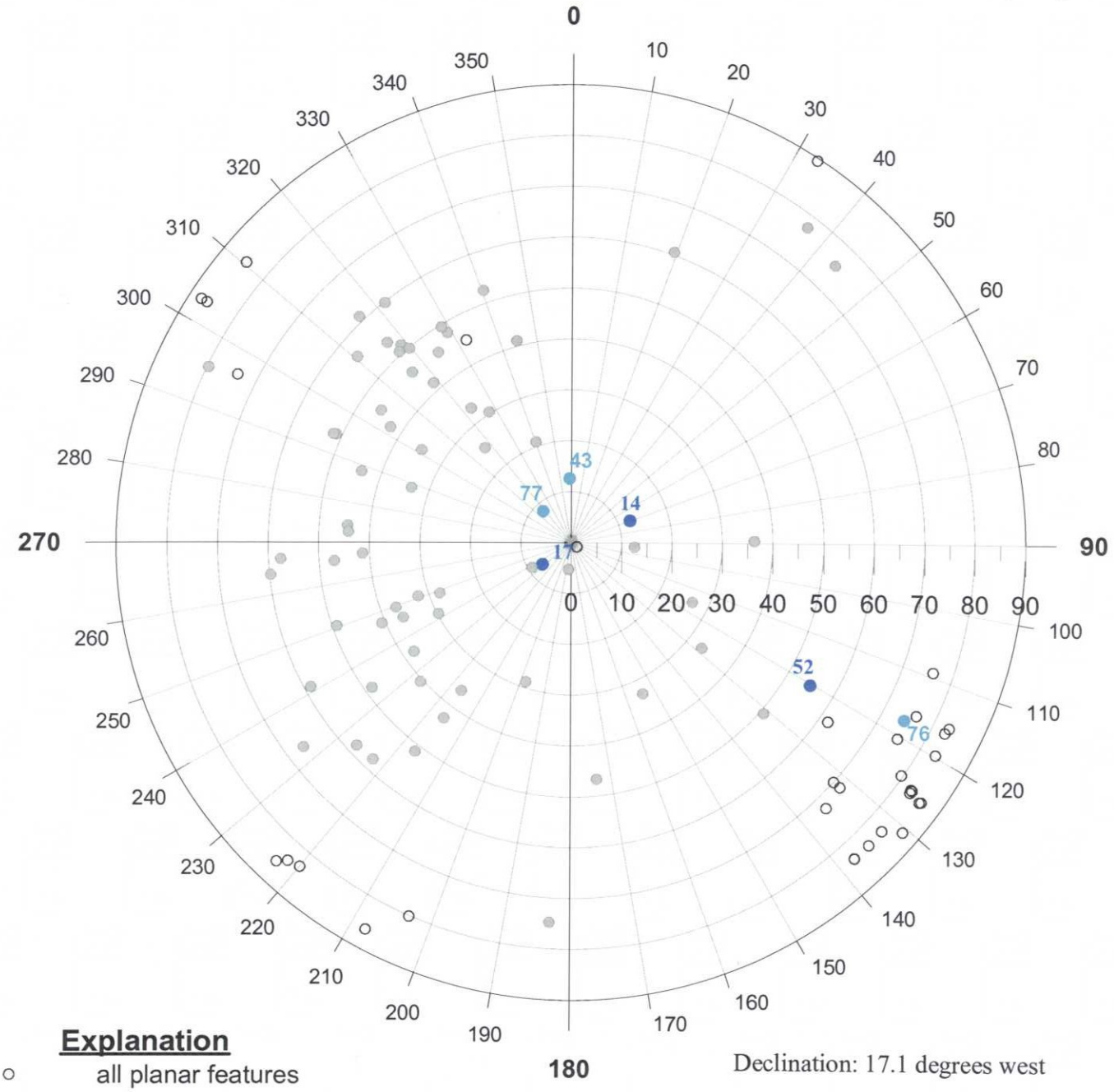
Based on 102 measurements

Northeast Geophysical Services

FIGURE C-3

PW-08-03
Juniper Ridge Site
Old Town, Maine

Dip Amount and Dip Azimuth of planar features
(upper hemisphere plot)



Explanation

- all planar features
- Likely water bearing
- Possibly water bearing
- Qzt/calcite veins

Declination: 17.1 degrees west

Based on 102 measurements

TABLE C-1 - PW-08-03 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-03	1	29.1	89	50	320	33	303	100
PW-08-03	2	41.1	58	240	330	222	312	103
PW-08-03	3	45.2	54	334	64	317	47	103
PW-08-03	4	46.4	35	318	48	301	31	103
PW-08-03	5	47.5	36	234	324	217	307	103
PW-08-03	6	48.7	30	259	349	242	332	103
PW-08-03	7	49.4	51	234	324	217	307	103
PW-08-03	8	51.3	37	267	357	250	340	103
PW-08-03	9	53.6	32	268	358	251	341	103
PW-08-03	10	55.6	49	268	358	250	340	103
PW-08-03	11	57.9	21	357	87	340	70	103
PW-08-03	12	60.1	75	61	331	44	314	103
PW-08-03	13	60.2	84	152	62	135	45	100
PW-08-03	14	61.8	12	87	357	70	340	107
PW-08-03	15	62.1	84	150	60	132	42	100
PW-08-03	16	63.9	84	155	65	138	48	100
PW-08-03	17	65.5	7	250	340	233	323	107
PW-08-03	18	67.1	84	155	65	138	48	100
PW-08-03	19	70.4	86	143	53	126	36	100
PW-08-03	20	79.5	36	263	353	246	336	103
PW-08-03	21	89.8	86	320	50	303	33	100
PW-08-03	22	91.5	85	327	57	310	40	100
PW-08-03	23	96.4	1	145	55	128	38	100
PW-08-03	24	97.8	76	126	36	109	19	100
PW-08-03	25	98.9	62	142	52	124	34	100
PW-08-03	26	99.9	51	312	42	294	24	103
PW-08-03	27	100.2	88	320	50	303	33	100
PW-08-03	28	100.2	33	306	36	289	19	103
PW-08-03	29	102.8	60	339	69	322	52	103
PW-08-03	30	105.7	51	336	66	319	49	103
PW-08-03	31	109.0	58	244	334	227	317	103
PW-08-03	32	110.3	33	171	81	154	64	103
PW-08-03	33	111.5	84	239	329	222	312	100
PW-08-03	34	114.7	49	251	341	234	324	103
PW-08-03	35	116.7	36	106	16	89	359	103
PW-08-03	36	118.4	78	54	324	37	307	103
PW-08-03	37	119.8	50	337	67	320	50	103
PW-08-03	38	120.4	42	336	66	319	49	103
PW-08-03	39	121.0	86	240	330	223	313	100
PW-08-03	40	121.4	46	342	72	325	55	103
PW-08-03	41	122.2	33	340	70	323	53	103
PW-08-03	42	123.9	83	237	327	220	310	100
PW-08-03	43	124.5	13	15	285	358	88	108
PW-08-03	44	125.1	25	334	64	317	47	103
PW-08-03	45	125.3	9	255	345	238	328	103
PW-08-03	46	128.7	43	233	323	216	306	103
PW-08-03	47	129.1	52	357	87	340	70	103
PW-08-03	48	129.4	47	191	281	174	84	103
PW-08-03	49	129.5	41	1	271	344	74	103
PW-08-03	50	130.0	30	344	74	327	57	103
PW-08-03	51	133.0	29	215	305	198	288	103
PW-08-03	52	134.4	55	138	48	120	30	107
PW-08-03	53	134.9	48	346	76	329	59	103
PW-08-03	54	136.2	50	346	76	328	58	103
PW-08-03	55	138.3	75	200	290	183	273	103
PW-08-03	56	143.6	28	266	356	249	339	103

TABLE C-1 - PW-08-03 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-03	57	145.1	74	314	44	296	26	100
PW-08-03	58	148.7	46	321	51	304	34	103
PW-08-03	59	153.2	44	306	36	289	19	103
PW-08-03	60	155.5	70	149	59	132	42	100
PW-08-03	61	161.5	87	148	58	131	41	100
PW-08-03	62	166.9	86	143	53	126	36	100
PW-08-03	63	170.0	86	225	315	208	298	100
PW-08-03	64	171.4	52	311	41	294	24	103
PW-08-03	65	172.3	44	291	21	274	4	103
PW-08-03	66	174.6	47	283	13	265	355	103
PW-08-03	67	177.5	41	264	354	247	337	103
PW-08-03	68	178.4	45	349	79	332	62	100
PW-08-03	69	180.0	76	133	43	116	26	100
PW-08-03	70	183.3	80	142	52	125	35	100
PW-08-03	71	185.7	44	290	20	273	3	103
PW-08-03	72	188.2	61	37	307	19	289	103
PW-08-03	73	189.4	38	252	342	235	325	103
PW-08-03	74	189.6	73	153	63	136	46	100
PW-08-03	75	190.4	41	284	14	267	357	103
PW-08-03	76	191.8	75	135	45	118	28	108
PW-08-03	77	193.0	8	334	64	317	47	108
PW-08-03	78	193.8	72	149	59	132	42	100
PW-08-03	79	195.1	75	138	48	121	31	100
PW-08-03	80	196.8	40	244	334	227	317	103
PW-08-03	81	197.0	80	313	43	296	26	103
PW-08-03	82	198.1	13	111	21	94	4	103
PW-08-03	83	200.7	83	143	53	126	36	100
PW-08-03	84	205.0	83	134	44	117	27	100
PW-08-03	85	208.2	59	258	348	241	331	103
PW-08-03	86	211.5	60	281	11	264	354	103
PW-08-03	87	212.1	83	133	43	116	26	100
PW-08-03	88	213.2	58	284	14	267	357	103
PW-08-03	89	214.5	66	250	340	233	323	103
PW-08-03	90	215.3	83	137	47	120	30	100
PW-08-03	91	217.0	5	203	293	186	276	103
PW-08-03	92	219.5	27	133	43	116	26	103
PW-08-03	93	220.0	33	146	56	128	38	103
PW-08-03	94	220.1	80	221	311	203	293	100
PW-08-03	95	220.7	51	148	58	131	41	103
PW-08-03	96	227.6	46	334	64	316	46	103
PW-08-03	97	228.2	51	335	65	317	47	103
PW-08-03	98	230.0	61	333	63	316	46	103
PW-08-03	99	230.1	83	143	53	126	36	100
PW-08-03	100	231.2	83	143	53	126	36	100
PW-08-03	101	231.2	56	328	58	311	41	103
PW-08-03	102	233.6	42	319	49	302	32	103
Explanation of Categories:								
		100	planar feature: bedding, joint, fracture, foliation etc.					
		103	quartz or calcite vein					
		107	likely transmissive fracture					
		108	possible transmissive fracture					

Northeast Geophysical Services
4 Union Street Bangor, Maine 04401
Tel: 207-942-2700 email: negeophysical.com

Log: Optical Televiewer & Caliper Logs

Well: PW-08-03

Site: Juniper Ridge

Location: Old Town, Maine

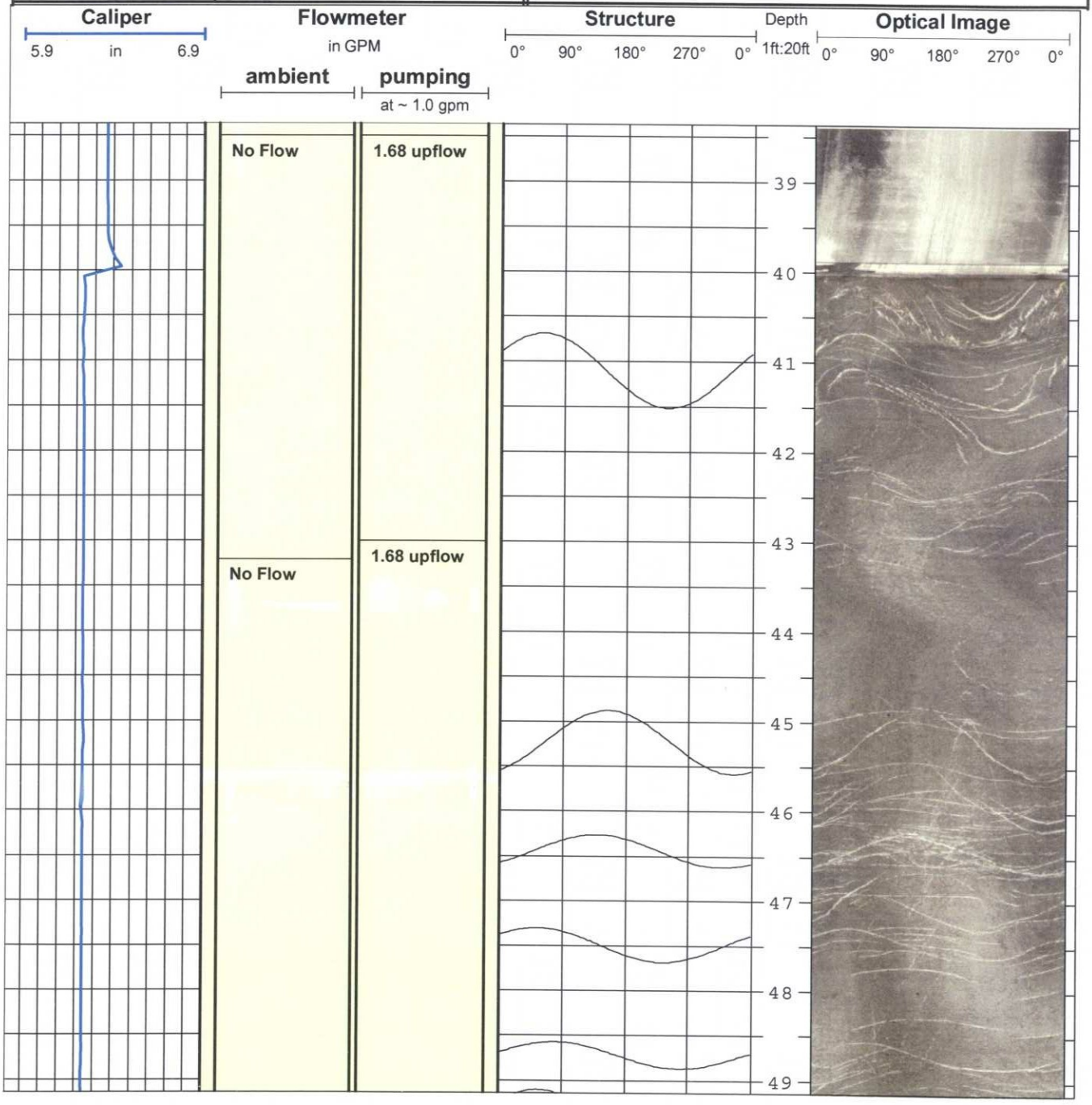
Date:	1/13/09
Casing Depth:	40 ft
Casing Type:	6 in steel
Boring Depth:	236 ft
Meas. From:	top of casing
Stickup:	1.8 ft
Water Level:	9.95 ft

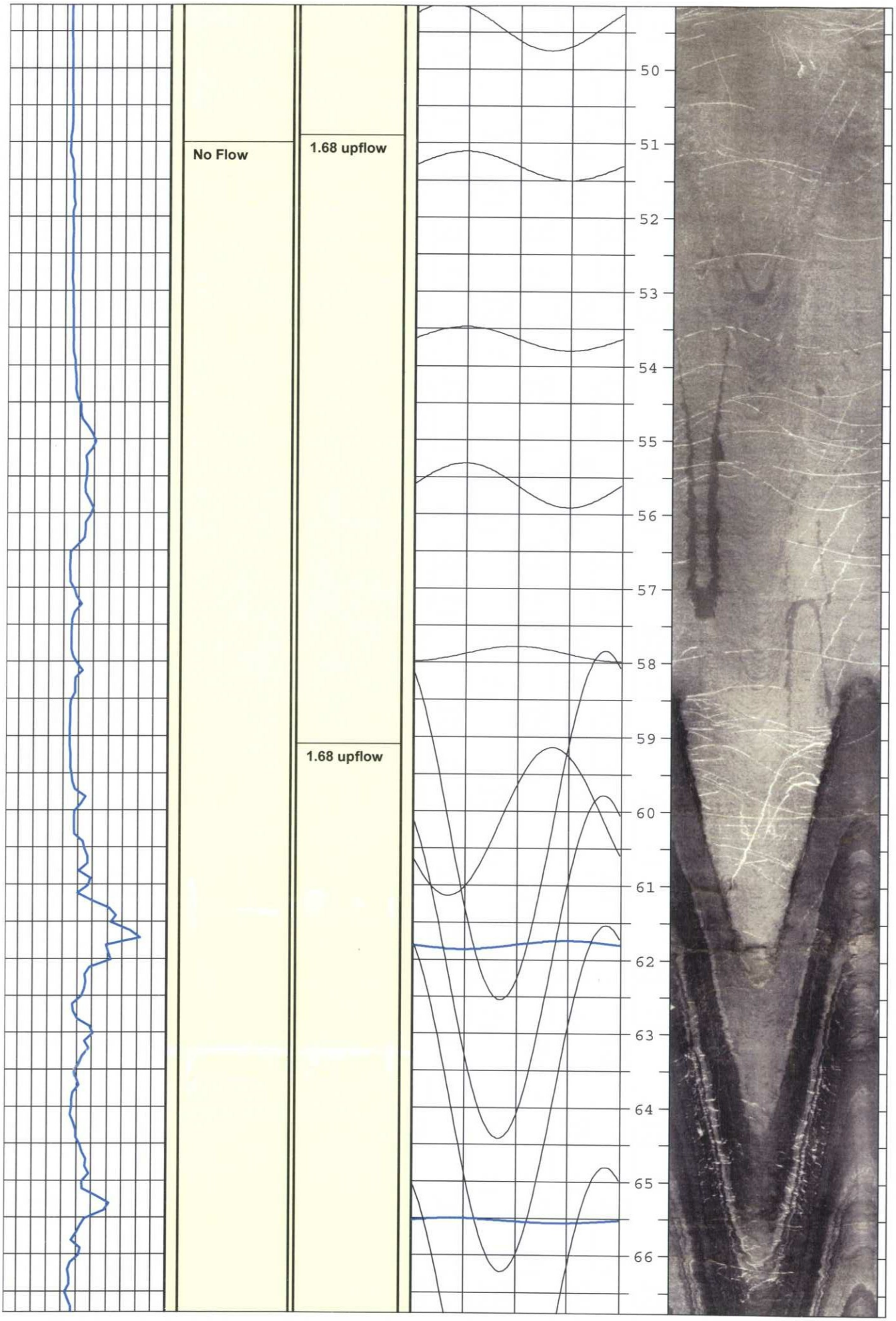
For: Sevee & Maher

Logged by: R Rawcliffe

Orientation: magnetic

Structure Plots:
black = planar features (faults, foliation, bedding, joints, etc)
light gray = veins of likely either quartz or calcite
light blue = possibly transmissive fracture
dark blue = likely transmissive fracture

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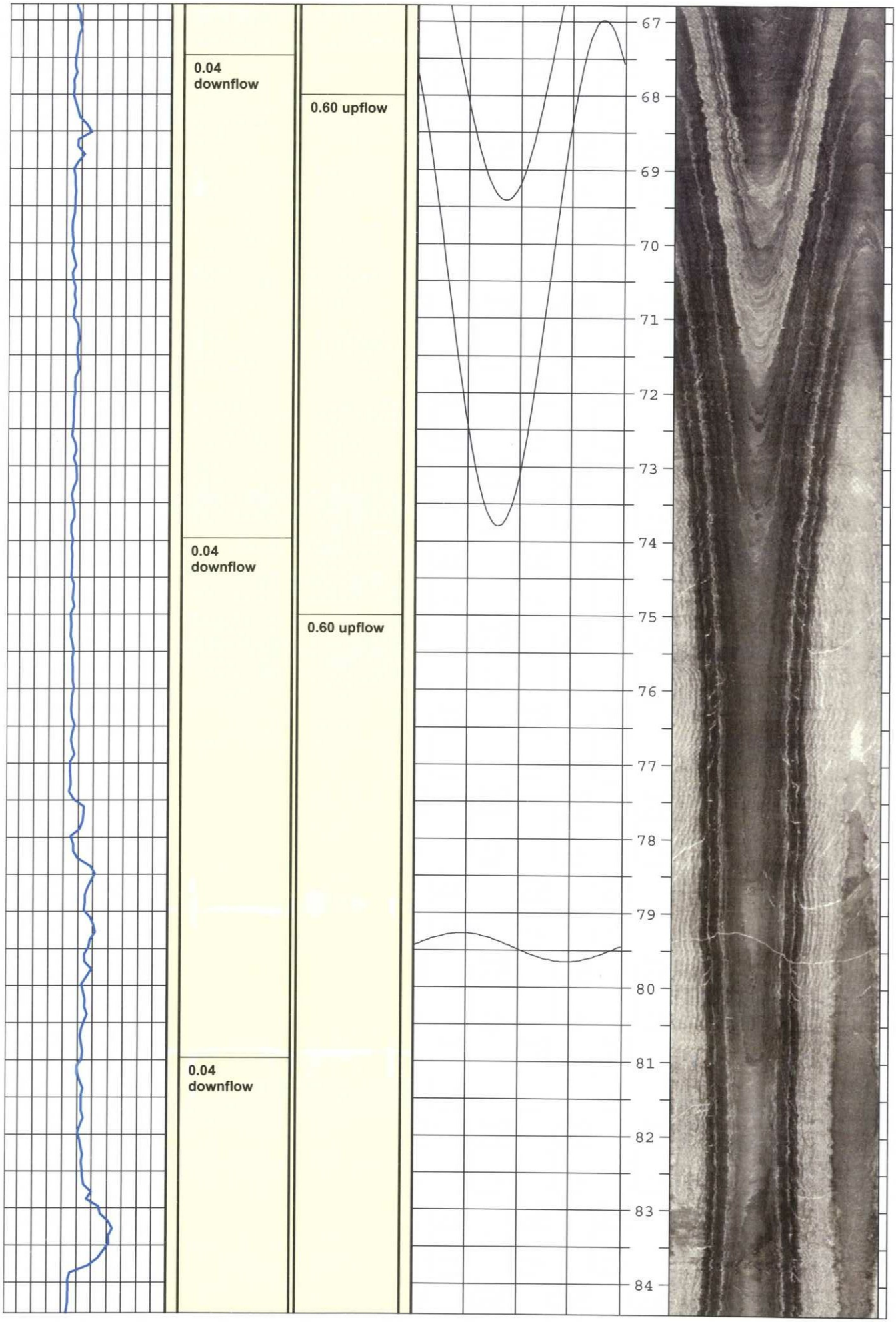
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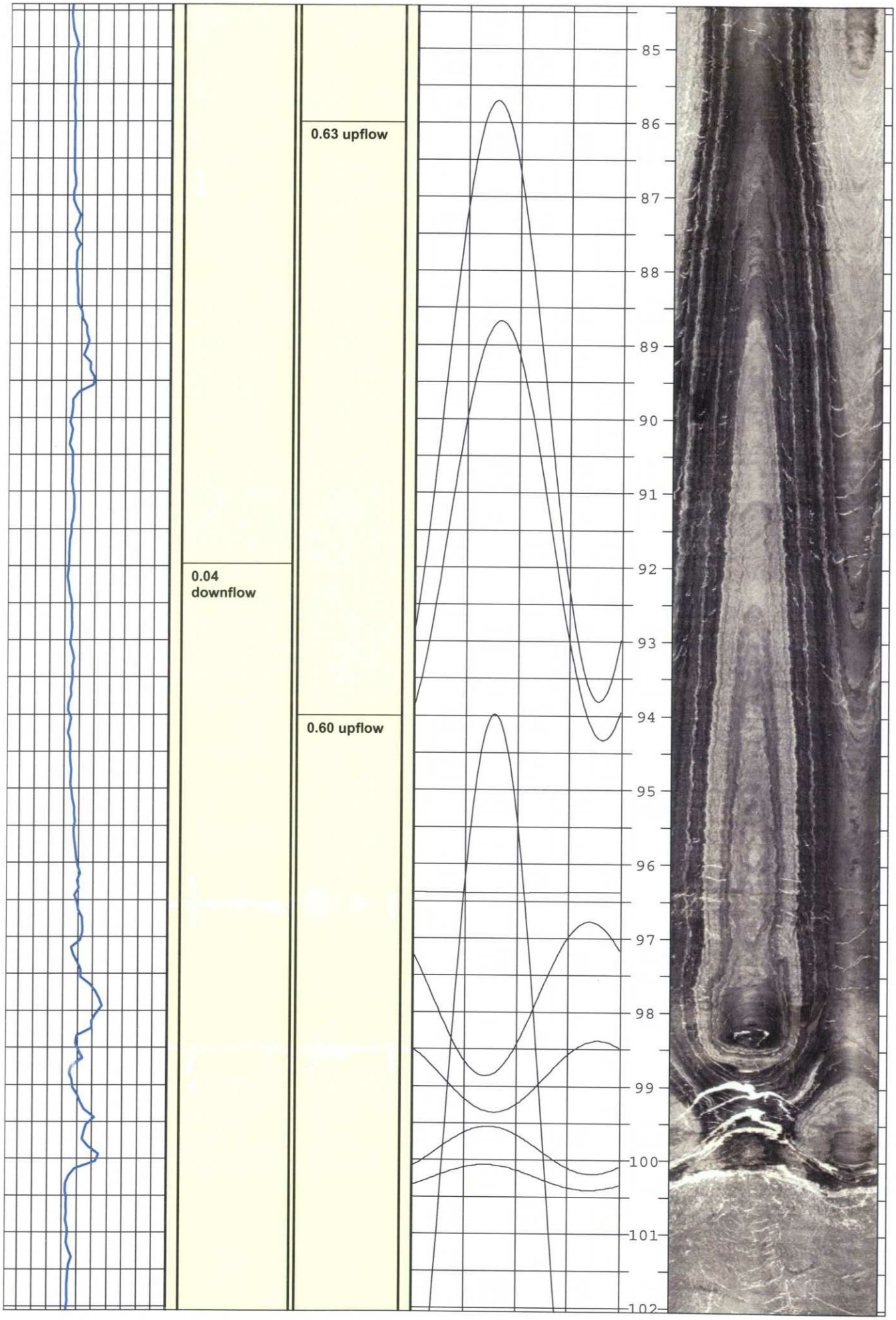
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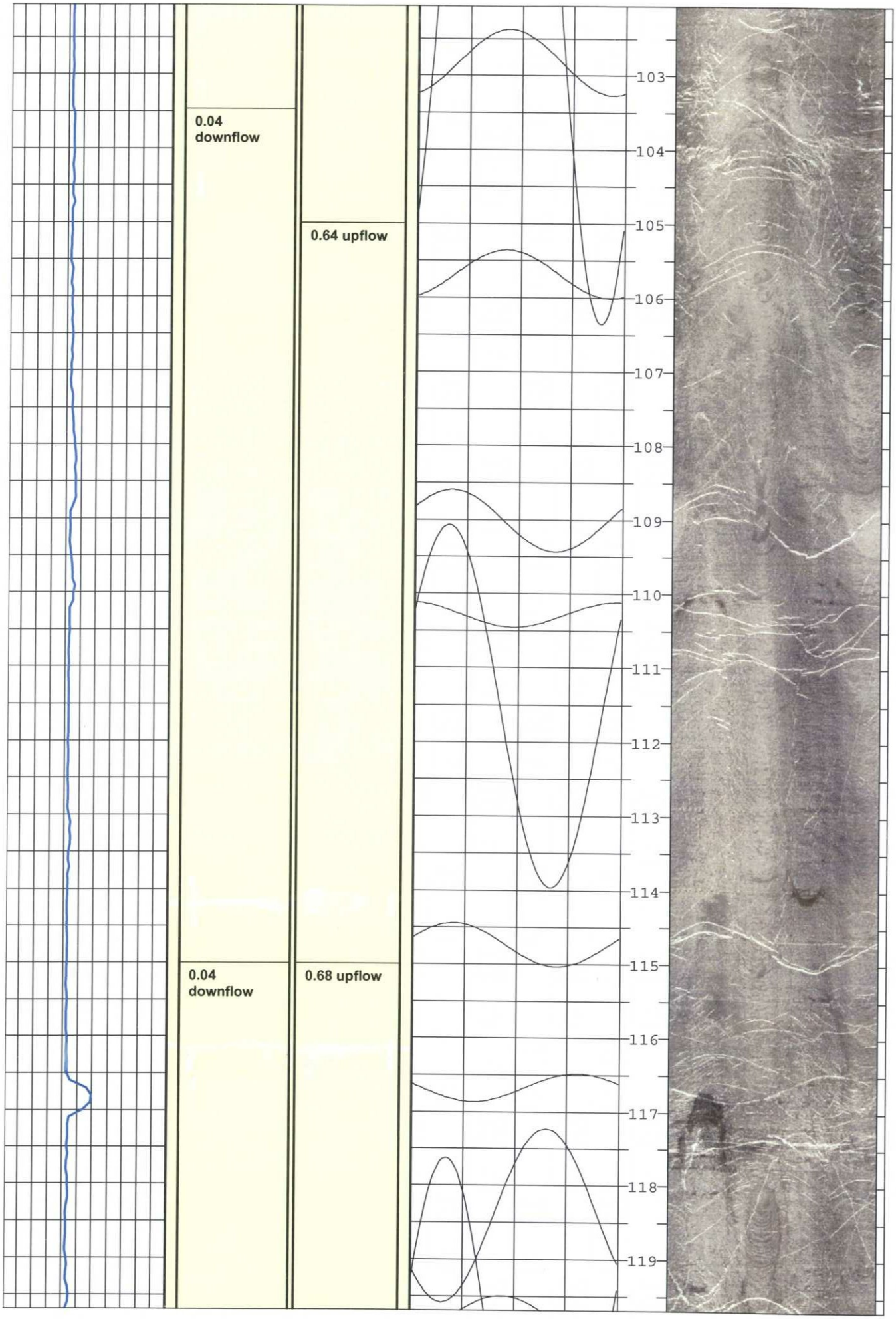
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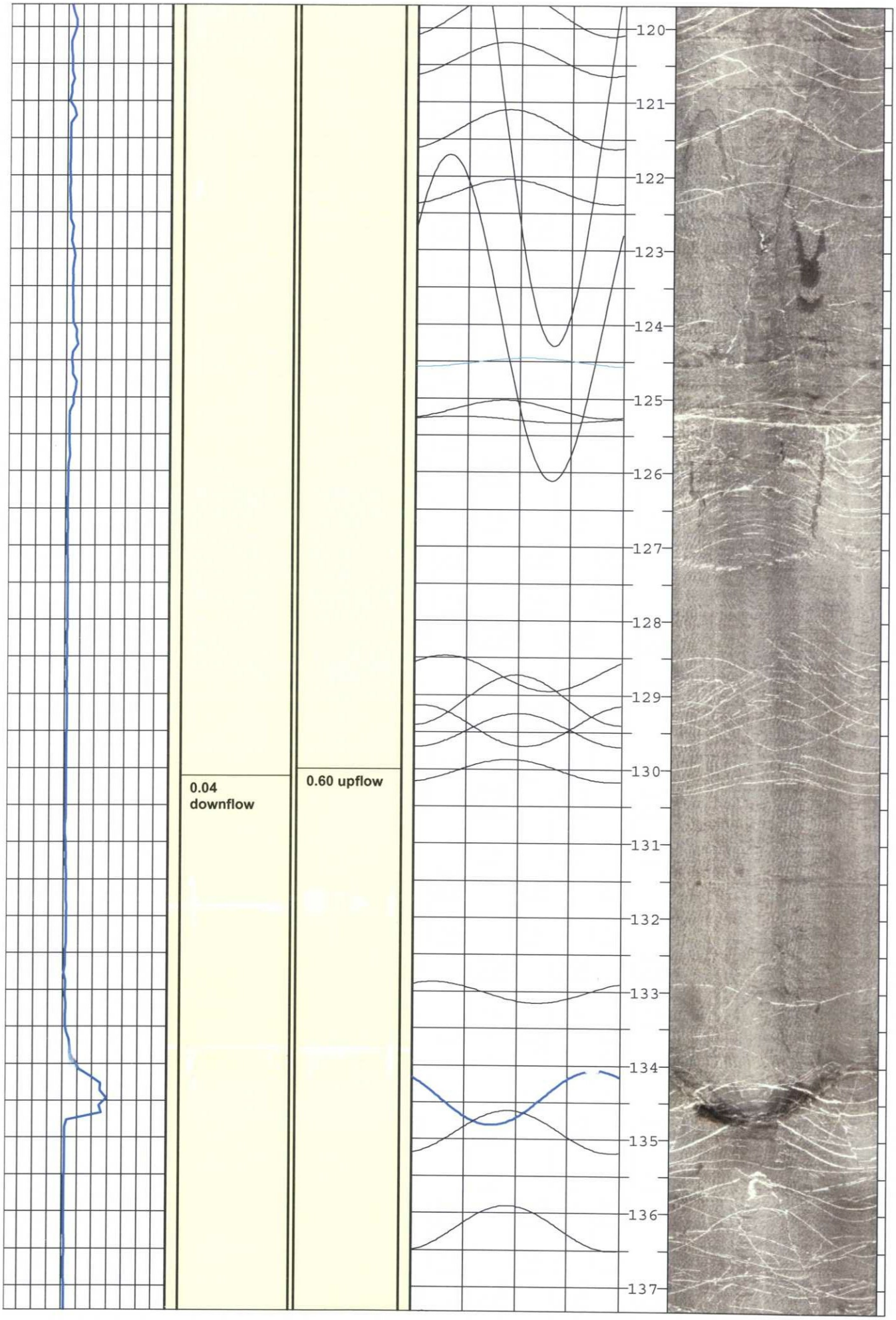
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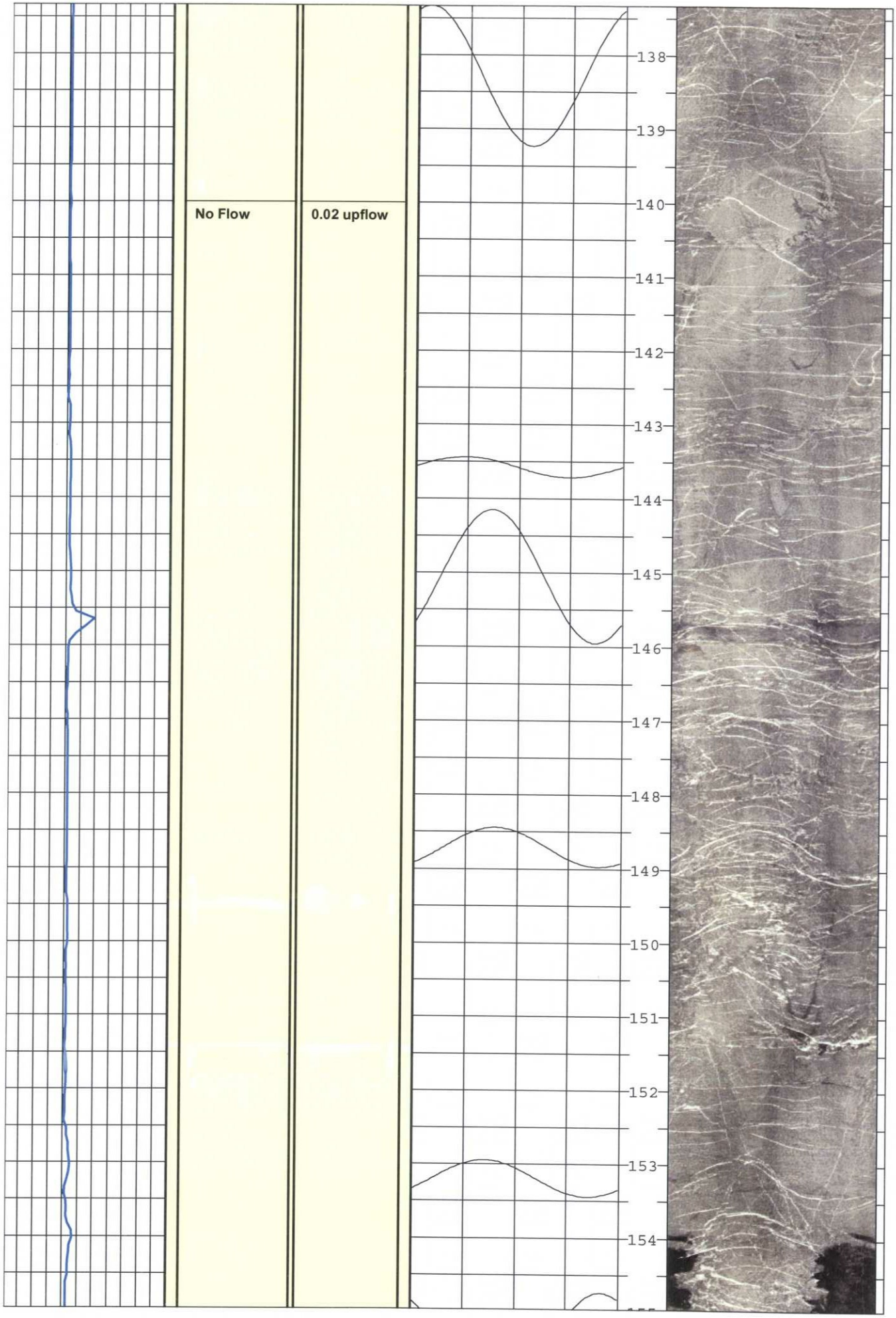
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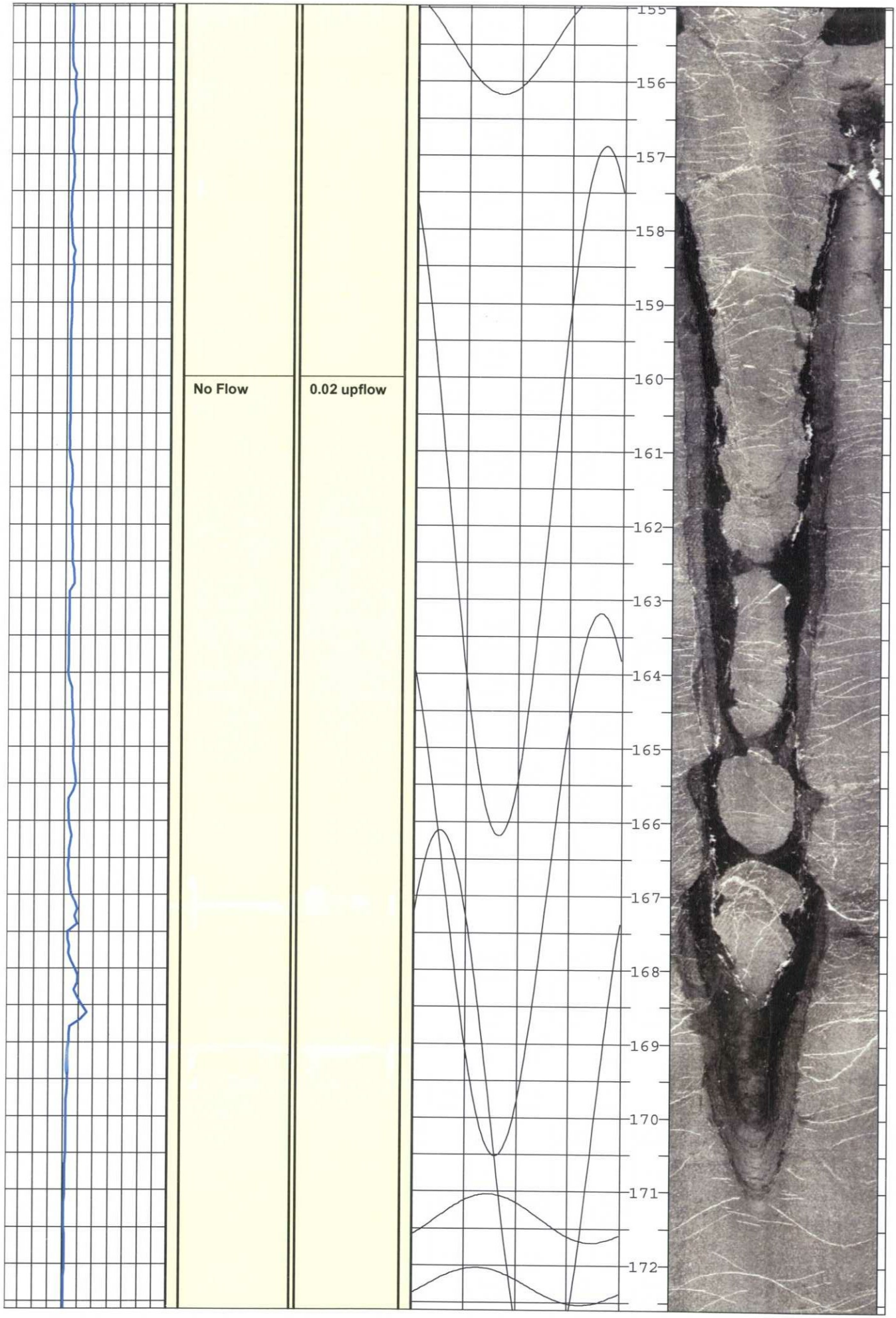
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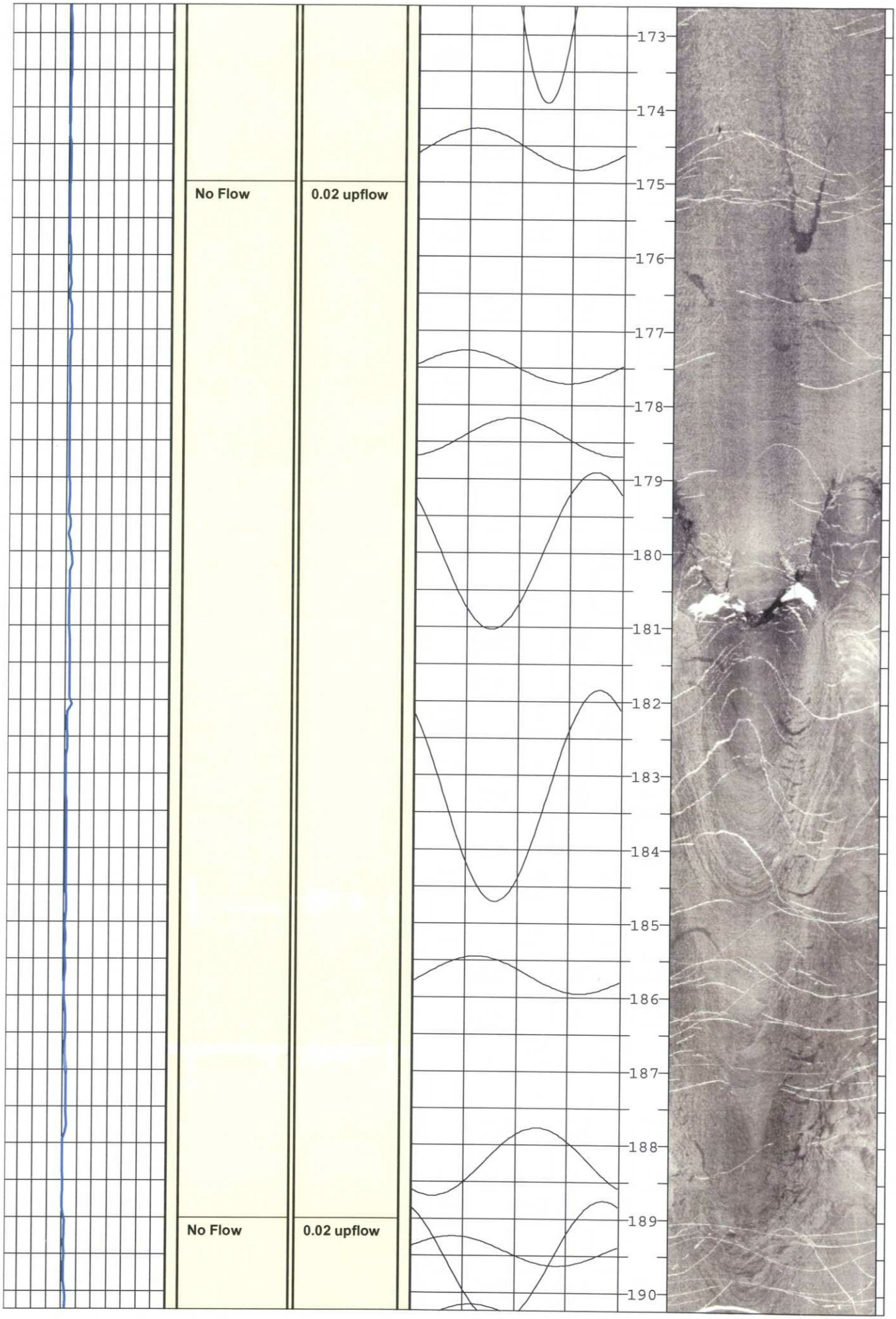
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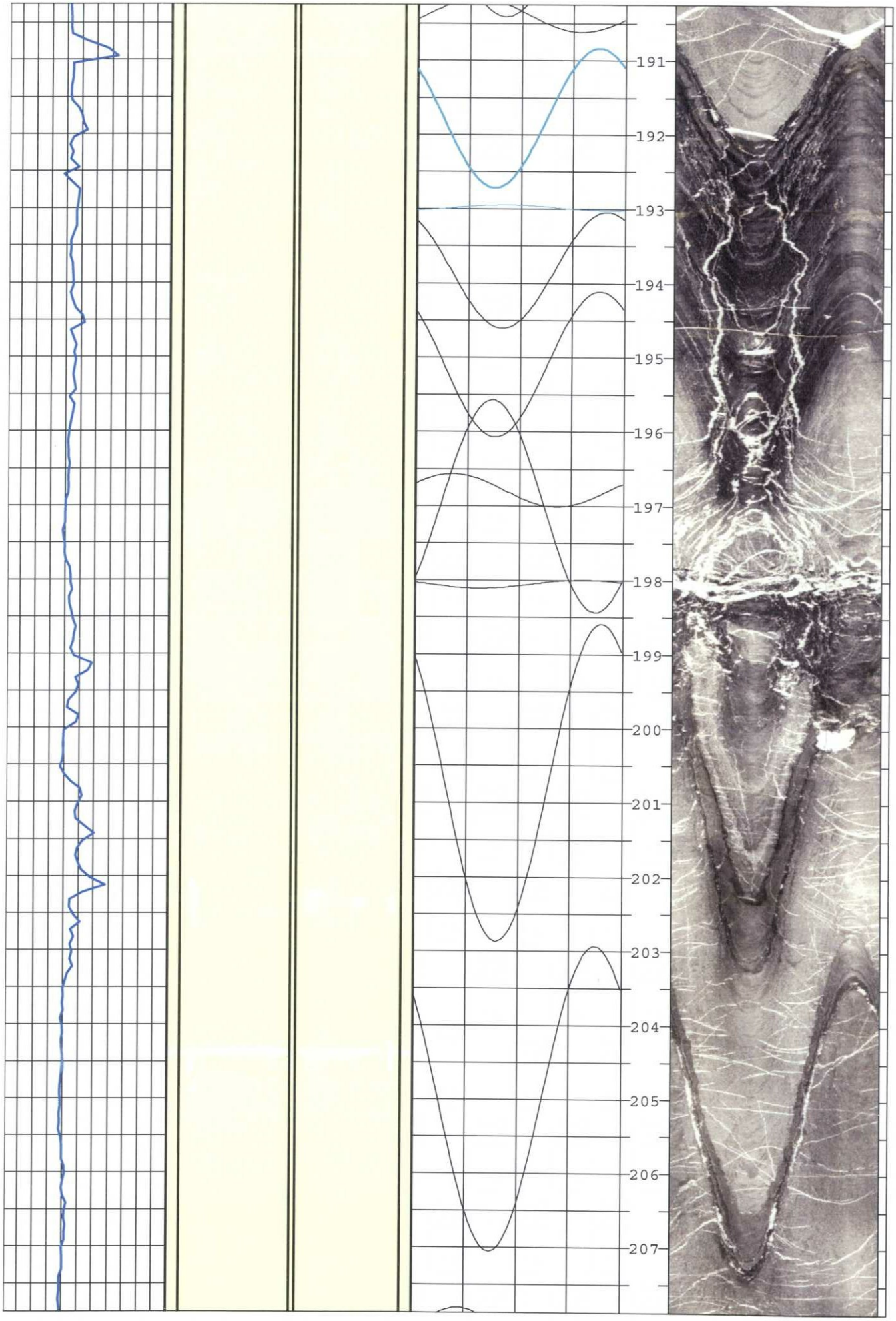
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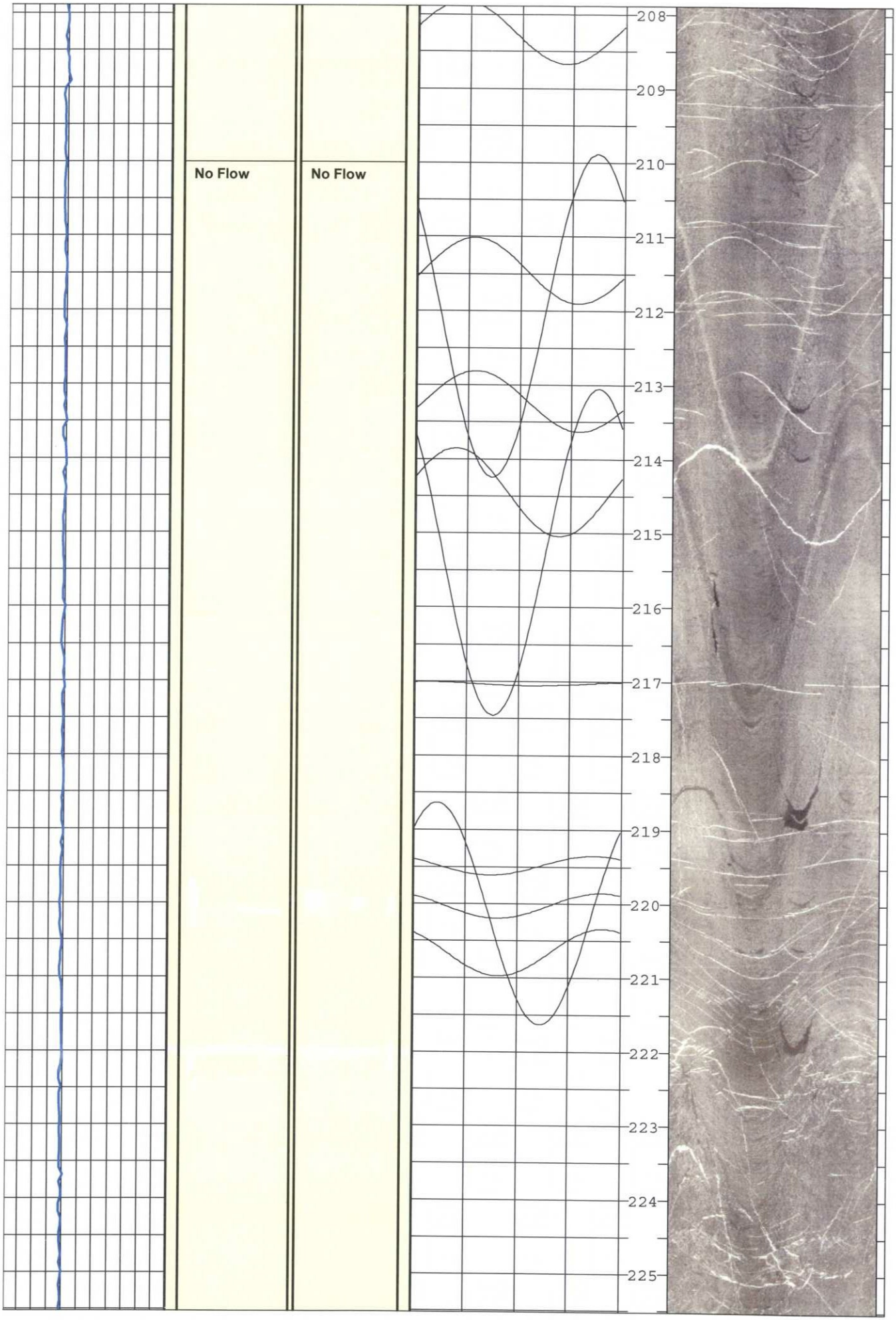
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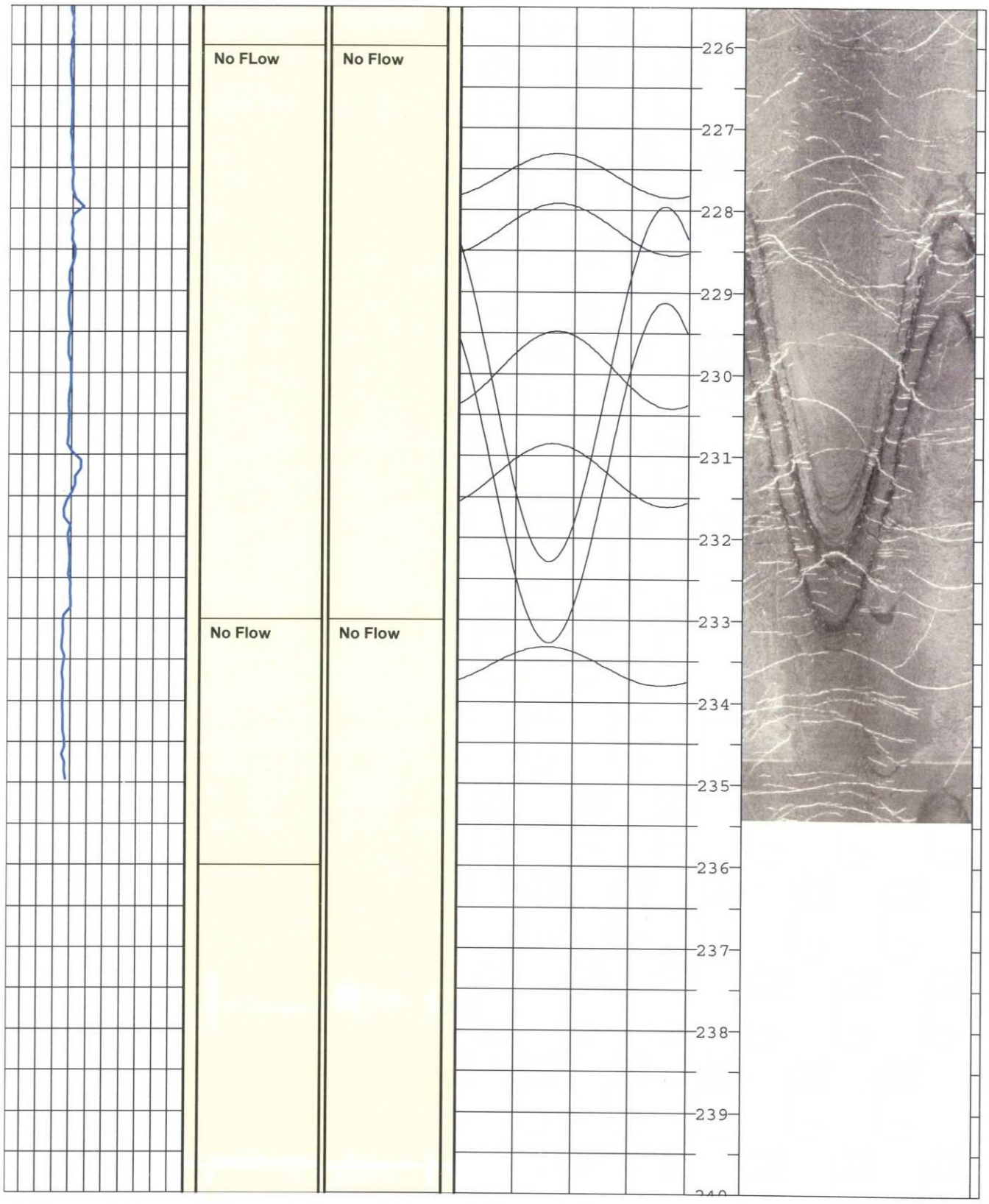
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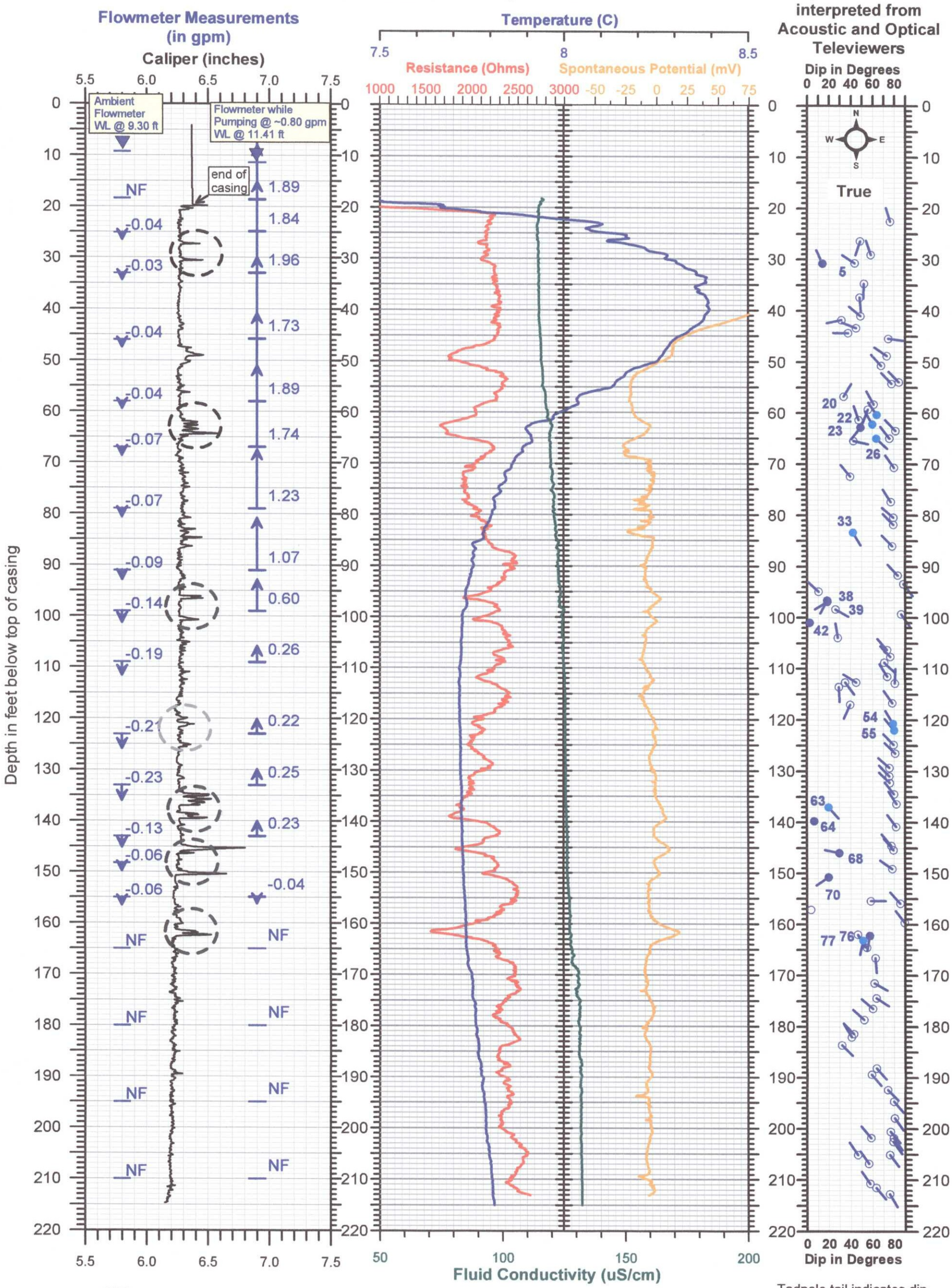
Northeast Geophysical Services

FIGURE D-1
Borehole Geophysical Log
PW-08-04
Juniper Ridge - Old Town, Maine

Date logged: 1/14/09



= Likely transmissive zone

= Possible transmissive zone

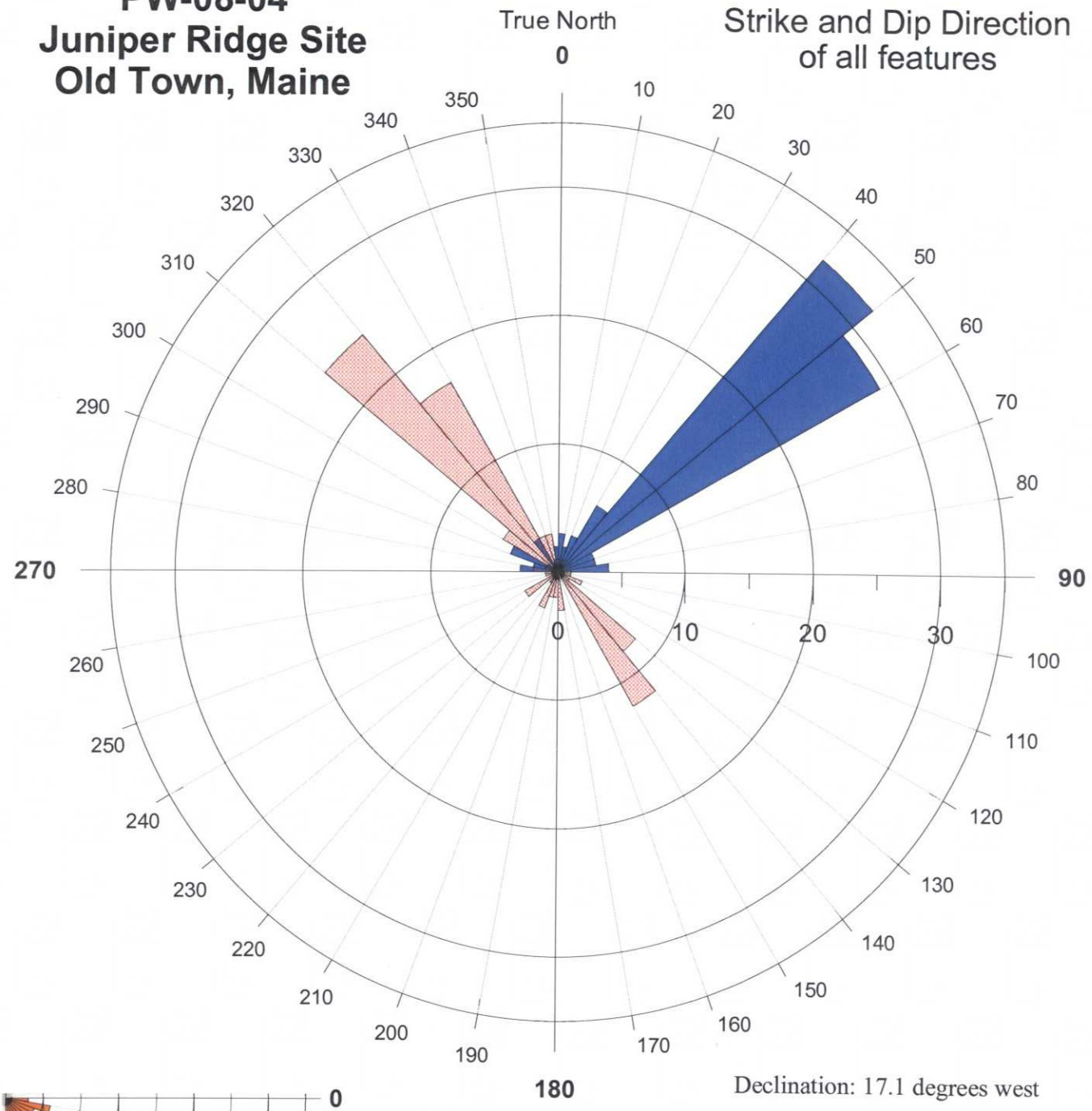
Tadpole tail indicates dip direction.
The solid tadpoles with a feature number are the ones interpreted to be likely or possibly transmissive.

Borehole Geophysical Log
PW-08-04
Juniper Ridge - Old Town, Maine

Northeast Geophysical Services

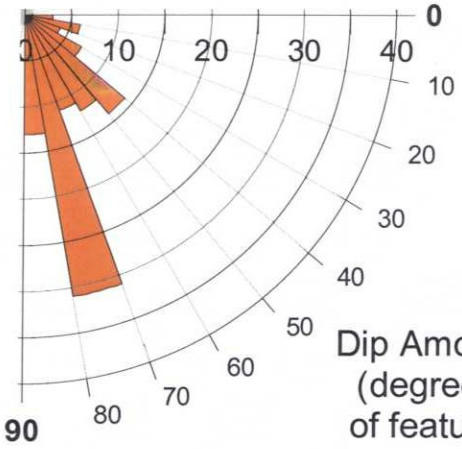
FIGURE D-2

PW-08-04
Juniper Ridge Site
Old Town, Maine



Strike and Dip Direction of all features

Declination: 17.1 degrees west



Explanation

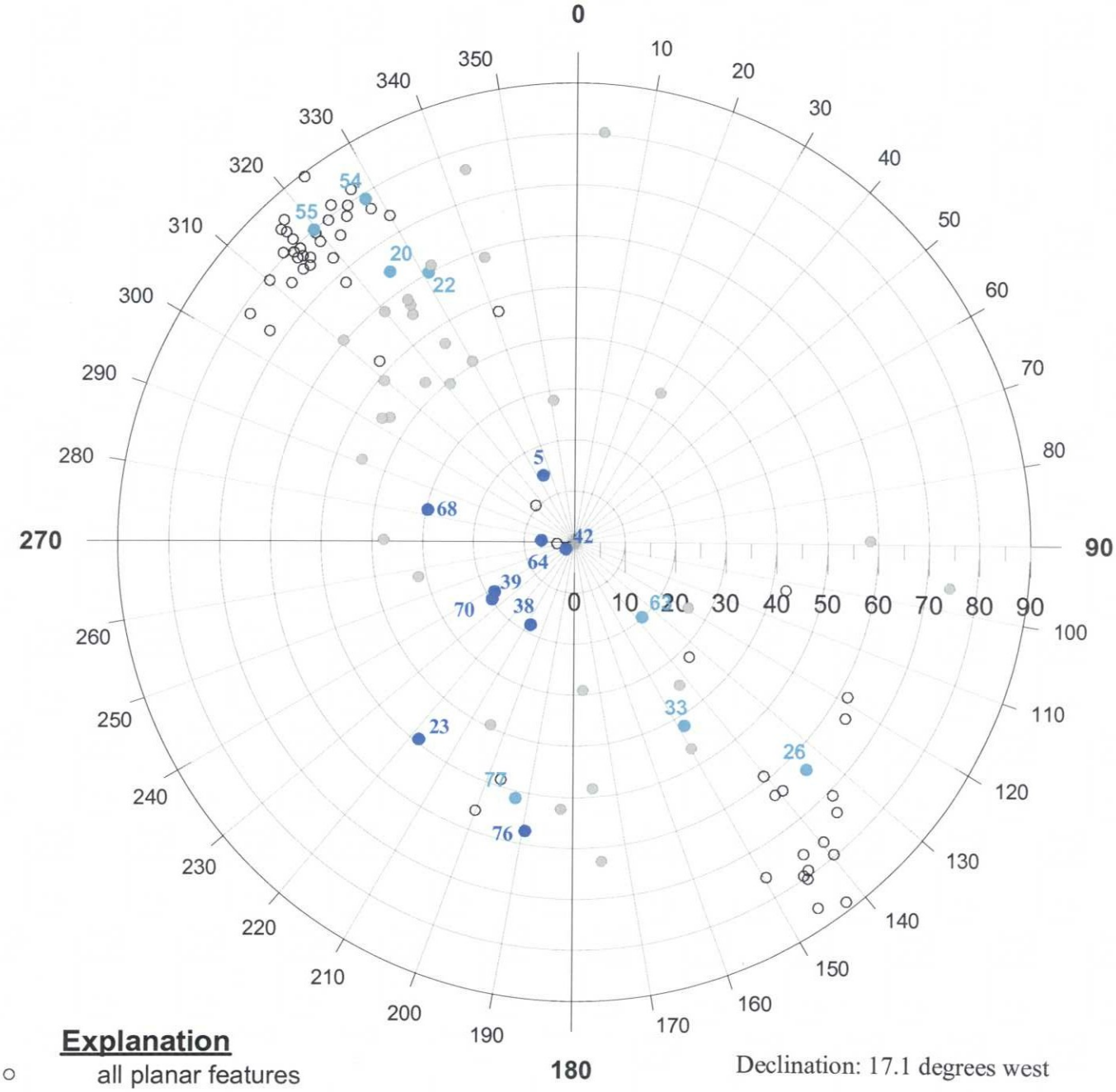
- Dip direction of feature
- Strike of feature
- Dip Amount (Tilt)

Based on 101 measurements

FIGURE D-3

PW-08-04
Juniper Ridge Site
Old Town, Maine

Dip Amount and Dip Azimuth of planar features
(upper hemisphere plot)



Explanation

- all planar features
- Likely water bearing
- Possibly water bearing
- Qzt/calcite veins

Declination: 17.1 degrees west

Based on 101 measurements

TABLE D-1 - PW-08-04 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-04	1	22.6	76	0	270	343	73	103
PW-08-04	2	26.4	49	214	304	197	287	100
PW-08-04	3	29.1	59	359	89	342	72	103
PW-08-04	4	30.7	44	321	51	303	33	103
PW-08-04	5	30.8	14	351	81	334	64	107
PW-08-04	6	34.7	52	200	290	183	273	103
PW-08-04	7	37.4	48	193	283	175	85	103
PW-08-04	8	41.0	49	327	57	310	40	103
PW-08-04	9	41.8	32	274	4	257	347	103
PW-08-04	10	43.3	45	308	38	291	21	103
PW-08-04	11	44.3	38	288	18	270	0	103
PW-08-04	12	45.4	75	114	24	97	7	103
PW-08-04	13	48.8	73	321	51	304	34	100
PW-08-04	14	50.7	68	335	65	318	48	100
PW-08-04	15	53.9	84	333	63	316	46	100
PW-08-04	16	54.2	78	333	63	316	46	100
PW-08-04	17	56.7	34	47	317	30	300	103
PW-08-04	18	58.3	61	349	79	332	62	103
PW-08-04	19	59.3	56	217	307	200	290	100
PW-08-04	20	60.3	64	342	72	325	55	108
PW-08-04	21	61.3	48	358	88	341	71	100
PW-08-04	22	62.2	60	348	78	331	61	108
PW-08-04	23	62.8	49	235	325	218	308	107
PW-08-04	24	63.4	81	334	64	317	47	100
PW-08-04	25	64.9	76	339	69	322	52	100
PW-08-04	26	64.9	64	151	61	134	44	108
PW-08-04	27	65.4	43	120	30	102	12	100
PW-08-04	28	70.6	80	343	73	325	55	100
PW-08-04	29	72.4	40	338	68	321	51	103
PW-08-04	30	77.4	77	345	75	328	58	100
PW-08-04	31	80.4	79	327	57	310	40	100
PW-08-04	32	81.8	79	334	64	316	46	100
PW-08-04	33	83.4	42	166	76	149	59	108
PW-08-04	34	86.0	78	332	62	315	45	100
PW-08-04	35	91.7	83	334	64	317	47	100
PW-08-04	36	93.4	88	159	69	142	52	100
PW-08-04	37	94.9	11	329	59	312	42	100
PW-08-04	38	96.6	18	225	315	208	298	107
PW-08-04	39	96.8	19	255	345	238	328	107
PW-08-04	40	98.3	26	137	47	119	29	103
PW-08-04	41	99.3	86	163	73	146	56	100
PW-08-04	42	101.0	2	249	339	231	321	107
PW-08-04	43	103.9	28	8	278	351	81	103
PW-08-04	44	106.3	73	336	66	319	49	100
PW-08-04	45	107.6	76	334	64	317	47	100
PW-08-04	46	108.7	71	151	61	134	44	100
PW-08-04	47	111.6	74	347	77	330	60	100
PW-08-04	48	112.7	45	319	49	302	32	103
PW-08-04	49	112.7	35	160	70	143	53	103
PW-08-04	50	112.9	80	21	291	4	274	103
PW-08-04	51	113.6	29	194	284	177	87	103
PW-08-04	52	116.7	78	342	72	324	54	100
PW-08-04	53	117.0	39	222	312	205	295	103
PW-08-04	54	120.7	79	345	75	328	58	108
PW-08-04	55	122.0	80	337	67	320	50	108
PW-08-04	56	124.8	79	333	63	315	45	100

TABLE D-1 - PW-08-04 Interpreted Structure							Declination	17.1
Borehole	Feature	Feature depth	Dip	Dip Az	Strike	True Dip Az	True Strike	Category
	Number	Feet	Degrees	magnetic	magnetic			Type
PW-08-04	57	126.5	81	331	61	314	44	100
PW-08-04	58	129.3	76	329	59	312	42	100
PW-08-04	59	130.9	75	333	63	316	46	100
PW-08-04	60	132.2	76	332	62	315	45	100
PW-08-04	61	134.5	80	339	69	322	52	100
PW-08-04	62	136.4	82	344	74	327	57	100
PW-08-04	63	137.0	20	155	65	137	47	108
PW-08-04	64	139.8	7	289	19	272	2	107
PW-08-04	65	140.8	82	341	71	324	54	100
PW-08-04	66	144.6	77	336	66	319	49	100
PW-08-04	67	145.4	79	337	67	320	50	100
PW-08-04	68	146.0	30	299	29	282	12	107
PW-08-04	69	149.1	78	322	52	305	35	100
PW-08-04	70	150.7	20	252	342	235	325	107
PW-08-04	71	155.4	58	107	17	89	359	103
PW-08-04	72	155.9	85	335	65	317	47	100
PW-08-04	73	157.1	4	282	12	265	355	100
PW-08-04	74	159.6	89	340	70	323	53	100
PW-08-04	75	162.0	47	167	77	150	60	103
PW-08-04	76	162.2	57	207	297	190	280	107
PW-08-04	77	163.1	52	210	300	193	283	108
PW-08-04	78	164.5	55	341	71	324	54	103
PW-08-04	79	166.6	63	192	282	175	85	103
PW-08-04	80	171.5	62	136	46	119	29	100
PW-08-04	81	174.4	64	140	50	123	33	100
PW-08-04	82	176.5	60	328	58	311	41	103
PW-08-04	83	178.6	52	329	59	312	42	100
PW-08-04	84	181.4	43	333	63	316	46	103
PW-08-04	85	182.0	41	347	77	330	60	103
PW-08-04	86	183.6	32	151	61	134	44	100
PW-08-04	87	188.1	64	156	66	139	49	100
PW-08-04	88	189.4	59	158	68	140	50	100
PW-08-04	89	192.4	74	152	62	135	45	100
PW-08-04	90	194.7	80	157	67	140	50	100
PW-08-04	91	197.9	80	162	72	145	55	100
PW-08-04	92	200.5	76	157	67	140	50	100
PW-08-04	93	201.8	59	337	67	320	50	103
PW-08-04	94	201.8	79	162	72	145	55	100
PW-08-04	95	202.5	79	161	71	144	54	100
PW-08-04	96	205.0	76	160	70	143	53	100
PW-08-04	97	205.1	47	343	73	326	56	103
PW-08-04	98	206.8	57	342	72	325	55	103
PW-08-04	99	210.7	58	342	72	325	55	103
PW-08-04	100	211.5	63	158	68	141	51	100
PW-08-04	101	212.7	76	167	77	150	60	100
Explanation of Categories:								
		100	planar feature: bedding, joint, fracture, foliation etc.					
		103	quartz or calcite vein					
		107	likely transmissive fracture					
		108	possible transmissive fracture					

Northeast Geophysical Services
4 Union Street Bangor, Maine 04401
Tel: 207-942-2700 email: negeophysical.com

Log: Optical Televiewer & Caliper logs

Well: **PW-08-04**

Site: Juniper Ridge

Location: West Old Town, Maine

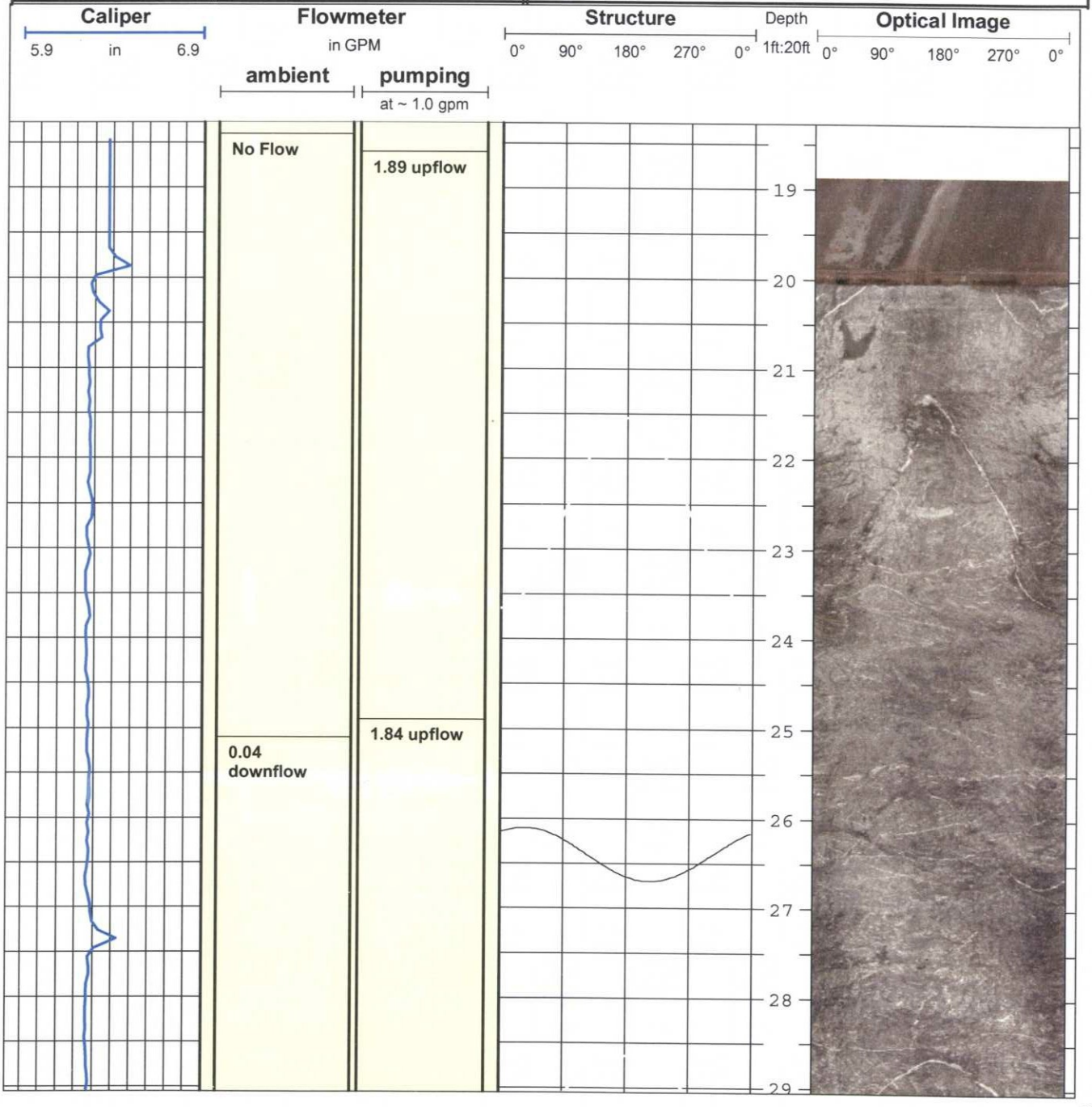
Date:	1/14/09
Casing Depth:	20 ft
Casing Type:	6 in steel
Boring Depth:	216 ft
Meas. From:	top of casing
Stickup:	2.0 ft
Water Level:	9.30 ft

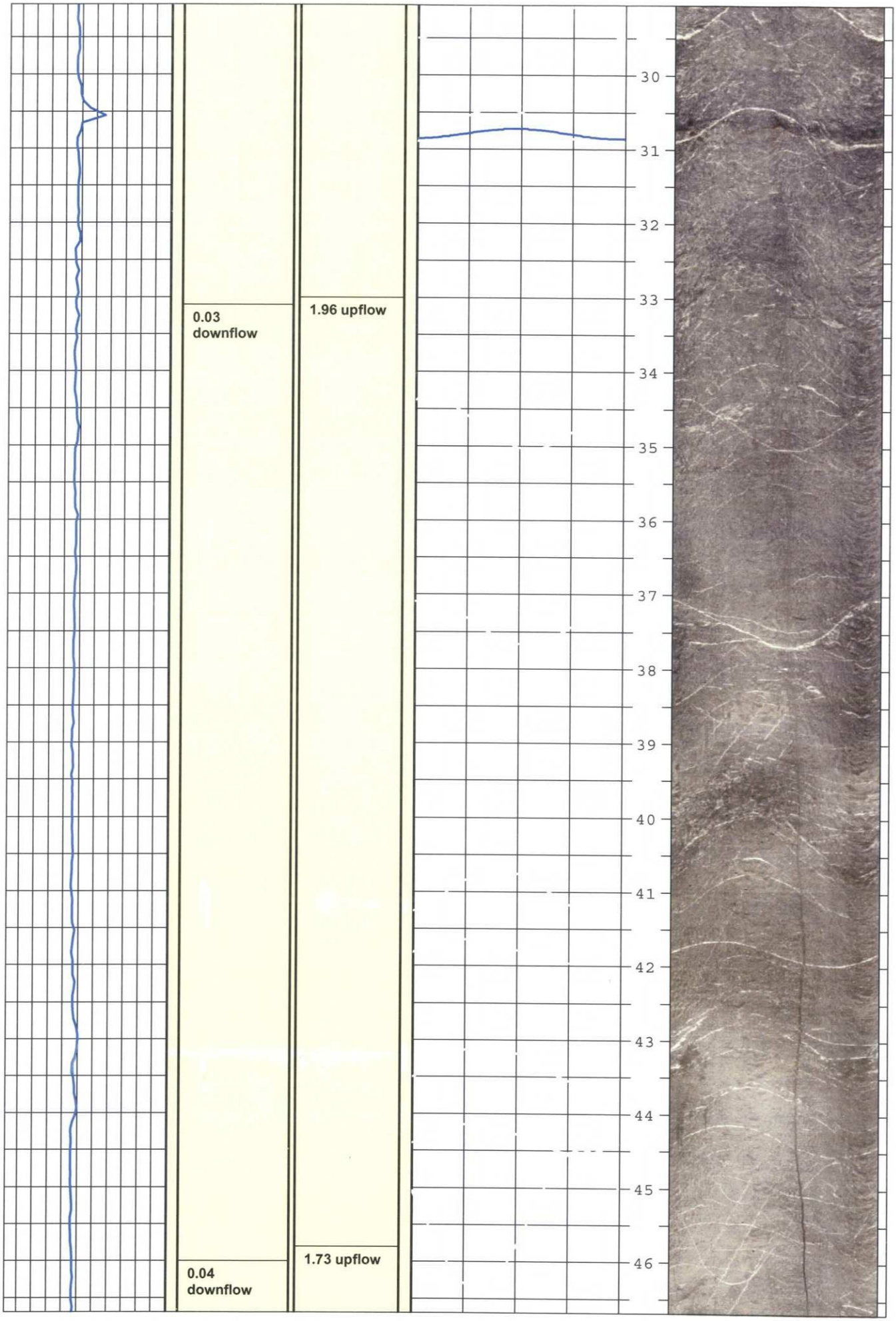
For: Sevee & Maher

Logged by: R Rawcliffe

Orientation: magnetic

Structure Plots:
black = planar features (faults, foliation, bedding, joints, etc)
light gray = veins of likely either quartz or calcite
light blue = possibly transmissive fracture
dark blue = likely transmissive fracture

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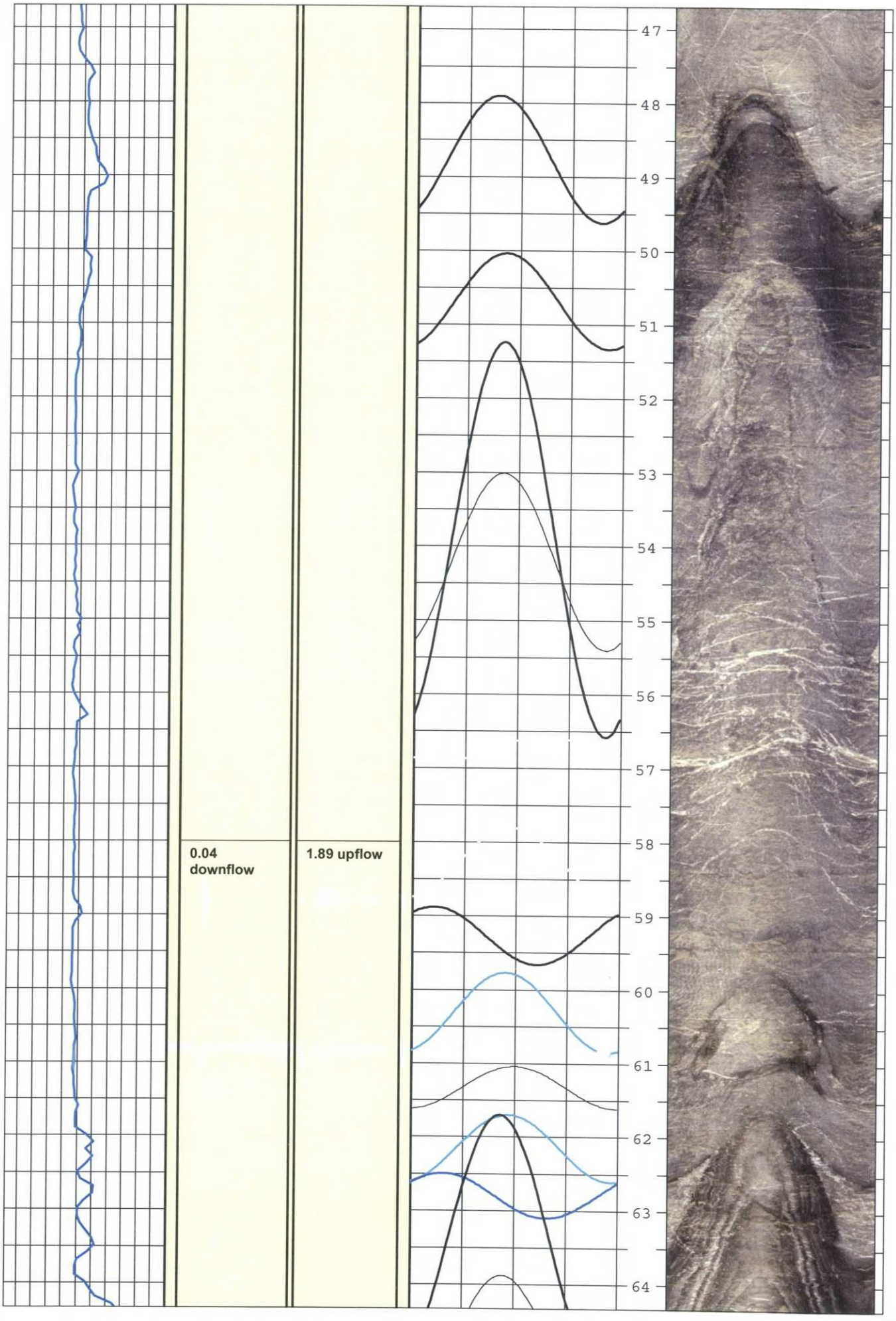
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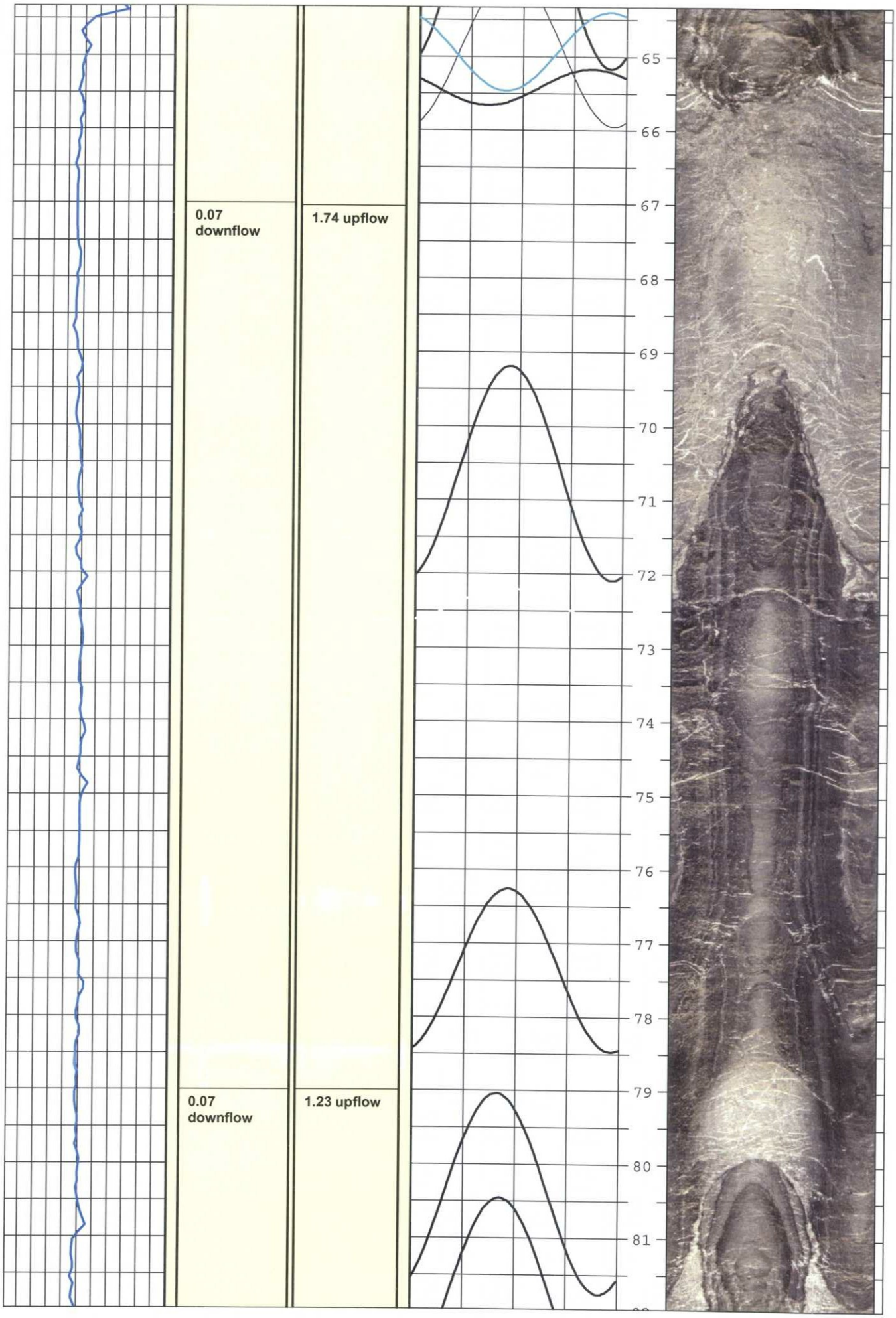
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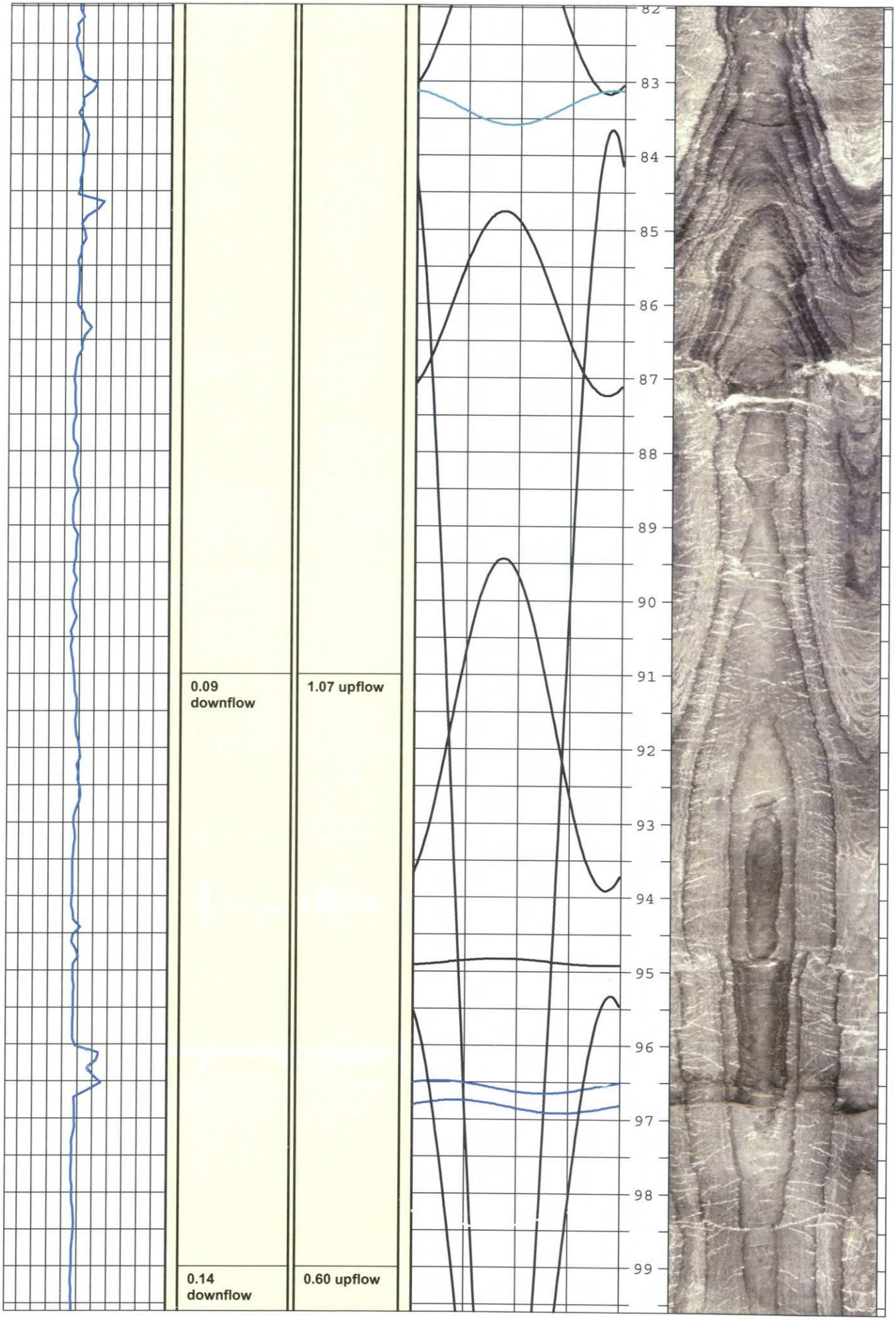
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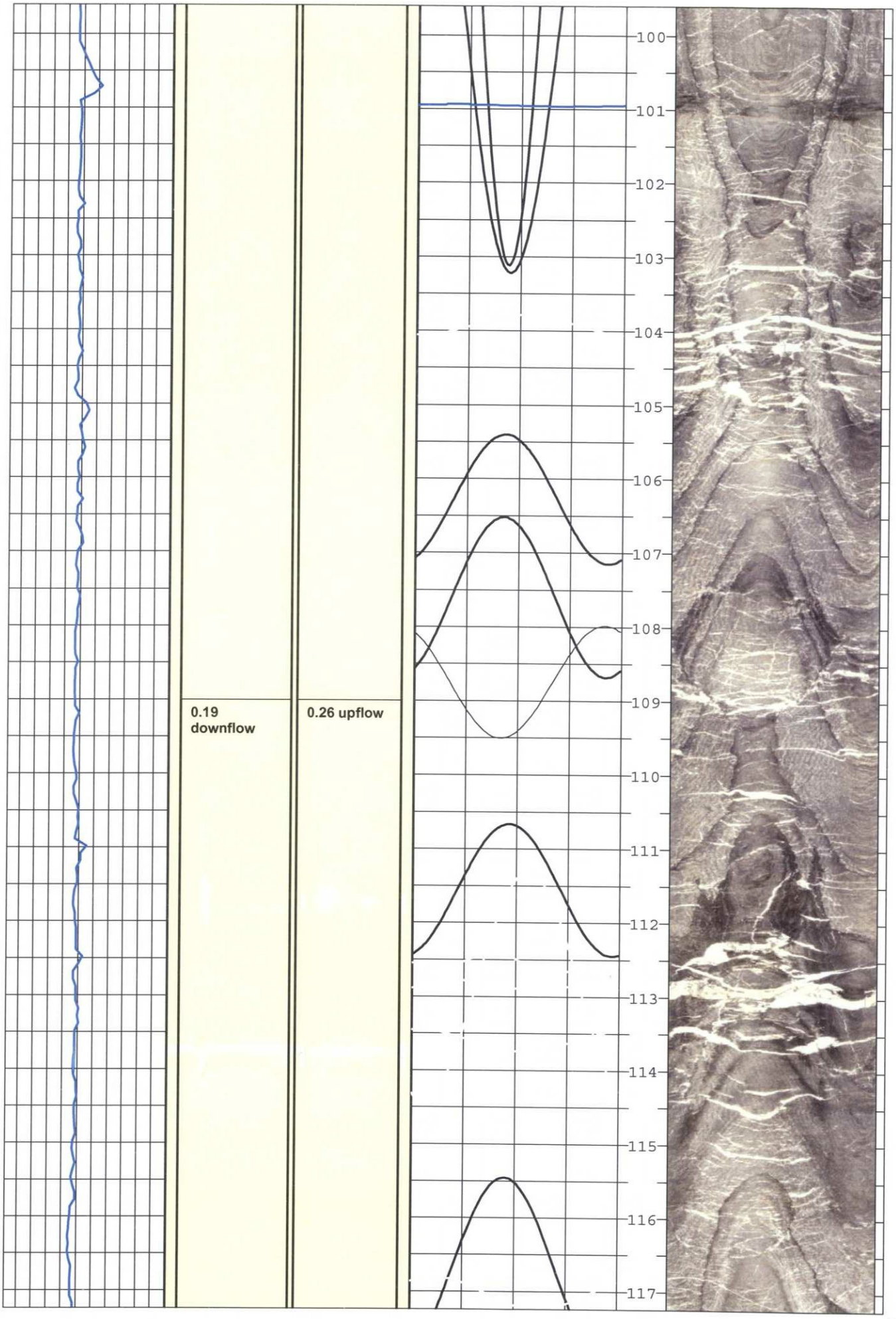
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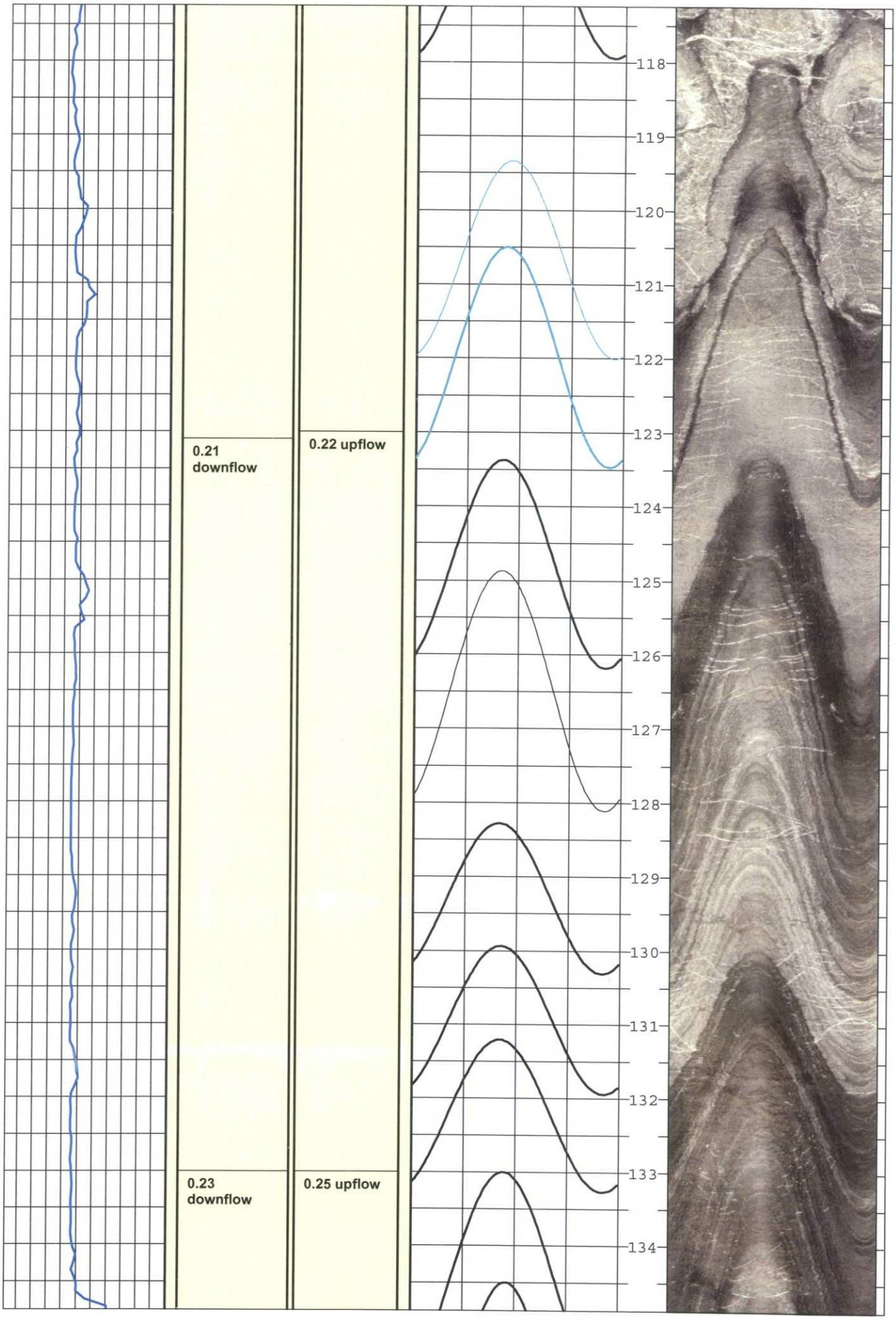
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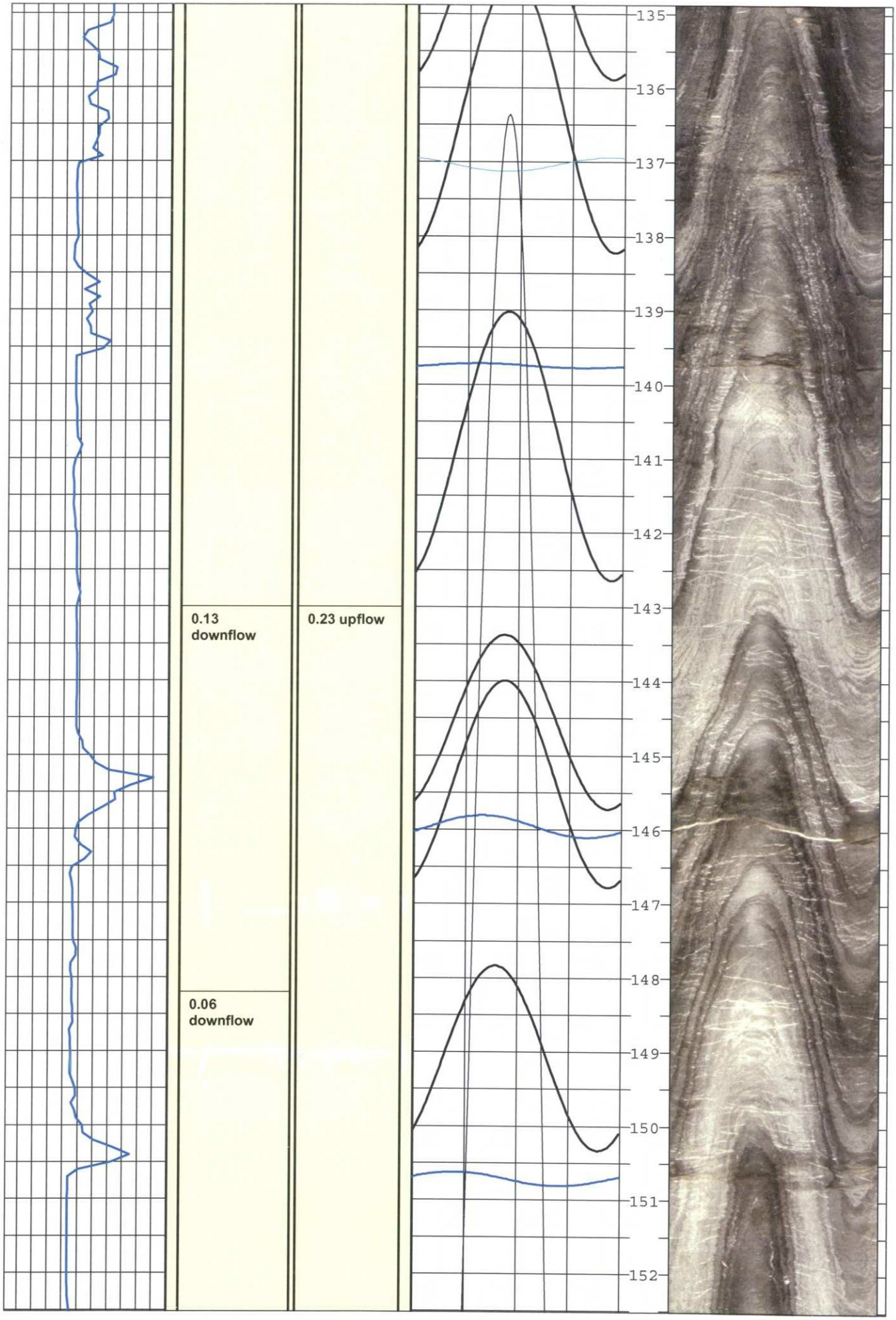
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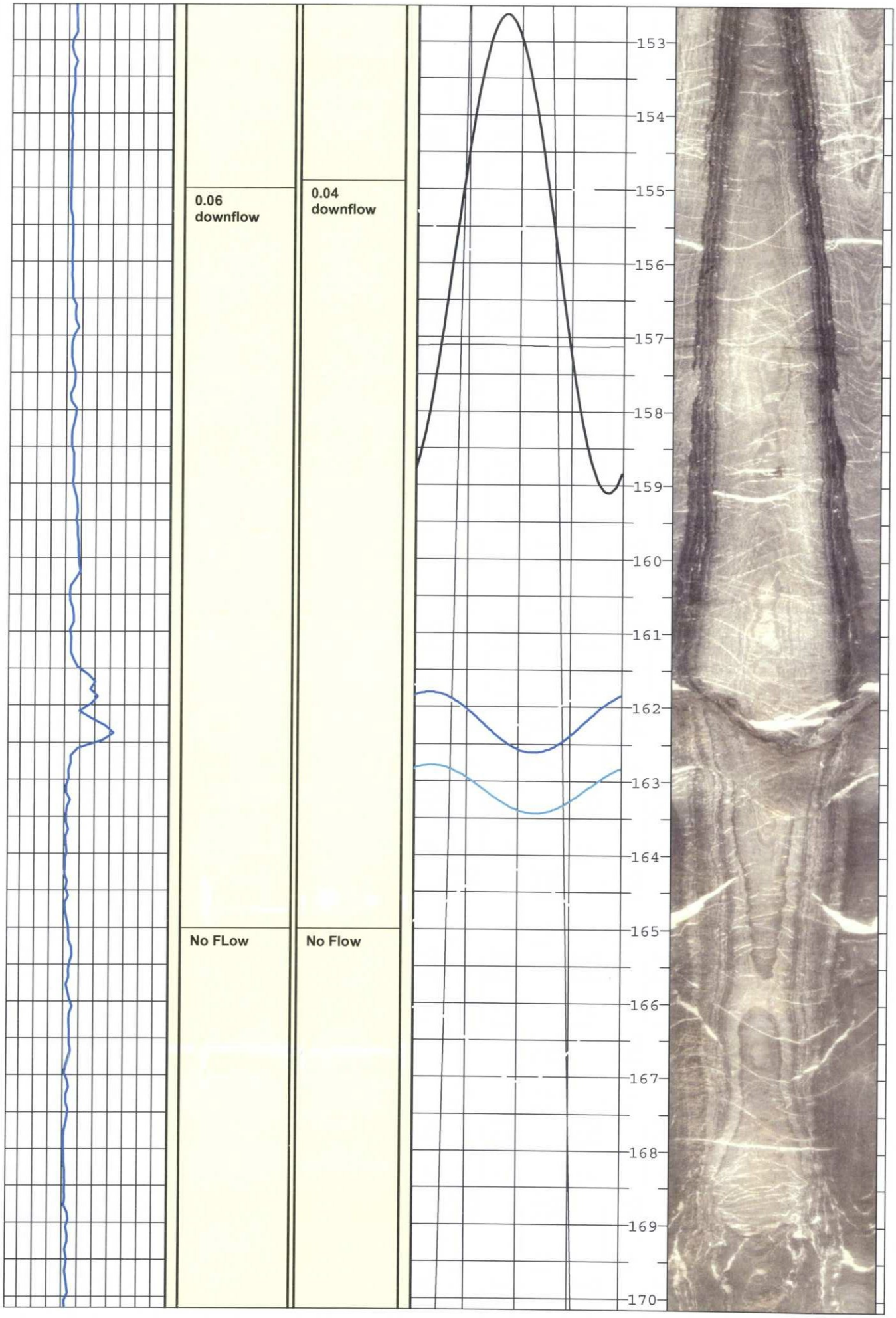
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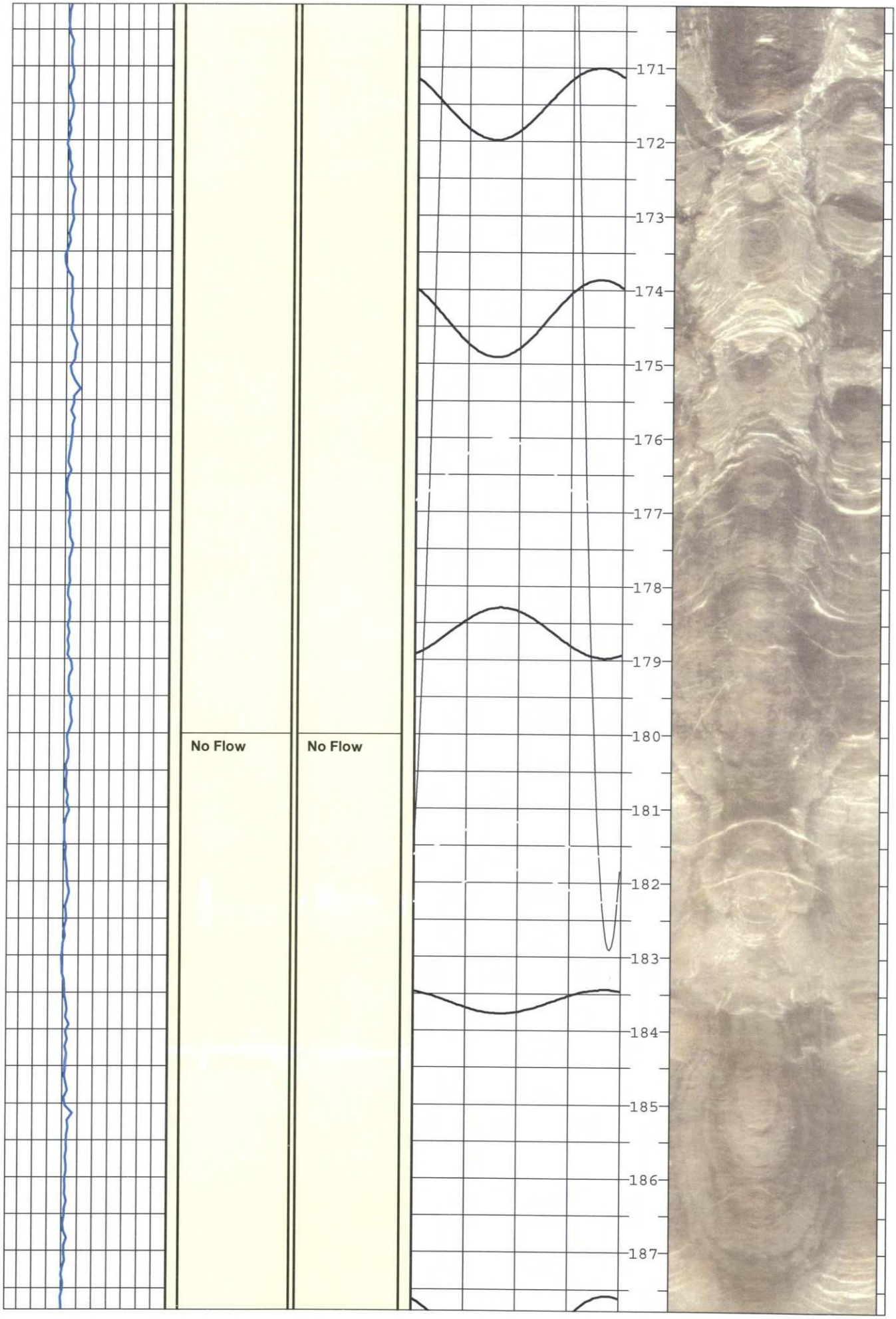
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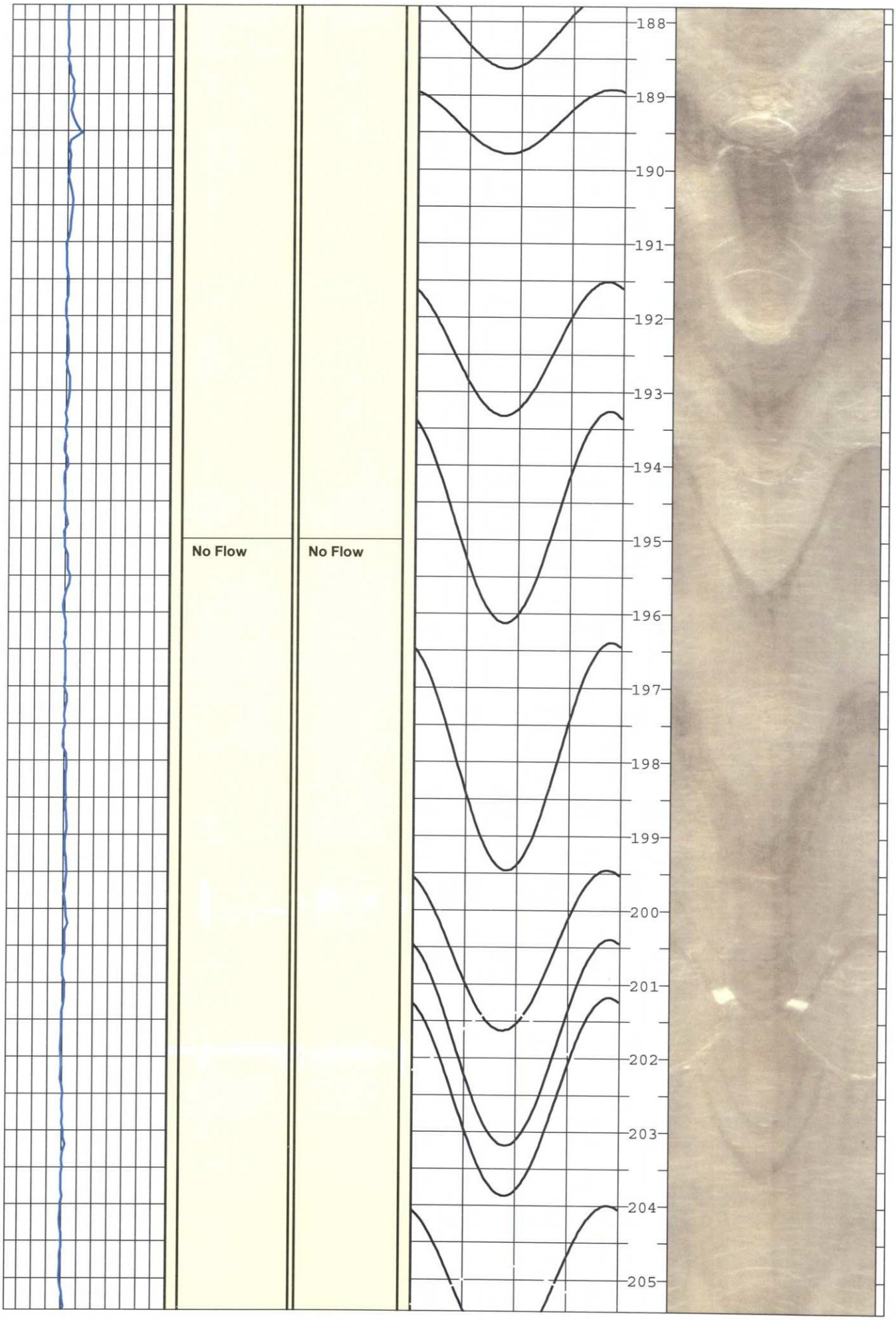
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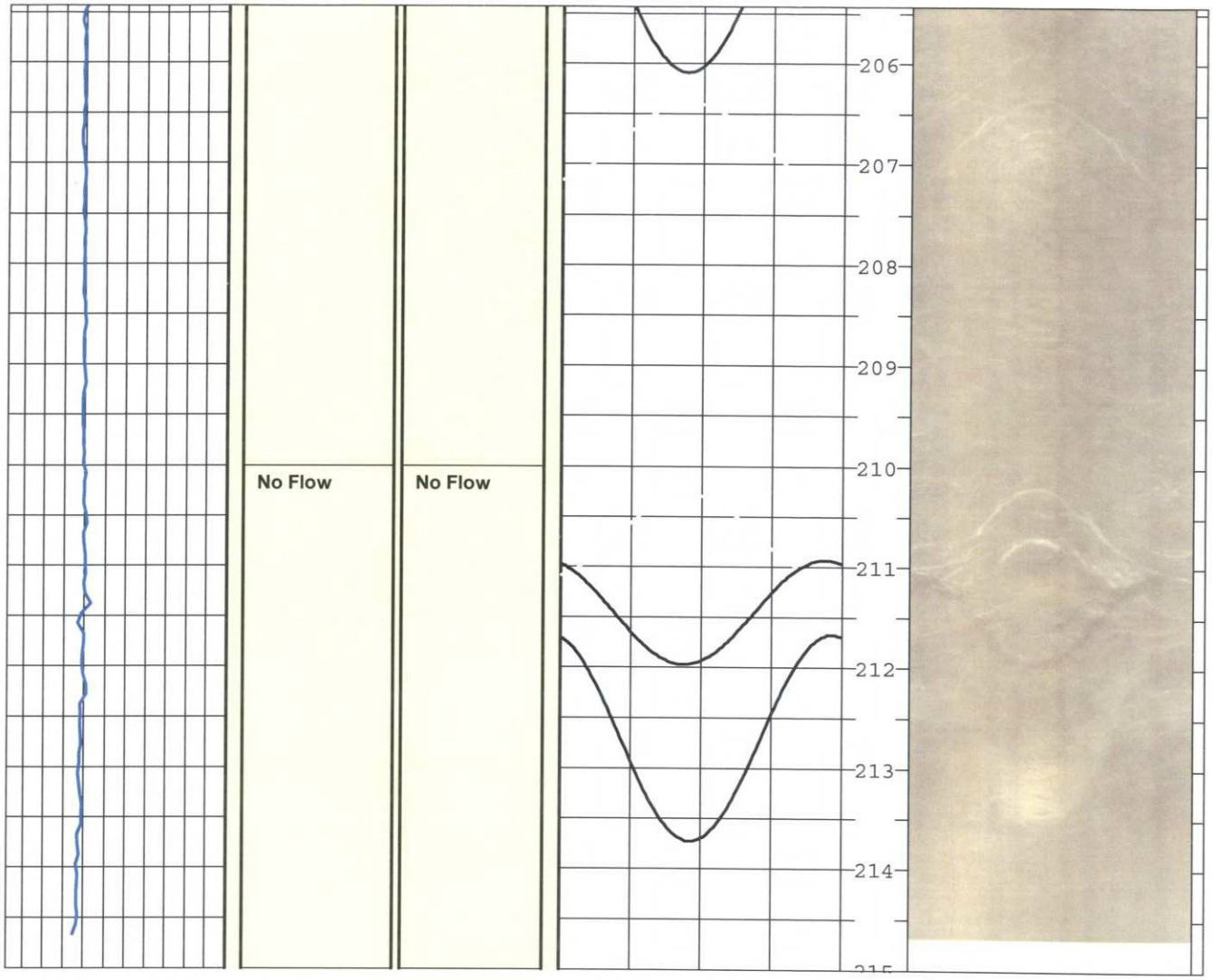
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APPENDIX J

TILL TRACER TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS

NATURAL GRADIENT TILL TRACER TEST
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

1.0 BACKGROUND AND PURPOSE

A solute tracer test was performed in the glacial till to provide a field-scale measurement of the rate of groundwater movement through the till under natural gradient conditions. The tracer test corroborates other field and laboratory testing results of the till's hydraulic properties. Furthermore, it provides information on the rate of solute spreading (i.e., lateral dispersion) as it moves through the till. The rate of groundwater movement is important to support time-of-travel analyses. That information and the lateral dispersion properties aid in groundwater monitoring system design.

A test location was selected where groundwater flow direction was predominantly horizontal. The fines content of the till at the test location was about 53 percent based on grain size analysis testing. This is slightly sandier than the average till fines content of 56 percent.

An injection well (MW-04-111), screened in the saturated portion of the till, and five monitoring wells (MW-05-01 through MW-05-05) positioned about 10 feet downgradient from the injection well were installed for the tracer test. The monitoring wells formed an arc, each separated from an adjacent well by about 6 feet, and collectively distributed over a total horizontal arc of about 120 degrees. This configuration was utilized to accommodate various possible groundwater flow directions from the injection well. Well installation details are summarized on the logs in Appendix B. Well screens were five feet long in each well installation. The saturated thickness of the till in the tracer test area was at least 12 feet based on the measured groundwater levels. The orientation of the injection and monitoring wells is shown in Figure G-1.

The tracer used in this test consisted of bromide (Br) introduced in the form of sodium bromide (NaBr) solution. Bromide is classified as a conservative tracer since it moves with the same velocity as the groundwater and its concentration is affected only by hydrodynamic dispersion. The Br ion introduced to the aquifer in the form of a sodium salt is considered one of the more satisfactory tracers for hydrogeologic investigations (Olsen and Tenbus, 2004; LeBlanc et al, 1991). Its conservative behavior is well established in field studies and it has been found to be acceptable to environmental regulators for this application (Davis et al, 2001). Furthermore, its presence is relatively easy to analyze for in water and it is not detectable as naturally occurring in the Site groundwater.

2.0 TEST PROCEDURE

The conceptual procedure for the till tracer test was to place a known mass of Br into the injection well and evaluate the tracer's movement by periodically collecting groundwater samples from the downgradient monitoring wells for the analysis of bromide. As mentioned above, the natural background Br concentration in site groundwater is non-detectable with the selected analytical method, so its arrival in any of the monitoring wells was confirmation that the injected tracer had migrated downgradient through the saturated till. The tracer test followed the steps listed below, after the wells were installed and developed to remove fines from drilling and establish hydraulic communication with the surrounding formation:

- The tracer was mixed at a ratio of 25.6 grams NaBr per one liter of deionized water to produce a NaBr solution having a concentration of about 25,600 milligrams per liter. Nine liters of this solution was added to MW-04-111 on February 3, 2005, after 9 liters of well water was removed so as not to alter its static groundwater level. Following the addition of the tracer into MW-04-111, it was allowed to enter and travel through the saturated till under the natural groundwater gradient as dictated by the till's hydraulic properties (i.e., hydraulic conductivity and effective porosity). Three types of data were collected at each monitoring well: (1) groundwater level; (2) specific conductance using a

submersible probe; and (3) mid-screen samples of groundwater from each of the wells.

- The water column in the injection well was routinely mixed to keep the Br concentration relatively constant throughout the well. Prior to groundwater sampling, the water column in each well (injection and downgradient) was mixed. This resulted in obtaining an average Br concentration that minimized the effect of plume stratification due to structural heterogeneities within the till deposit.

- Mid-screen samples of groundwater were collected from each of the six monitoring wells and analyzed for Br content by Maine Environmental Laboratories using Method SW-9056. The samples were collected using dedicated sampling tubes and a peristaltic pump. Purge and sample volumes were kept to a minimum and did not exceed 60 milliliters. The sampling volumes were minimized so that the natural horizontal seepage gradients of the groundwater were not affected in a significant way. In the injection well, specific conductance was also measured to check on uniform mixing of the Br tracer.

3.0 TEST RESULTS

Groundwater Br concentrations in the injection and monitoring wells are summarized in Table G-1. Horizontal hydraulic gradients of the groundwater were also measured between the injection well and each of the monitoring wells. Gradients remained relatively constant between the injection well and the downgradient monitoring wells; although a slight decrease of approximately 0.005 was measured near the end of the test period (in the summer months). However, for the purpose of data evaluation gradients remained reasonably consistent. Gradient values are tabulated in Table G-2.

Only two wells showed the presence of the Br tracer: MW-05-01 and MW-05-02. The Br concentrations in MW-05-02 were greater than MW-05-01 which is consistent with the general direction of groundwater flow based on the water table configuration (see Figure G-1).

Using the travel time to the peak Br concentration (210 days) and the spacing between the injection and monitoring wells (10 feet), an average groundwater flow velocity of 17 feet per year is calculated for the till in the test area. A detailed three-dimensional plume analysis was conducted in order to better estimate the average groundwater seepage velocity. The analytical method of Clary and Vargas, 1978 was selected and was utilized with a varying source (injection) concentration. For tracer source dimensions, the approximate borehole and screen dimensions were utilized. Vertical dispersivity was selected to be significantly less than the longitudinal and lateral dispersivities. The average groundwater velocity, and lateral and longitudinal dispersivities were fitting parameters, selected to get the best fit between the field data and the analytical results. Furthermore, since the Br concentrations in the monitoring wells represented a vertically mixed value, the analytical results were also averaged over the screen length.

The field data suggested the centroid of the Br plume passed between MW-05-02 and MW-05-01, but closer to the latter. Thus, the direction of the centroid was also selected as a fitting parameter.

An analysis of the injection well data, using the method of Drost, 1965 indicated that the Br mass flux from the injection well was nearly consistent with natural groundwater advection of Br from the well. Thus, vertical loss of the Br tracer did not appear to be occurring (see attached calculations). Thus, the tracer moved predominantly horizontally. However, since the test had to be conducted over at least a one year period, precipitation recharge, which contains no measurable bromide, displaced the tracer phase downward. Assuming precipitation recharge of up to six inches per year and a total porosity of 0.25, this would result in a downward phase displacement in the order of a couple of feet over a one year period. Although not critical to the

early data, this becomes more important when attempting to fit the later-time data. Thus, emphasis was placed on fitting the early-time data and less so on the late-time results.

Three wells were analyzed (MW-05-01, MW-05-02, and MW-05-03). Well MW-05-03 did not show the presence of the Br tracer, an observation that was confirmed by the analytical results. The best-fit results are presented in the attached calculations. The calculated average groundwater velocity was 0.03 feet per day or about 11 feet per year. Longitudinal and lateral dispersivities were 1.5 and 0.5 feet, respectively. The longitudinal dispersivity is about 15 percent of the travel distance between the injection well and observation wells. This value is consistent with the "rule-of-thumb" guideline of ten percent of the scale. The lateral to longitudinal dispersivity ratio is about 1:3 in this case.

TABLE G-1

SUMMARY OF TILL TRACER TEST

Date	MW-04-111			MW-05-01		MW-05-02		MW-05-03		MW-05-04		MW-05-05	
	Bromide (mg/L) Unmixed	Mixed	Avg. Spec. Cond.	Bromide (mg/L)	Avg. Spec. Cond. (µs/cm)	Bromide (mg/L)	Avg. Spec. Cond. (µs/cm)	Bromide (mg/L)	Avg. Spec. Cond. (µs/cm)	Bromide (mg/L)	Avg. Spec. Cond. (µs/cm)	Bromide (mg/L)	Avg. Spec. Cond. (µs/cm)
2/3/05			125		145		165		142		123	NS	180
2/3/05	28,600	19,890	19,989	ND		ND		ND		ND		ND	
2/10/05			6,468		102		121		99		84	NS	129
2/17/05	5,500		5,929	ND	139	ND	168	ND	135	ND	114	ND	177
2/17/05	8,300												
2/17/05		4,450											
3/2/05	2,300		1,814	ND	156	ND	196	ND	155	0.03	129	ND	208
3/2/05		2,380	1,919										
3/17/05			663		149		190		149		125		203
3/29/05			271		140		184		145		122		199
4/15/05	87.98		130	ND	127	0.69	173	ND	134	ND	114	ND	188
4/28/05	72.40	29.5	111		121	0.90	163	ND	130	ND	109	ND	183
5/12/05	31.10	21.8	108	0.04	115	1.85	162	ND	130	0.04	107	ND	179
5/25/05	11.65	3.53	99	0.04	107	2.40	156	0.05	125	ND	100	0.11	176
6/22/05	6.33	4.46		ND	106	12.24	159	ND	126	ND	99	ND	172
7/20/05	2.40	1.85	124	ND	116	19.75	167	ND	129	ND	134	ND	121
8/17/05	2.21	1.80	120	0.53	126	23.10	169	ND	133	ND	137	ND	128
9/21/05	0.54	0.47	117	0.63	127	24.04	165	ND	150	ND	133	ND	121
10/21/05	0.19	0.22	109	0.38	119	26.70	161	ND	147	ND	129	ND	118
11/21/05	ND	ND	106	0.23	104	9.05	141	ND	125	ND	116	ND	106
12/27/05	0.07	0.06	103	0.06	105	10.57	144	ND	128	ND	117	ND	107
4/27/06	ND	ND	89	ND	100	4.05	130	ND	129	ND	116	ND	104
5/25/06	ND	ND	95.49	ND	124	2.90	134	ND	134	ND	121	ND	109

Notes:
1. Average specific conductance values are reported after mixing just before sampling.
2. ND is below Method Reporting Limit level of 0.03 mg/L Br. Method capable of detecting to one-half Reporting Limit.

TABLE G-2

HORIZONTAL GROUNDWATER GRADIENTS
TILL TRACER TEST

Location	MW-04-111 194.93[1]		MW-05-01 194.86[1]			MW-05-02 194.62[1]		
Date	Water Depth (ft-btc)	Water Level Elevation (ft)	Water Depth (ft-btc)	Water Level Elevation (ft)	Gradient to MW-04-111	Water Depth (ft-btc)	Water Level Elevation (ft)	Gradient to MW-04-111
2/3/2005	5.24	189.69	5.37	189.49	0.020	5.14	189.48	0.021
2/10/2005	5.18	189.75	5.32	189.54	0.021	5.08	189.54	0.021
2/17/2005	3.99	190.94	4.19	190.67	0.027	3.92	190.70	0.024
3/2/2005	4.69	190.24	4.83	190.03	0.021	4.59	190.03	0.021
3/17/2005	4.24	190.69	4.43	190.43	0.026	4.19	190.43	0.026
3/29/2005	3.29	191.64	3.48	191.38	0.026	3.25	191.37	0.027
4/15/2005	3.98	190.95	4.12	190.74	0.021	3.87	190.75	0.020
4/28/2005	3.44	191.49	3.61	191.32	0.017	3.39	191.23	0.026
5/12/2005	4.00	190.93	4.19	190.74	0.019	3.93	190.69	0.024
5/25/2005	3.92	191.01	4.10	190.83	0.018	3.85	190.77	0.024
6/22/2005	4.43	190.5	4.63	190.30	0.020	4.37	190.25	0.025
7/20/2005	6.48	188.45	6.59	188.34	0.011	6.32	188.30	0.015
8/17/2005	6.79	188.14	6.90	188.03	0.011	6.65	187.97	0.017
9/21/2005	5.90	189.03	5.60	189.33	-0.030	5.67	188.95	0.008
10/21/2005	4.20	190.73	4.35	190.58	0.015	4.10	190.52	0.021

Location	MW-05-03 194.88[1]			MW-05-04 195.41[1]			MW-05-05 194.86[1]		
Date	Water Depth (ft-btc)	Water Level Elevation (ft)		Water Depth (ft-btc)	Water Level Elevation (ft)	Gradient to MW-04-111	Water Depth (ft-btc)	Water Level Elevation (ft)	Gradient to MW-04-111
2/3/2005	5.35	189.53	0.016	5.74	189.67	0.002	5.30	189.56	0.013
2/10/2005	5.30	189.58	0.017	5.68	189.73	0.002	5.26	189.60	0.015
2/17/2005	4.16	190.72	0.022	4.53	190.88	0.006	4.14	190.72	0.022
3/2/2005	4.81	190.07	0.017	5.20	190.21	0.003	4.82	190.04	0.020
3/17/2005	4.40	190.48	0.021	4.78	190.63	0.006	4.16	190.70	-0.001
3/29/2005	3.49	191.39	0.025	3.84	191.57	0.007	3.22	191.64	0.000
4/15/2005	4.09	190.79	0.016	4.46	190.95	0.000	4.06	190.80	0.015
4/28/2005	3.62	191.26	0.023	3.99	191.42	0.007	3.55	191.31	0.018
5/12/2005	4.16	190.72	0.021	4.53	190.88	0.005	4.13	190.73	0.020
5/25/2005	4.07	190.81	0.020	4.47	190.94	0.007	4.05	190.81	0.020
6/22/2005	4.58	190.30	0.020	4.95	190.46	0.004	4.56	190.30	0.020
7/20/2005	6.55	188.33	0.012	6.95	188.46	-0.001	6.50	188.36	0.009
8/17/2005	6.90	187.98	0.016	7.31	188.10	0.004	6.84	188.02	0.012
9/21/2005	6.05	188.83	0.020	6.45	188.96	0.007	5.95	188.91	0.012
10/21/2005	4.35	190.53	0.020	4.69	190.72	0.001	4.30	190.56	0.017

Notes:
1. Elevation at top of PVC casing in feet above NGVD.
2. btc = Below top of PVC casing.
3. Gradients calculated by taking difference in groundwater elevation in the respective monitoring well and injection well and dividing that difference by the horizontal distance between the two wells.

References

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Drost, W., D. Klotz, A. Koch, H. Moser, F. Neumauer, and N. Rauert, 1968. Point Dilution Methods of Investigating Groundwater Flow by Means of Radioisotopes, Water Resources Research, Volume 4, pp.125-146.

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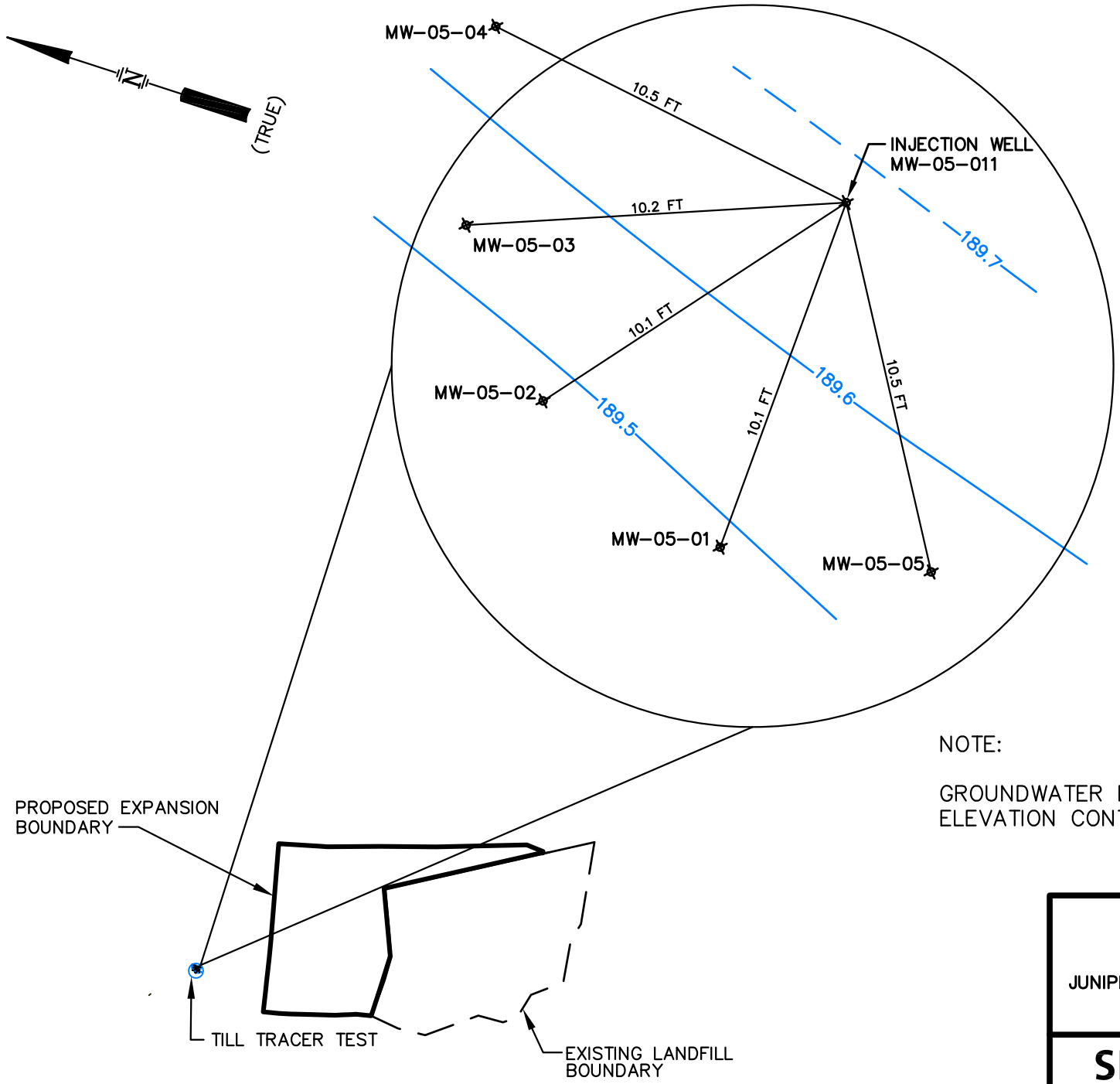
Olsen, L.L. and F.J. Tenbus, 2004. Design and Analysis of a Natural Gradient Ground-Water Tracer Test in a Freshwater Tidal Wetland, West Branch Canal Creek, Aberdeen Proving Ground, Maryland, Scientific Investigation Report 2004-5190, USGS, Washington, D.C.



NOTE:

GROUNDWATER PHREATIC SURFACE ELEVATION CONTOURS SHOWN IN BLUE.

FIGURE G-1
WELL LOCATIONS
TILL TRACER TEST
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

DWG: TRACER-TEST LMN: TILL-TRACER CTB: BR-PIR REV: 5/21/15

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jrl till tracer test three dimensional transport analysis with decaying source..check at mw-05-02

(after cleary and ungs, 1978)

source definition:

$N := 16$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 19890 \\ 5500 \\ 2380 \\ 87.98 \\ 29.5 \\ 21.8 \\ 3.53 \\ 4.46 \\ 1.85 \\ 1.8 \\ .47 \\ .22 \\ 0 \\ .06 \\ 0 \\ 0 \end{pmatrix}$$

source term(days)

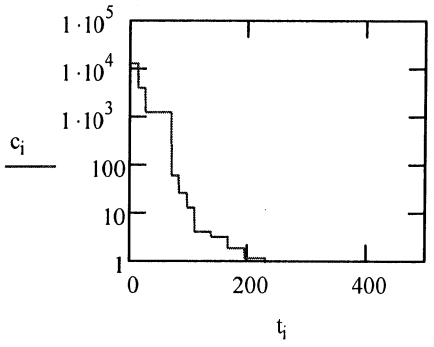
$$ti := \begin{pmatrix} 0 \\ 14 \\ 27 \\ 71 \\ 84 \\ 98 \\ 111 \\ 139 \\ 167 \\ 195 \\ 230 \\ 260 \\ 291 \\ 328 \\ 449 \\ 477 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i \cdot \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 2.5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := .03$

x(downgradient) dispersivity in ft $\alpha x := 1.5$

y(lateral) dispersivity in ft $\alpha y := .1$

z(vertical) dispersivity in ft $\alpha z := .1$

Calculated breakthru curve:

$x := 9.5$ distance of interest in feet

$y := 2$ y coordinate of intrest in ft

$z := 0$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at MW-05-02

$$actC := \begin{pmatrix} 0 & 0.01 \\ 14 & 0.01 \\ 27 & 0.01 \\ 71 & .69 \\ 84 & .9 \\ 98 & 1.85 \\ 111 & 2.4 \\ 139 & 12.24 \\ 167 & 19.75 \\ 195 & 23.1 \\ 230 & 24.04 \\ 260 & 26.7 \\ 291 & 9.05 \\ 328 & 10.57 \\ 449 & 4.05 \\ 477 & 2.9 \end{pmatrix}$$

note that precipitation recharge lowers the actual values to less than the theoretical values as the recharges pushes the plume deeper and adds so upper fringe dilution.

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..500$

$\tau_i := i$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 2.5$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

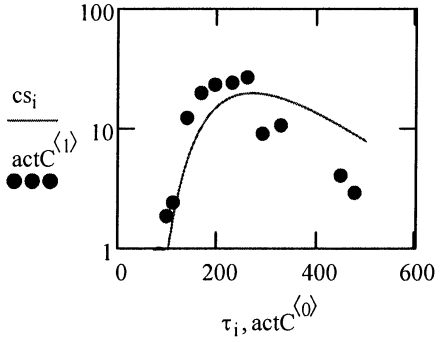
$i := 1,2..500$

$\tau_i := i$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



jrl till tracer test three dimensional transport analysis with decaying source..check at mw-05-03

(after cleary and ungs, 1978)

source definition:

$N := 16$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 19890 \\ 5500 \\ 2380 \\ 87.98 \\ 29.5 \\ 21.8 \\ 3.53 \\ 4.46 \\ 1.85 \\ 1.8 \\ .47 \\ .22 \\ 0 \\ .06 \\ 0 \\ 0 \end{pmatrix}$$

source term(days)

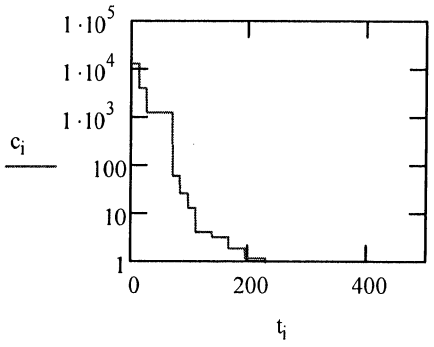
$$ti := \begin{pmatrix} 0 \\ 14 \\ 27 \\ 71 \\ 84 \\ 98 \\ 111 \\ 139 \\ 167 \\ 195 \\ 230 \\ 260 \\ 291 \\ 328 \\ 449 \\ 477 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i \cdot \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 2.5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := .03$

x(downgradient) dispersivity in ft $\alpha x := 1.5$

y(lateral) dispersivity in ft $\alpha y := .1$

z(vertical) dispersivity in ft $\alpha z := .1$

Calculated breakthru curve:

$x := 7.5$ distance of interest in feet

$y := 7$ y coordinate of intrest in ft

$z := 0$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

no Br concentrations at MW-05-03

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4 \cdot Dx} \cdot t - \frac{x^2}{4 \cdot Dx \cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b - y}{2 \cdot \sqrt{Dy \cdot t}}\right) + \operatorname{erf}\left(\frac{b + y}{2 \cdot \sqrt{Dy \cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a - z}{2 \cdot \sqrt{Dz \cdot t}}\right) + \operatorname{erf}\left(\frac{a + z}{2 \cdot \sqrt{Dz \cdot t}}\right)$$

$$C(x,y,\eta) := A(x) \cdot \int_{0.01}^{\eta} B(x,t) \cdot t^{-1.5} \cdot E(x,y,t) \cdot F(x,z,t)\, dt$$

$i := 1, 2 .. 500$

$\tau_i := i$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 2.5$

$$F(x, z, t) := \operatorname{erf}\left(\frac{a - z}{2 \cdot \sqrt{Dz \cdot t}} \right) + \operatorname{erf}\left(\frac{a + z}{2 \cdot \sqrt{Dz \cdot t}} \right)$$

$$C(x, y, \eta) := A(x) \cdot \int_{0.01}^{\eta} B(x, t) \cdot t^{-1.5} \cdot E(x, y, t) \cdot F(x, z, t)\, dt$$

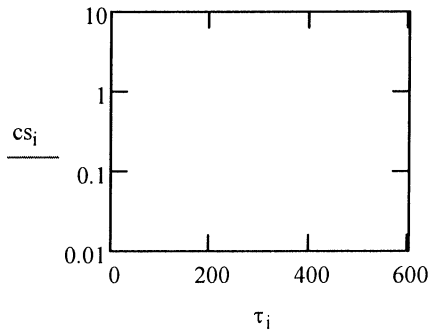
$i := 1, 2 .. 500$

$\tau_i := i$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$


10
1
0.1
0.01
cs_i
0
200
400
600
τ_i

$$- ti_n))\Big]$$

jrl till tracer test three dimensional transport analysis with decaying source..check at mw-05-01

(after cleary and ungs, 1978)

source definition:

$N := 16$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 19890 \\ 5500 \\ 2380 \\ 87.98 \\ 29.5 \\ 21.8 \\ 3.53 \\ 4.46 \\ 1.85 \\ 1.8 \\ .47 \\ .22 \\ 0 \\ .06 \\ 0 \\ 0 \end{pmatrix}$$

source term(days)

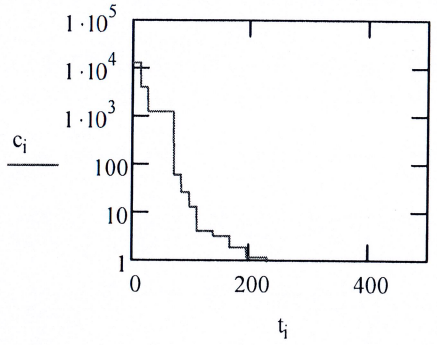
$$ti := \begin{pmatrix} 0 \\ 14 \\ 27 \\ 71 \\ 84 \\ 98 \\ 111 \\ 139 \\ 167 \\ 195 \\ 230 \\ 260 \\ 291 \\ 328 \\ 449 \\ 477 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i - \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 2.5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := .03$

x(downgradient) dispersivity in ft $\alpha x := 1.5$

APPENDIX K

BEDROCK TRACER TEST RESULTS

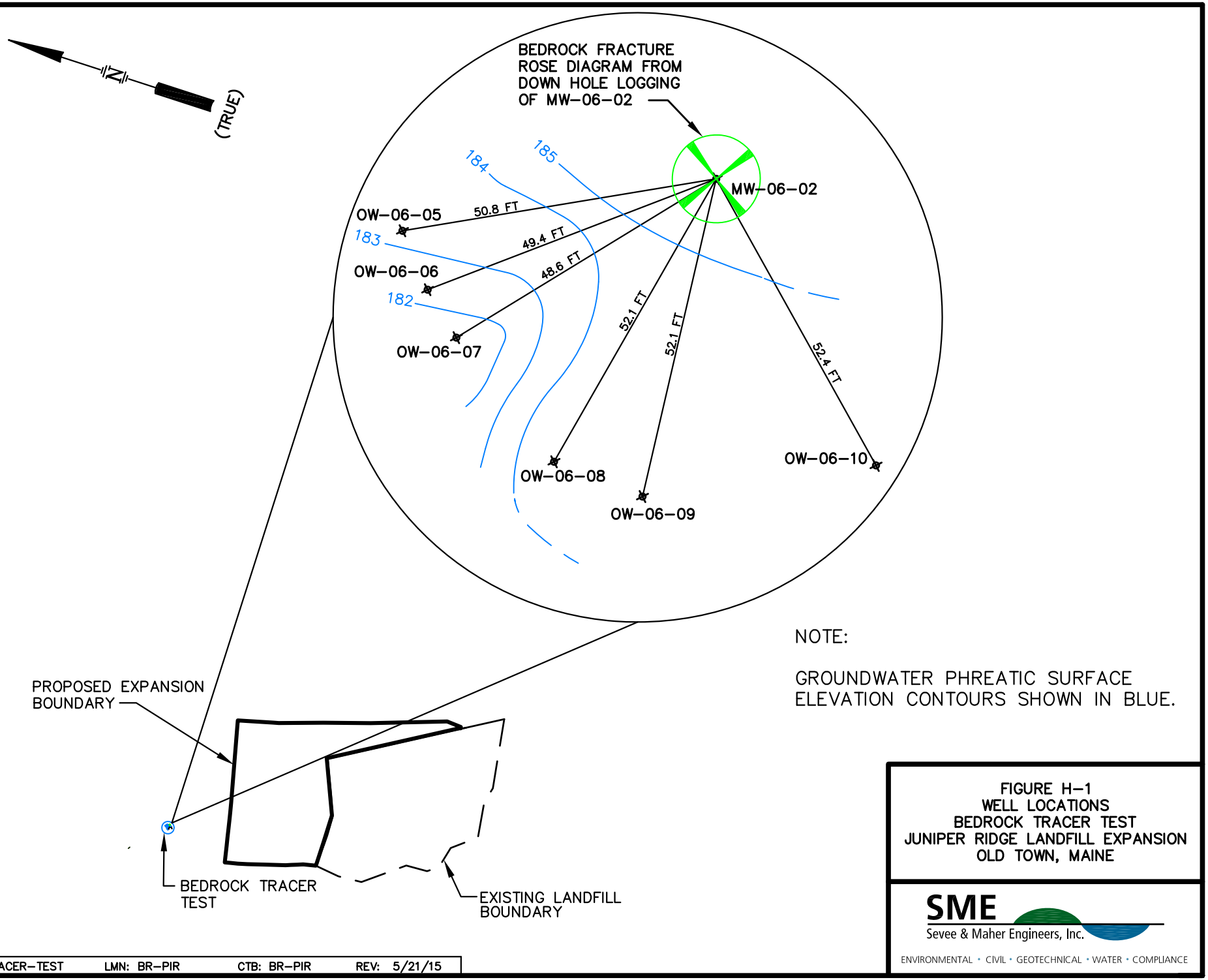
SME
SEVEE & MAHER
ENGINEERS

NATURAL GRADIENT BEDROCK TRACER TEST RESULTS
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

1.0 BACKGROUND AND PURPOSE

A natural gradient bedrock tracer test was performed to provide a field-scale measurement of the hydraulic properties of the fractured bedrock. This test was performed to corroborate other field testing of the bedrock in terms of estimating groundwater velocities through the bedrock fractures and fracture interconnectedness within the bedrock. The tracer test included the installation of a network of six downgradient observation wells and one tracer injection well. The six observation wells were distributed within the immediate downgradient area of the injection well to provide coverage for a variety of possible groundwater flow directions within the bedrock fractures. Although the tracer test represents groundwater flow within the upper portion of the bedrock, it is considered to be generally applicable to depths of interest relative to monitoring the performance of the landfill.

The bedrock consists of interbedded phyllite, metaquartzite, metagraywacke, and metasiltstone. Field testing of the rock indicated that there are two principal orientations of fractures: (1) the prominent set of fractures strikes in a northeastern-southwestern direction (N25E to N67E) and are relatively steeply dipping based on the bedrock outcrop field measurements (see Figure H-1); and (2) a secondary set of fractures strike northwest to southeast. Site-specific studies also indicate that other random fractures are also present in the bedrock. Downhole geophysical logging of the bedrock at the injection hole, MW-06-02, confirmed the fractured nature of the bedrock. The predominant fracture strike orientation at MW-06-02 was about N30E to N40E (relative to Truth North). A secondary set of fractures, striking N50W to N60W, was also observed in the geophysical logging. The bedrock core in the tracer test wells consisted of fractured but competent gray metamorphosed siltstone.



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The tracer injection well (MW-06-02) was located approximately 50 feet upgradient from the observation wells. Since the groundwater flow in the bedrock is controlled by the fracture orientations and the degree of fracture interconnection, the downgradient observation wells were spaced over a horizontal arc of approximately 110 degrees to intercept potential flow paths of the tracer. This also allowed for determining the predominant horizontal flow direction in the bedrock as well as the degree of interconnection of the fractures. The fracture interconnectiveness, along with the fracture patterns, will control the lateral and longitudinal solute dispersivities in the rock.

The injection well and each of the observation wells were similarly constructed with 10-foot-long screen sections positioned in the upper portion of the bedrock. The well screens were positioned to cover at least one common elevation region, but also needed to be positioned on fracture zones observed in the bedrock cores from each borehole. Thus, the screen elevations vary over about 8 feet vertically, but screen fracture zones that transport groundwater. A pump test performed prior to the tracer test showed that all wells were hydraulically connected to the injection well (see Appendix J). The logs for the observation wells and the injection well are included in Appendix B.

The tracer used in this test consisted of bromide in the form of sodium bromide. Bromide (Br) is classified as a conservative tracer since it moves with the same velocity as the groundwater and its concentration is affected only by hydrodynamic dispersion. The bromide ion introduced to the aquifer in the form of a sodium salt is considered one of the more satisfactory tracers for hydrogeologic investigations (Olsen and Tenbus, 2004; LeBlanc, et al, 1991). Its conservative behavior is well established in field studies and it has been found to be acceptable to environmental regulators for this application (Davis, et al, 2001). Furthermore, it is relatively easy to analyze for and is not detected as naturally occurring in the Site groundwater.

2.0 TEST PROCEDURE

The procedure for the bedrock tracer test included placement of a known mass of bromide into the injection well and observing the tracer's movement by collecting periodic groundwater

samples from the observation wells over a twenty-four-day period. The water samples were analyzed for bromide at Maine Environmental Laboratory (MEL) in Yarmouth, Maine. As mentioned above, natural background bromide concentrations are non-detectable so the presence of bromide in any of the observation wells was confirmation that the tracer had flowed through groundwater from the injection well. After the wells were installed and developed, the tracer test followed the steps listed below. The tracer test lay-out is presented in Figure H-1.

1. The tracer was mixed at a ratio of 250 grams of sodium bromide per liter of deionized water to produce a bromide concentration of 194,000 mg/L. Two liters of this solution were added to injection well MW-06-02 in a single pulse on June 9, 2008. Since this was intended to be a natural gradient tracer test, fresh groundwater was removed from the well prior to tracer injection to mitigate any effects that may be caused by hydraulic mounding of the tracer during injection. The volume of solution injected was limited to minimize the disturbance to groundwater levels. The initial bromide concentration in the well bore after mixing was 20,200 mg/L.

2. Following injection, the tracer was allowed to enter the bedrock fractures at a rate controlled by the natural hydraulic properties of the bedrock (i.e., hydraulic conductivity and effective porosity) and local conditions (hydraulic gradient and precipitation infiltration). The water column in the injection well was routinely mixed to keep the bromide concentration in the injection well relatively constant.

3. During the test period two types of data were periodically collected from each of the wells: (1) groundwater levels; and (2) water samples for bromide analyses. Groundwater samples were collected periodically from the mid-screen of the injection well and each observation well and analyzed for bromide at MEL using Method SW-9056. The observation well water was vertically mixed prior to sampling and the samples were collected using dedicated sampling tubing and a peristaltic pump. Purge and sample volumes did not exceed 60 milliliters to minimize the disturbance to the natural horizontal seepage gradients of the

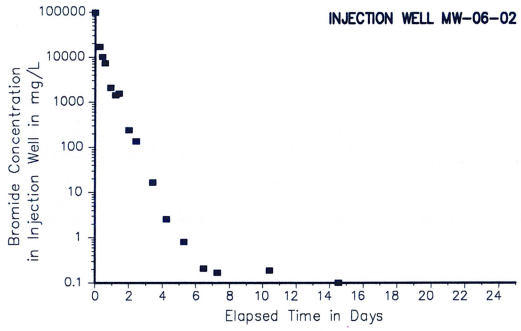
groundwater. At the injection well, specific conductance was also measured to check on uniform mixing of the bromide tracer.

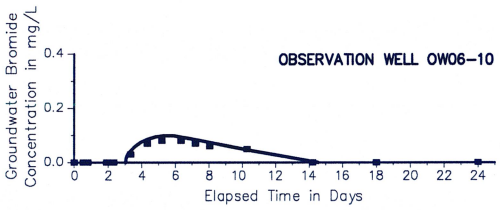
4. The test continued until bromide concentrations in the injection well and observation wells had returned to non-detectable levels.

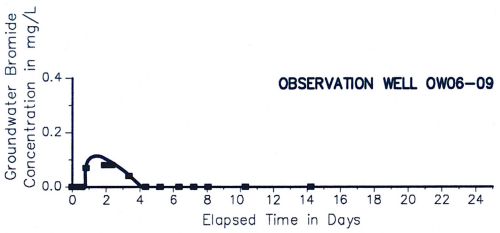
3.0 TEST DATA

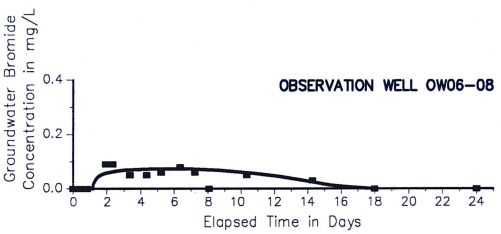
Groundwater bromide concentrations in the injection and observation wells over the test period are summarized in Table H-1. The laboratory test results are at the offices of Sevee & Maher Engineers, Inc., Cumberland, Maine and are available upon request. As expected, bromide concentrations decreased in the injection well and at the end of the test were approximately at the analytical method detection level. Bromide concentrations were detected in at least five of the observation wells with OW-06-05 showing a few random bromide detections. The sporadic concentrations detected at OW-06-05 may be associated with analytical imprecision. Furthermore, the orientation of the groundwater contours allows for groundwater to enter the vicinity of OW-06-05 that may not be from the injection well direction. Interpretations of the OW-06-05 data as real-values or artifacts of the sampling and testing procedure do not alter the conclusions of the test in any significant way. Breakthrough peaks of bromide were detected in the other five observation wells, as shown in Figure H-2.

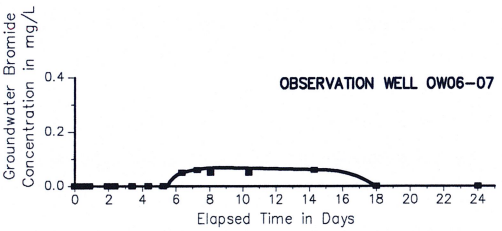
Horizontal hydraulic gradients of the groundwater were measured between the injection well and each of the observation wells. The groundwater level measurements are shown in Table H-1 and the average horizontal hydraulic gradients up to bromide breakthrough are shown in Table H-2. Hydraulic gradients were measured to range from 0.008 to 0.123, and were relatively consistent throughout the tracer test. Horizontal seepage gradients in the bedrock for the landfill Site range from 0.02 to 0.05, which is within the range of gradients measured during the tracer test. The hydraulic gradients were greatest in the direction of OW-06-07 and were least in the direction of OW-06-08. A relatively small rainfall event occurred during the tracer test on the third day (June 12, 2008), which likely had only a minor impact, if any, on the tracer plume concentrations.

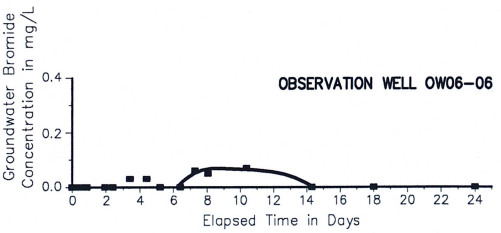


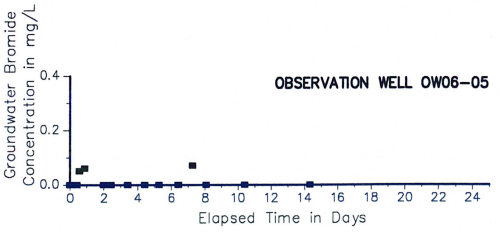












DWG: TRACER-TEST LMN: BR-PIR CTB: BR-PIR REV: 1/28/09

FIGURE H-2
TRACER BREAKTHROUGH CURVES
BEDROCK TRACER TEST
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.

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TABLE H-1

SUMMARY OF BROMIDE DATA
BEDROCK TRACER TEST DATA

MW-06-02 (Injection Well)			OW-06-05			OW-06-06			OW06-07			OW-06-08			OW-06-09			OW06-10		
Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groun dwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)	Elapsed Time (days)	Bromide (mg/L)	Groundwater Level (ft-btc)
0^-	ND	6.95	0	ND	6.40	0	ND	6.40	0	ND	9.00	0	ND	4.42	0	ND	5.30	0	ND	5.75
0^+	20,200	7.48	0.221	ND	6.75	0.213	ND	6.65	0.205	ND	9.32	0.198	ND	4.73	0.134	ND	5.45	0.091	ND	6.10
0.260	17,000	7.30	0.421	ND	6.98	0.413	ND	7.08	0.408	ND	9.60	0.402	ND	4.78	0.368	ND	5.60	0.359	ND	6.20
0.429	10,100	7.27	0.566	0.05	7.39	0.563	ND	7.80	0.556	ND	10.10	0.551	ND	4.80	0.546	ND	5.68	0.540	ND	6.30
0.575	7,350	7.30	0.874	0.06	6.90	0.872	ND	7.48	0.866	ND	9.85	0.853	ND	4.85	0.811	0.075	5.70	0.802	ND	6.37
0.917	2,080	7.25	1.197	-	7.05	1.193	-	7.85	1.189	-	9.85	1.156	-	4.90	1.149	-	5.75	1.141	-	6.40
1.210	1,410	7.25	1.419	-	7.20	1.412	-	8.10	1.405	-	9.97	1.401	-	4.90	1.367	-	5.75	1.359	-	6.40
1.426	1,550	7.25	1.990	ND	6.95	1.951	ND	7.70	1.942	ND	9.65	1.940	0.095	4.55	1.931	0.08	5.45	1.920	ND	6.40
2.000	239	7.00	2.418	ND	7.06	2.408	ND	7.83	2.369	ND	9.76	2.356	0.095	4.56	2.344	0.08	5.45	2.334	ND	6.16
2.430	136	6.96	3.421	ND	7.20	3.421	0.03	7.58	3.401	ND	9.72	3.365	0.05	4.81	3.357	0.04	5.65	3.349	0.03	6.35
3.430	16.55	7.20	4.414	ND	7.28	4.403	0.03	7.65	4.363	ND	9.84	4.353	0.05	4.99	4.344	ND	5.83	4.335	0.07	6.52
4.240	2.55	7.33	5.280	ND	7.44	5.212	ND	7.74	5.262	ND	10.02	5.221	0.06	5.09	5.213	ND	5.94	5.205	0.08	6.68
5.289	0.81	7.49	8.088	ND	7.40	6.413	0.05	7.70	6.463	0.05	10.00	6.356	0.08	5.27	6.347	ND	6.15	6.338	0.08	6.85
6.468	0.21	7.65	10.400	ND	7.49	7.270	0.07	7.43	7.267	0.05	9.80	7.216	0.06	5.31	7.206	ND	6.20	7.195	0.07	6.92
7.280	0.17	7.75	6.423	ND	7.65	8.055	ND	7.84	8.075	0.06	10.12	8.068	ND	5.10	8.061	ND	5.90	8.054	0.06	6.70
8.124	ND	7.60	7.273	0.07	7.71	10.362	0.06	7.73	10.353	0.05	10.18	10.338	0.05	4.91	10.300	ND	5.70	10.296	0.05	6.59
10.410	0.19	7.42	14.328	ND	7.90	14.293	ND	7.58	14.285	0.05	10.24	14.273	0.03	5.43	14.228	ND	6.25	14.219	ND	7.03
14.340	ND	7.96	-	-	-	18.000	ND	-	18.000	ND	-	18.000	ND	-	-	-	-	18.000	ND	-
-	-	-	-	-	-	24.000	ND	-	24.000	ND	-	24.000	ND	-	-	-	-	24.000	ND	-

Notes.
btc – below top of PVC casing
ND is less than method Reporting Limit of 0.03 mg/L. Method is capable of detecting to one-half of the Reporting Limit.

TABLE H-2

CALCULATED GROUNDWATER VELOCITIES
BEDROCK TRACER TEST

Observation Well Location	Elevation (ft-btc)	Average Horizontal Groundwater Seepage Gradient	Estimated Groundwater Velocity (ft/day)	Measured In situ Hydraulic Conductivity (cm/sec)
OW-06-05	190.53	0.039	-	2.6×10^{-6}
OW-06-06	190.12	0.057	7	8.4×10^{-7}
OW-06-07	189.16	0.123	8	1.5×10^{-6}
OW-06-08	189.72	0.008	26	3.3×10^{-5}
OW-06-09	190.10	0.016	65	1.6×10^{-5}
OW-06-10	191.07	0.011	15	6.7×10^{-6}
MW-06-02	192.71	-	-	4.3×10^{-5}

4.0 ANALYSIS OF RESULTS

The breakthrough curves of the tracer at each of the observation wells are shown in Figure H-2. Relative locations of the observation wells and injection well are shown in Figure H-1. Figure H-1 also shows the location of the tracer test relative to the proposed landfill expansion area.

A comparison of arrival times of the tracer revealed that it reached observation wells OW-06-08, OW-06-09 and OW-06-10 sooner than being detected in OW-06-06 and OW-06-07. Observation well OW-06-10 is best aligned with the direction of the predominant northeast/southwest striking bedrock fractures relative to the injection well location, as shown on the bedrock fracture rose diagram in Figure H-1. In contrast, the horizontal groundwater seepage gradients are greatest towards OW-06-06 and OW-06-07. OW-06-07 is best aligned with the secondary northwest/southeast striking fracture set. Based on the arrival times of the tracer, the bedrock's predominant fractures appeared to have had more influence on the tracer travel

velocity than the steeper groundwater seepage gradients. The secondary fracture set aligns with the steeper gradients which suggests this secondary fracture set is less permeable than the northeast/southwest set.

The tracer arrived at OW-06-09 earlier than the other wells. Thus, the axial or centroidal direction of the plume travel appeared to move toward OW-06-09. This would be consistent with an interplay between the principal hydraulic conductivity orientation (i.e., aligning with the predominant fracture sets) and the hydraulic gradient direction (as defined by the groundwater levels). From a theoretical perspective, this is what would be expected to occur (Bear, 1972).

The tracer test indicates that flow pathways other than the prominent fracture orientation also transmit groundwater. In fact, the tracer appeared to spread over an angle of at least 100 degrees downgradient of the injection well, suggesting that the bedrock fractures are integrated, at least in the shallow portion of the bedrock, which should widen the spacing needed for monitoring well locations in the bedrock at this Site.

The Br concentration in the injection wells was first analyzed using the point-dilution method of Drost, et al, 1968. This suggested the Br was exiting the well at a quicker rate than could be explained by horizontal tracer advection from the well screen only. Given the near-vertical fracture dips and a tracer slug density about that of seawater, it appears likely that a portion of the tracer migrated vertically downward due to its density into the fresh groundwater. In the case of the till tracer test, the initial solute density was less and vertical migration was attenuated over the test period due to the relatively low vertical hydraulic conductivity of the till (e.g., 1.5×10^{-7} cm/sec on average) which prevents it from occurring. The bedrock tracer test setting, therefore, lent itself to a denser-than-water solute plume migrating downward under gravity (Schincariol and Schwartz, 1990; Oostrom, et al, 1992).

However, the density migration of some of the solute does not alter the usefulness of the tracer test. As long as a part of the bromide enters the horizontally moving groundwater and the solute can be detected in observation wells, then the test provides evidence of a horizontal component of groundwater flow. Subsequent to conducting the tracer test, downward, as well as horizontal

seepage gradients were examined at the tracer test location through development of vertical equipotential profiles for the Expansion Site. The relative vertical and horizontal hydraulic conductivities are not defined for the bedrock so the actual tracer plume flow direction cannot be accurately defined by a single set of wells at about the same elevation. However, the horizontal and vertical seepage gradients in the bedrock can be estimated from vertical equipotential diagrams. The presence and magnitude of the horizontal seepage component in the bedrock is confirmed by the measured horizontal seepage gradients as shown in Table H-2. Based on the equipotential diagrams (Section 5.0 herein), an approximate vertical gradient in the order of 0.08 to 0.20 can be interpreted. The vertical and horizontal gradients can be resolved to a resultant gradient of 0.08 to 0.20 that dips at an angle of 80 to 85 degrees below horizontal. However, even though a majority of the solute may have been lost vertically, enough solute entered the horizontally moving groundwater to be detectable in the monitoring wells about 50 feet away from the injection wells. Ignoring hydrodynamic dispersion of the tracer, the first peak bromide concentrations were utilized to estimate groundwater seepage velocities. The calculated average groundwater travel velocities at each of the observation wells are shown in Table H-2 and ranged from 7 to 65 ft/day. No groundwater velocity was calculated for OW-06-05 for the reasons stated above.

A more detailed analysis of the bedrock tracer plume using a three-dimensional analytical equation of Cleary and Ungs, 1978 was performed. The analytical equations allowed for tracing a plume movement that has both vertical and horizontal components. It also allowed for the condition of finite screen lengths that only cover a portion of the plume. One of the interesting features of the measured bromide plume was the similar maximum bromide concentrations at the downgradient wells. This suggested a significant lateral dispersivity. That is, a dispersivity that spreads the plume out to a nearly-uniform concentration, at least, along the edges of the plume. The variables in fitting the measured data to the analytical results included: average groundwater velocity, downward flow direction, plume axis or centroid flow azimuth, and dispersivities (longitudinal, lateral, and vertical). These parameters are constrained by the Br data and equipotential diagrams.

The results are given in the attached calculations and provide favorable comparisons to the collected Br data using one set of parameters for all observation wells. The lateral dispersivities were found to be larger than the longitudinal dispersivities. This has been documented before where the plume is migrating in fractured bedrock. Furthermore, the average velocity (5 ft/day) along the plume axis is slightly less than the values estimated based on the individual observation well breakthrough curves. This may also, in part, be is due to the longitudinal dispersivity which is also significant (about 20 percent of the scale length). The plume appears to have dropped vertically about 20 feet over the approximately 50-foot distance along the plume centroid axis toward well OW-06-09. This represents a dip angle of about 20 degrees which is significantly less than the estimate based on the equipotential profiles only. However, as previously stated, this is possibly consistent if the bedrock directional hydraulic conductivities were precisely known. The actual plume dip will be a resolution of the hydraulic gradient along the flow path with the varying hydraulic conductivities. The 20-degree plume dip would be consistent with a bedrock that has greater horizontal hydraulic conductivity than vertical hydraulic conductivity. The simulated breakthrough curves compare well with the observed bromide data for one consistent set of values for the model fitting variables or parameters. This provides a significant degree of confidence that a general understanding of the plume behavior is understood and describable. The local variations in Br arrival at each observation well from the analytical model could easily be due to localized variations in fracture hydraulic conductivity, fracture porosity, and fracture orientation. Furthermore, the down-dipping plume axis velocity estimate of 5 ft/day is similar to the seepage velocity value previously calculated for the bedrock (see Subsection 5.2.4 herein) and the approximations given in Table H-2 for each observation well.

As indicated above, the lateral dispersivity caused the plume to spread over an arc of at least 100 degrees. Thus, the fracture pattern in the bedrock, with its two nearly orthogonal and vertical fracture sets, caused the plume to spread rapidly.

Such large lateral plume dispersion is not uncommon in fractured bedrock where the plume is migrating perpendicular to the more permeable fracture or fault orientation (Kelkar, et al, 2006). The plume readily migrates along the more permeable fracture set spreading even under small

gradients, then spreading the plume laterally. Lateral or transverse dispersivities of up to 910 meters have been observed in basalt formations (Gelhar, et al, 1992). Some plumes are reported to have a "circular" shape rather than the classical "cigar" shape due to this effect (Lavenue and Domenico, 1986).

For tracer flow parallel to the predominant fracture set, less lateral plume dispersion should be anticipated. This has important implications in bedrock monitoring well placement.

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jrl bedrock tracer test three dimensional transport analysis with decaying source..check at ow-06-05

(after cleary and ungs, 1978)

source definition:

$N := 17$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 20200 \\ 17000 \\ 10100 \\ 7350 \\ 2080 \\ 1410 \\ 1550 \\ 239 \\ 136 \\ 16.55 \\ 2.55 \\ .81 \\ .21 \\ .17 \\ 0.01 \\ .19 \\ 0.01 \end{pmatrix}$$

source term(days)

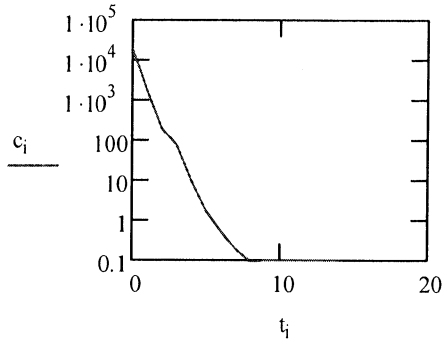
$$ti := \begin{pmatrix} 0 \\ .26 \\ .429 \\ .575 \\ .917 \\ 1.21 \\ 1.426 \\ 2 \\ 2.43 \\ 3.43 \\ 4.24 \\ 5.289 \\ 6.568 \\ 7.28 \\ 8.124 \\ 10.41 \\ 14.34 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i - \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := 5$

x(downgradient) dispersivity in ft $\alpha x := 20$

y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 19$ distance of interest in feet

$y := 47$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-05

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .213 & 0.01 \\ .421 & 0.01 \\ .566 & 0.05 \\ .874 & .06 \\ 1.99 & .01 \\ 3.421 & .01 \\ 5.28 & .01 \\ 6.423 & .01 \\ 7.273 & 0.07 \\ 8.088 & .01 \\ 10.4 & .01 \\ 14.293 & .01 \end{pmatrix}$$

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

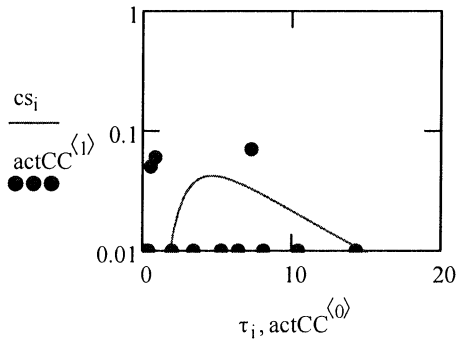
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



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$- ti_n))]$

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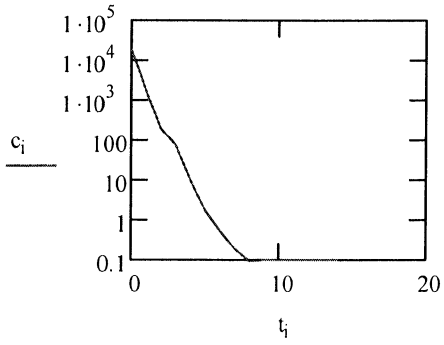
plot of source concentration with time



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y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 28$ distance of interest in feet

$y := 41$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-06

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .213 & 0.01 \\ .563 & 0.01 \\ 1.951 & 0.01 \\ 2.408 & .01 \\ 3.421 & .03 \\ 4.403 & .03 \\ 5.212 & .01 \\ 6.413 & 0.05 \\ 7.27 & 0.07 \\ 8.055 & .01 \\ 10.362 & .06 \\ 14.293 & .01 \\ 18 & .01 \\ 24 & .01 \end{pmatrix}$$

$$A(x) := \frac{x}{8\cdot\sqrt{Dx\cdot\pi}}\cdot\exp\left(\frac{vx\cdot x}{2\cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

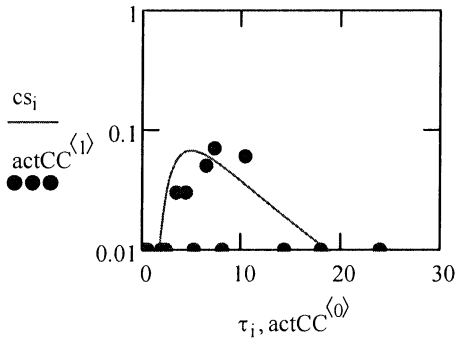
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



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$$- ti_n))\Big]$$

jrl bedrock tracer test three dimensional transport analysis with decaying source..check at ow-06-07

(after cleary and ungs, 1978)

source definition:

$N := 17$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 20200 \\ 17000 \\ 10100 \\ 7350 \\ 2080 \\ 1410 \\ 1550 \\ 239 \\ 136 \\ 16.55 \\ 2.55 \\ .81 \\ .21 \\ .17 \\ 0.01 \\ .19 \\ 0.01 \end{pmatrix}$$

source term(days)

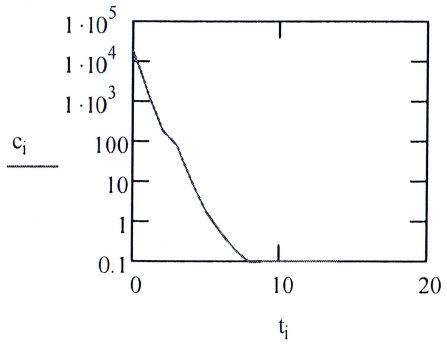
$$ti := \begin{pmatrix} 0 \\ .26 \\ .429 \\ .575 \\ .917 \\ 1.21 \\ 1.426 \\ 2 \\ 2.43 \\ 3.43 \\ 4.24 \\ 5.289 \\ 6.568 \\ 7.28 \\ 8.124 \\ 10.41 \\ 14.34 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := 5$

x(downgradient) dispersivity in ft $\alpha x := 20$

y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 34$ distance of interest in feet

$y := 34$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-07

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .205 & 0.01 \\ .556 & 0.01 \\ 1.942 & 0.01 \\ 3.401 & .01 \\ 4.363 & .01 \\ 5.262 & .01 \\ 6.463 & 0.05 \\ 7.267 & 0.05 \\ 8.075 & 0.06 \\ 10.353 & .05 \\ 14.285 & .05 \\ 18 & .01 \\ 24 & .01 \end{pmatrix}$$

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$csl_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

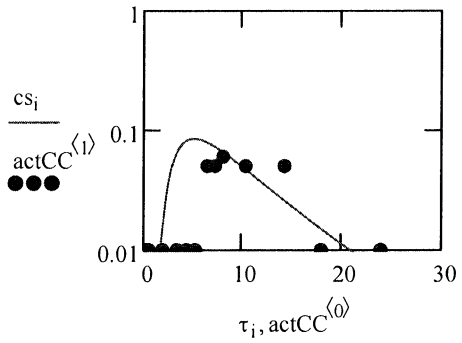
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



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$$- ti_n))\Big]$$

jrl bedrock tracer test three dimensional transport analysis with decaying source..check at ow-06-08

(after cleary and ungs, 1978)

source definition:

$N := 17$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 20200 \\ 17000 \\ 10100 \\ 7350 \\ 2080 \\ 1410 \\ 1550 \\ 239 \\ 136 \\ 16.55 \\ 2.55 \\ .81 \\ .21 \\ .17 \\ 0.01 \\ .19 \\ 0.01 \end{pmatrix}$$

source term(days)

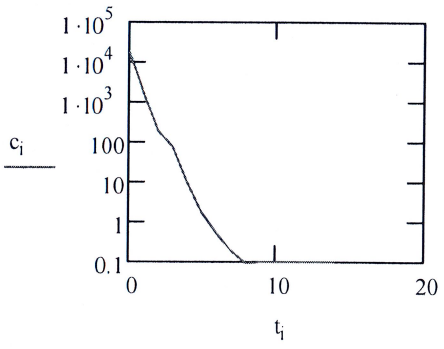
$$ti := \begin{pmatrix} 0 \\ .26 \\ .429 \\ .575 \\ .917 \\ 1.21 \\ 1.426 \\ 2 \\ 2.43 \\ 3.43 \\ 4.24 \\ 5.289 \\ 6.568 \\ 7.28 \\ 8.124 \\ 10.41 \\ 14.34 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i - \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := 5$

x(downgradient) dispersivity in ft $\alpha x := 20$

y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 50$ distance of interest in feet

$y := 15$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-08

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .198 & 0.01 \\ .402 & 0.01 \\ .551 & 0.01 \\ .853 & .01 \\ 1.94 & .095 \\ 2.356 & 0.095 \\ 3.365 & 0.05 \\ 4.353 & 0.05 \\ 5.221 & 0.06 \\ 6.356 & 0.08 \\ 7.216 & .06 \\ 8.068 & .01 \\ 10.338 & .05 \\ 14.273 & .03 \\ 18 & .01 \\ 24 & .01 \end{pmatrix}$$

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

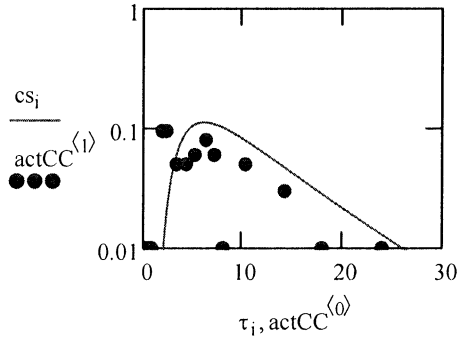
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



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$- ti_n))\Big]$

jrl bedrock tracer test three dimensional transport analysis with decaying source..check at ow-06-09

(after cleary and ungs, 1978)

source definition:

$N := 17$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 20200 \\ 17000 \\ 10100 \\ 7350 \\ 2080 \\ 1410 \\ 1550 \\ 239 \\ 136 \\ 16.55 \\ 2.55 \\ .81 \\ .21 \\ .17 \\ 0.01 \\ .19 \\ 0.01 \end{pmatrix}$$

source term(days)

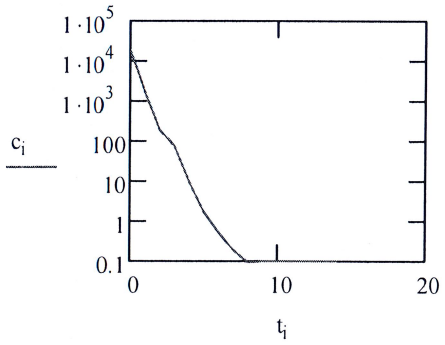
$$ti := \begin{pmatrix} 0 \\ .26 \\ .429 \\ .575 \\ .917 \\ 1.21 \\ 1.426 \\ 2 \\ 2.43 \\ 3.43 \\ 4.24 \\ 5.289 \\ 6.568 \\ 7.28 \\ 8.124 \\ 10.41 \\ 14.34 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i \cdot \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := 5$

x(downgradient) dispersivity in ft $\alpha x := 20$

y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 50.8$ distance of interest in feet

$y := 0$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-09

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .134 & 0.01 \\ .368 & 0.01 \\ .546 & 0.01 \\ .811 & .075 \\ 1.931 & .08 \\ 2.344 & 0.08 \\ 3.357 & 0.04 \\ 4.344 & 0.01 \\ 5.213 & 0.01 \\ 6.347 & 0.01 \end{pmatrix}$$

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

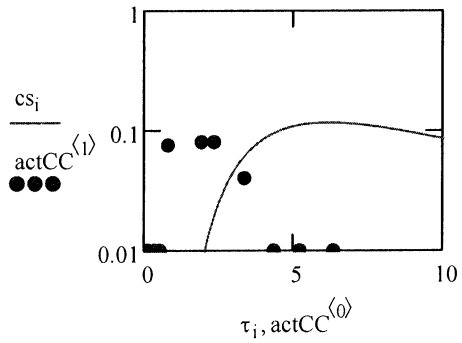
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



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$- ti_n))]$

jrl bedrock tracer test three dimensional transport analysis with decaying source..check at ow-06-10

(after cleary and ungs, 1978)

source definition:

$N := 17$ number of conc steps

measured Br concentration(mg/l)

$$co := \begin{pmatrix} 20200 \\ 17000 \\ 10100 \\ 7350 \\ 2080 \\ 1410 \\ 1550 \\ 239 \\ 136 \\ 16.55 \\ 2.55 \\ .81 \\ .21 \\ .17 \\ 0.01 \\ .19 \\ 0.01 \end{pmatrix}$$

source term(days)

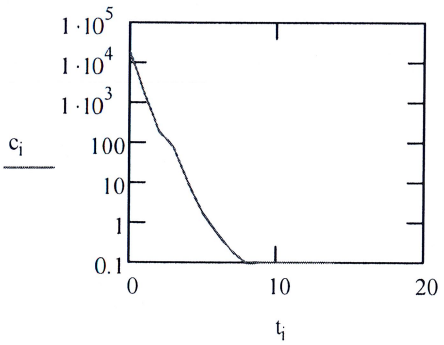
$$ti := \begin{pmatrix} 0 \\ .26 \\ .429 \\ .575 \\ .917 \\ 1.21 \\ 1.426 \\ 2 \\ 2.43 \\ 3.43 \\ 4.24 \\ 5.289 \\ 6.568 \\ 7.28 \\ 8.124 \\ 10.41 \\ 14.34 \end{pmatrix}$$

$i := 1, 2 .. 500$

$t_i := i - 1$

$$c_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left(\Phi\left(t_i - ti_{n-1}\right) - \Phi\left(t_i \cdot \right. \right. \right.$$

plot of source concentration with time



Assumed parameters:

half-width of source in z direction in ft $a := 5$

half-width of source in y direction in ft $b := .19$

pore fluid velocity in ft/day $vx := 5$

x(downgradient) dispersivity in ft $\alpha x := 20$

y(lateral) dispersivity in ft $\alpha y := 60$

z(vertical) dispersivity in ft $\alpha z := 1$

Calculated breakthru curve:

$x := 39$ distance of interest in feet

$y := 35$ y coordinate of intrest in ft

$z := 15$ z coordinate of intrest in ft

$Dx := \alpha x \cdot vx$ longitudinal dispersion coefficient in ft^2/day

$Dy := \alpha y \cdot vx$ lateral dispersion coefficient in ft^2/day

$Dz := \alpha z \cdot vx$ vetical dispersion coefficient in ft^2/day

actual Br concentrations at 0W-06-10

$$actCC := \begin{pmatrix} 0 & 0.01 \\ .091 & 0.01 \\ .359 & 0.01 \\ .54 & 0.01 \\ .802 & .01 \\ 1.92 & .01 \\ 2.334 & 0.01 \\ 3.349 & 0.03 \\ 4.335 & .07 \\ 5.205 & .08 \\ 6.338 & .08 \\ 7.195 & .07 \\ 8.054 & .06 \\ 10.296 & 0.05 \\ 14.219 & 0.01 \\ 10 & .01 \\ 24 & .01 \end{pmatrix}$$

$$A(x) := \frac{x}{8 \cdot \sqrt{Dx \cdot \pi}} \cdot \exp\left(\frac{vx \cdot x}{2 \cdot Dx}\right)$$

$$B(x,t) := \exp\left(-\frac{vx^2}{4\cdot Dx}\cdot t - \frac{x^2}{4\cdot Dx\cdot t}\right)$$

$$E(x,y,t) := \operatorname{erf}\left(\frac{b-y}{2\cdot\sqrt{Dy\cdot t}}\right) + \operatorname{erf}\left(\frac{b+y}{2\cdot\sqrt{Dy\cdot t}}\right)$$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{.001}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs1_i := \sum_{n=1}^{N-1}\left[\left(\frac{co_n + co_{n-1}}{2}\right)\cdot\left[\Phi\left(\tau_i - ti_{n-1}\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right)\cdot\left(C\left(x,y,\left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

$z := 25$

$$F(x,z,t) := \operatorname{erf}\left(\frac{a-z}{2\cdot\sqrt{Dz\cdot t}}\right) + \operatorname{erf}\left(\frac{a+z}{2\cdot\sqrt{Dz\cdot t}}\right)$$

$$C(x,y,\eta) := A(x)\cdot\int_{0.01}^{\eta} B(x,t)\cdot t^{-1.5}\cdot E(x,y,t)\cdot F(x,z,t)\,dt$$

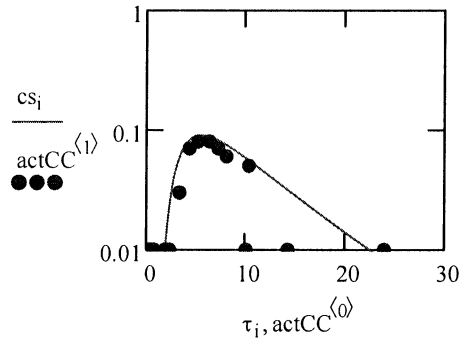
$i := 1,2..300$

$\tau_i := \frac{i}{10}$ time increments in days

$$cs2_i := \sum_{n=1}^{N-1} \left[\left(\frac{co_n + co_{n-1}}{2} \right) \cdot \left[\Phi\left(\tau_i - ti_{n-1}\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_{n-1}\right|\right)\right) - \Phi\left(\tau_i - ti_n\right) \cdot \left(C\left(x, y, \left|\tau_i - ti_n\right|\right)\right)\right]\right]$$

average in the vertical direction along well screen:

$$cs_i := \frac{cs1_i + cs2_i}{2}$$



Analysis of density driven plume:

mass of bromide into well.

$M := 388$ gm

well cross-sectional flow area contributing to groundwater: $A := 10 \cdot \frac{2.5}{12}$ ft²

well volume contining solute: $W := 31 \cdot \pi \cdot \frac{1}{144}$ ft³

$W \cdot 7.48 \cdot 3.8 = 19.224$ L

initial solute concentration: $Co := \frac{M}{W} \cdot \frac{1000}{7.48 \cdot 3.8}$

$Co = 2.018 \times 10^4$ mg/l

$n := .00033$ from OW-06-06 and OW-06-07 core

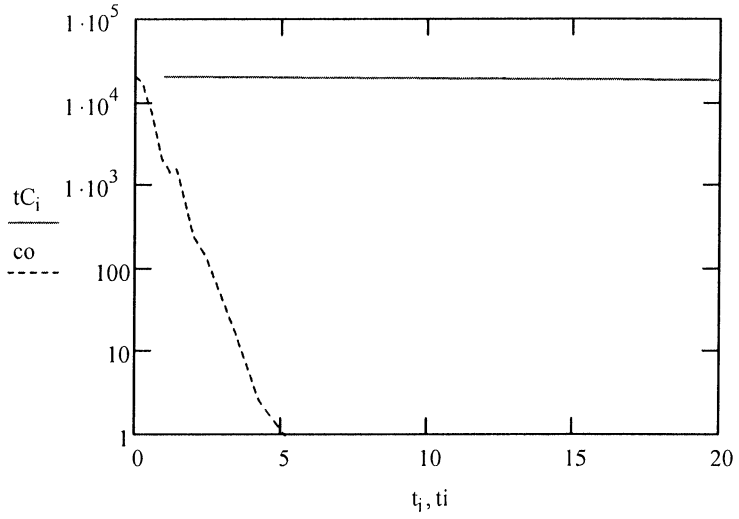
$\psi := 1.$

$vstar := n \cdot vx \cdot \psi$ ft/day

$j := 1, 2 .. 20$

$t_j := j$

$$tC_j := Co \cdot \exp\left(\frac{-vstar \cdot A \cdot t_j}{W}\right)$$



APPENDIX L

HELIUM/TRITIUM TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS

Noble Gas Laboratory
Dept. ofEarth and Environmental Sciences
University of Rochester

Sender: **Sevee and Maher** Organization: **Casella Landfill**

Sample ID: **GW-X06-A-112** P-04-06A

Date: 1/26/2005 Temp(°C) Salinity Altitude (m)

Analysis # 9631 Degas Date **2/10/2005** Measurement Date **3/29/2005**

Tritium (TU) ***7.02*** ***+/-*** ***0.21*** *(1 σ)*

He bulb blank	*3.00*	ncc (STP)
He-3 by tritium decay	*73.5*	fcc (STP)
% tritiogenic He-3	*95.3%*	

Comments:
average Tritium
consistent with precipitation

Helium Analysis # 9616 Extraction Date 1/26/2005 Measurement Date **3/29/2005**

Measured
Sample Weight: 22.03 grams

δ^3**He** *(%)=* -53.76 +/- 0.22

Solubility He (assumed)
^{3}**He** *(TU) =* -14.52 +/- 0.06

"Solubility Age" -uncorrected
Age (yr) =

Dissolved Gas Concentrations

					Deviation from solubility (%)
^{3}**He:**	109.9	+/-	*1.10*	pcc STP/kg	*82*
^{4}**He:**	177	+/-	*1.77*	µcc STP/kg	*307*
Ne:	247	+/-	*2.47*	µcc STP/kg	*36*
Ar:	0.34	+/-	*0.01*	cc STP/kg	*11*
N_2	14.49	+/-	*0.29*	cc STP/kg	*22*
CH_4	0.09	+/-	*0.003*	cc STP/kg	

Comments
small gas bubble during sampling

Helium concentrations and age corrected for "excess air"
Estimated Solubility Temperature *18.7 °C*

Tritiogenic ^{3}He:	*8*	TU
Solubility ^{4}He:	*158*	µcc STP/kg
Ne:	*247*	µcc STP/kg
Terrigenic ^{4}He:	*114*	µcc STP/kg

"Corrected" Age (years)
14.15

Comments
Correction is too large to provide valid age.
large amount of terrigenic helium -may be mixed water

Comments:
may be mixed water - based on modern tritium with large amount of terrigenic helium

corrected age - very dependent on method of correction

Noble Gas Laboratory
Dept. ofEarth and Environmental Sciences
University of Rochester

Sender	**Sevee and Maher**	Organization	**Casella Landfill**				
Sample ID:	**GW-X07-B-114** P-04-07A						
Date:	1/25/2005	Temp(°C)		Salinity		Altitude (m)	

Analysis #	9632	Degas Date	**2/9/2005**	Measurement Date	**3/29/2005**

Tritium (TU)	***7.94***	***+/-***	***0.24***	*(1 σ)*	
He bulb blank	*2.55*	ncc (STP)			
He-3 by tritium decay	*76.5*	fcc (STP)			
% tritiogenic He-3	*96.2%*				

Comments:
average Tritium
at precipitation levels

Helium Analysis #	9611	Extraction Date	1/26/2005	Measurement Date	**3/29/2005**

Measured Sample Weight: 22.72 grams

δ^3 ***He*** *(%)=* 44.80 +/- 0.72

Solubility He (assumed)
^{3} ***He*** *(TU)* = 12.10 +/- 0.19

"Solubility Age" -uncorrected
Age (yr) = ***16.614***

Dissolved Gas Concentrations

					Deviation from solubility (%)	*Comments*
^{3} ***He:***	162.0	+/-	*1.62*	pcc STP/kg	*168*	
^{4} ***He:***	81	+/-	*0.81*	µcc STP/kg	*87*	small bubble or excess air
Ne:	328	+/-	*3.28*	µcc STP/kg	*81*	
Ar:	0.41	+/-	*0.01*	cc STP/kg	*31*	correction to age
N_2	15.82	+/-	*0.32*	cc STP/kg	*34*	should be valid
CH_4	0.00	+/-	*0.000*	cc STP/kg		

Helium concentrations and age corrected for "excess air"

Estimated Solubility Temperature *15.1* °C

			"Corrected"	*Comments*
Tritiogenic ^{3} ***He:***	*18.05*	TU		small correction to age
Solubility ^{4} ***He:***	*40*	µcc STP/kg	*Age (years)*	no terrigenic helium
Ne:	*328*	µcc STP/kg		
Terrigenic ^{4} *He:*	*-3.47*	µcc STP/kg	*21.56* years	

Comments:

APPENDIX M

GROUNDWATER PUMPING TEST RESULTS FOR MW-06-02 AND PW-08-SERIES WELLS

SME
SEVEE & MAHER
ENGINEERS

GROUNDWATER PUMP TEST AT MW-06-02
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

1.0 PURPOSE

On July 10, 2006, a groundwater pump test was conducted by Sevee & Maher Engineers, Inc. at monitoring well MW-06-02 at Juniper Ridge Landfill in Old Town, Maine. MW-06-02 is a shallow bedrock groundwater monitoring well installed by Maine Test Borings, Inc. on April 3, 2006. The purpose of the pump test was to determine to what extent the bedrock fractures are integrated or hydraulically interconnected. This was done by monitoring the groundwater elevations in six nearby groundwater observation wells. This test was done preceding the bedrock tracer test, which was performed in the same grouping of wells.

2.0 PUMP TEST PROCEDURE

The pumping well was constructed by boring through about 20.7 feet of unconsolidated soil consisting predominantly of olive-colored gravelly sandy silt till with traces of clay and cobbles. Bedrock was encountered at about 20.7 feet below existing grade and a 6-inch diameter borehole was drilled into the bedrock to a depth of about 40.5 feet below existing grade. Bedrock consisted of a gray metasiltstone with quartz seams based on rock core observations. A 2-inch diameter PVC screen (0.010-inch slot) was installed from about 25 feet to 35 feet below existing grade and surrounded by a sand pack.

Groundwater level drawdowns were measured in six wells: OW-06-05, OW-06-06, OW-06-07, OW-06-08, OW-06-09, and OW-06-10. The observation wells consist of 4-inch diameter boreholes with 2-inch diameter PVC risers and screens. Every well was constructed with a 10-foot long screen positioned in bedrock with bottom of screen depth ranging from 34 feet below existing grade at OW-06-08 to 42 feet below existing grade at OW-06-10. Above the screen, the borehole annulus between the well and bedrock or soil was sealed with bentonite chips. Well

construction logs for the monitoring and observation wells are located in Appendix B. Each observation well is located approximately 50 feet from MW-06-02 on the downgradient side of the pumping well. The well configuration was based on performing the tracer test. The well locations are given in Figure J-1.

Groundwater elevations were also monitored in the pump well, MW-06-02. Groundwater elevations were measured every 5 minutes using pressure transducers for the duration of the pump test and the post-pumping groundwater level recovery period. Supplemental manual groundwater elevation measurements were taken intermittently.

Groundwater was pumped from MW-06-02 using a submersible pump and control box powered by a generator. Pumping began at about noon on July 10, 2006 and lasted about eight hours. The initial pump rate was set at 3.5 gallons per minute (gpm). However, due to an unsustainable yield at that pump rate, the pump was shut off at 1 minute and 20 seconds into the pump test and restarted at a pump rate of 0.60 gpm at 7 minutes. The pumping rate was further decreased and was continuously adjusted to maintain a drawdown in the pump well. The average pump rate for the duration of the pump test was about 0.19 gpm. Final groundwater readings were taken the day after the test (i.e., July 11, 2006).

3.0 TEST DATA

The results of the pump test are attached herein. Manual groundwater elevation measurements and recorded pump rates are tabulated in Attachment A. The groundwater pump rate for the duration of the pump test is displayed graphically on a semi-log graph in Attachment B. The drawdown versus time data are displayed graphically on a semi-log graph in Attachment C for the pump well and for the six observation wells. The manual observations and the pressure transducer measurements are shown together on the same graphs in Attachment C. The graphs show the pump test results from one minute into the pump test to the completion of the pump test at 470 minutes and approximately one-half day of groundwater level recovery readings.

It should be noted that at approximately 200 to 300 minutes into the pump test, a significant thunder shower passed over the pump test site. According to archived precipitation data from the Bangor, Maine airport, up to 0.5 inches of rain may have accumulated from that storm. Effects from this rain event appear to be evident in the groundwater elevations in some wells and not others during the pump test. The effects are particularly evident at OW-06-08, OW-06-09, and OW-06-10. Effects from the rain event are less prominent or absent in observation wells OW-06-05 and OW-06-07. Whether these effects of the groundwater levels are the result of local precipitation recharge or barometric pressure fluctuations as the storm passed was not critical to the interpretations and was not explored. Weather data from the date of the pump test at the Bangor airport are presented in Attachment D. This low-pressure storm event resulted in some wells recovering to a slightly higher groundwater elevation than at the start of the pump test (e.g., OW-06-08, OW-06-09, and OW-06-10).

4.0 ANALYSIS OF RESULTS

Groundwater drawdown in the pump well varied due to inconsistent pump rates. The maximum drawdown of about 20 feet occurred at about 1.33 minutes into the test and was the result of an initial 3.5-gpm pumping rate. However, for the majority of the pump test, the drawdown fluctuated in a range from approximately 11 to 13 feet after pump rates were lowered. Data from the six observation wells were analyzed to better understand the connectivity of shallow bedrock fractures through which the groundwater flows. A bedrock tracer test conducted in the same well network (conducted subsequent to this pump test) confirmed that all six monitoring wells are to some degree interconnected.

Measurements at observation well OW-06-05 resulted in a maximum drawdown reading of 0.54 feet at about 505 minutes. Observation well OW-06-05 is about 50 feet from the pump well. The Cooper-Jacob (Cooper and Jacob, 1946) time-drawdown method was used to estimate the transmissivity and storativity of the bedrock in the vicinity of this observation well. This method assumes (among other things) nonequilibrium uniform, radial flow under confined conditions. The transmissivity and storativity calculated from the drawdown results at OW-06-05 are 0.12 cm^2/sec and 0.0004, respectively.

Data from measurements at observation well OW-06-06 were difficult to interpret. Observation well OW-06-06 is about 49.4 feet from the pump well. The maximum drawdown reading during the pump test was approximately 0.16 feet. This may merely be natural fluctuation in the groundwater elevation as there is no apparent recovery from the pump test. It is unclear whether the lack of drawdown at this well is due to poor fracture connectivity with the pump well or to a higher transmissivity. Except for the pumping well, drawdowns continued to increase for about an hour after the pumping ceased, suggesting limited recharge from the till. No further analysis was done on the data from this well.

Measurements at observation well OW-06-07 resulted in a maximum drawdown reading of 0.77 feet at about 525 minutes. Observation well OW-06-07 is about 48.6 feet from the pump well. Drawdowns continued to increase for about an hour after the test ceased. The Cooper Jacob time-drawdown method was used to estimate transmissivity and storativity values at OW-06-07 of 0.08 cm^2/sec and 0.0004, respectively.

Measurements at observation well OW-06-08 resulted in a maximum drawdown reading of 0.13 feet at about 205 minutes. Observation well OW-06-08 is about 52.1 feet from the pump well. Drawdowns began decreasing about an hour before the pumping ceased suggesting an effect related to the passing rainfall event. The Cooper-Jacob time-drawdown method was used to estimate transmissivity and storativity values at OW-06-08 of 0.36 cm^2/sec and 0.0008, respectively.

Measurements at observation well OW-06-09 resulted in a maximum drawdown reading of 0.66 feet at about 205 minutes. Observation well OW-06-09 is about 50.8 feet from the pump well. Like OW-06-08, this well also showed decreasing drawdowns prior to the end of pumping. The Cooper-Jacob time-drawdown method was used to estimate transmissivity and storativity values at OW-06-09 of 0.15 cm^2/sec and 0.0001, respectively.

Measurements at observation well OW-06-10 resulted in a maximum drawdown reading of 0.42 feet at about 265 minutes. Observation well OW-06-10 is about 52.4 feet from the pump well.

Like OW-06-08 and OW-06-09, this well also showed decreasing drawdown prior to the end of pumping. The Cooper-Jacob time-drawdown method was used to estimate transmissivity and storativity values at OW-06-10 of 0.17 cm^2/sec and 0.0002, respectively.

The geometric mean of the transmissivity and storativity estimates completed for observation wells OW-06-05, OW-06-07, OW-06-08, OW-06-09, and OW-06-10 were 0.15 cm^2/sec and 0.0003, respectively.

The accuracy of the method used to analyze the data from this pump test is limited by its assumptions. Particularly, while radial flow is assumed, this may not be the case in fractured bedrock. Furthermore, depending on the degree of fracture interconnectedness and the scale of influence, the assumptions of isotropic hydraulic conductivity and storativity may not apply. Additionally, while the analytical method used assumes that the tested aquifer is confined, three wells exhibited hydraulic connectivity to the overlying tills; in these wells, transmissivities may be overestimated. Not withstanding these limitations, the Cooper-Jacob method was useful for analyzing short-term pump test data and yielded results, which are reasonable for the material tested. The results are summarized in Table J-1.

TABLE J-1

Observation Well	Azimuth from the Predominant Fracture Strike (degrees)	Maximum Drawdown (ft)	Transmissivity (cm^2/sec)	Storativity	Estimated Average Hydraulic Conductivity between Observation Well and Pumping Well (cm/s)
OW-06-05	N28W	0.54	0.12	0.0004	$4x10^{-4}$
OW-06-06	N40W	0.16	-	-	-
OW-06-07	N50W	0.77	0.08	0.0004	$3x10^{-4}$
OW-06-08	N79W	0.13	0.36	0.0008	$1x10^{-3}$
OW-06-09	N84E	0.66	0.15	0.0001	$5x10^{-4}$
OW-06-10	N42E	0.42	0.17	0.0002	$6x10^{-4}$
Geometric Mean		-	0.15	0.0003	$5x10^{-4}$

Fractures in observation wells OW-06-09 and OW-06-10 appear to be more directly connected to the pumping well than at OW-06-05, OW-06-06, OW-06-07, and OW-06-08. This is shown in the drawdown versus time data where the response to the pump test is seen in the first hour in the former wells and is seen after an hour in the latter wells. In addition, this trend correlates well with the bedrock tracer test where the injected bromide tracer was detected earlier at OW-06-09

and OW-06-10. These have been shown to be more aligned with the predominant fracture set strike from the pumping well. Table J-1 lists the approximate radial azimuth for the various observation wells relative to the two predominant fracture set strike orientations (northeast/southwest and northwest/southeast).

Because of the suggested anisotropy in drawdown responses described in the previous paragraph, the method of Papadopoulos, 1965 was also utilized to see if there was a consistent direction for the maximum and minimum principal transmissivities. This method utilized groups of three observation wells to solve for the two principal transmissivities and their orientations. Five groups of wells provided meaningful results. Wells in a group must be spread out radially so that two wells are not close to the same radial direction; this limits the number of group combinations. Furthermore, the variability of the data at OW-06-06 limited its usefulness.

The results are given in Table J-2 for the different well groupings. This analysis (calculations are provided in Attachment E) showed that the direction of maximum transmissivity was to the northeast with an average direction of about N61E relative to True North. This aligns favorably with the strike of one of the two primary fracture sets to the northeast/southwest. The minimum principal transmissvity is orthogonal to N61E or about N29W. The most frequent fracture strike direction from the MW-06-02 downhole geophysical logging was about N35E, again agreeing favorably with the calculated maximum transmissivity direction. The average maximum principal transmissivity is 0.70 $cm^{2/}$sec and the minimum is 0.040 cm^2/sec with a geometric mean value of 0.17 cm^2/sec. The mean value agrees well with the mean value from the Cooper-Jacob analyses. The geometric mean storativity of 0.0002 agrees with the 0.0003 mean value from the Cooper-Jacob method.

TABLE J-2

Well Combination	Storativity	Maximum Transmissivity (cm^2/sec)	Minimum Transmissivity (cm^2/sec)	Azimuth of Maximum Transmissivity (relative to True North)
OW-06-05, 08, 10	0.00025	0.21	0.070	N63E
OW-06-05, 07, 10	0.00024	0.29	0.042	N23E
OW-06-05, 09, 10	0.00018	0.43	0.048	N78E
OW-06-07, 08, 10	0.00019	0.67	0.029	N70E
OW-06-07, 09, 10	0.000050	1.86	0.070	N71E

Thus, a rigorous analysis of the pump test data in the bedrock demonstrates anisotropy relative to the hydraulic conductivity. The northeast/southwest fracture set imparts a greater relative hydraulic conductivity than the northwest/southeast set. This is believed to be in part due to the foliation associated with the phyllite, possibly the bedding of the different lithologic units, and the slightly more frequent northeast/southwest fractures. The anisotropy ratio for this test was about 17 to 1. This value likely varies some spatially but has been observed in similar rock types in Maine.

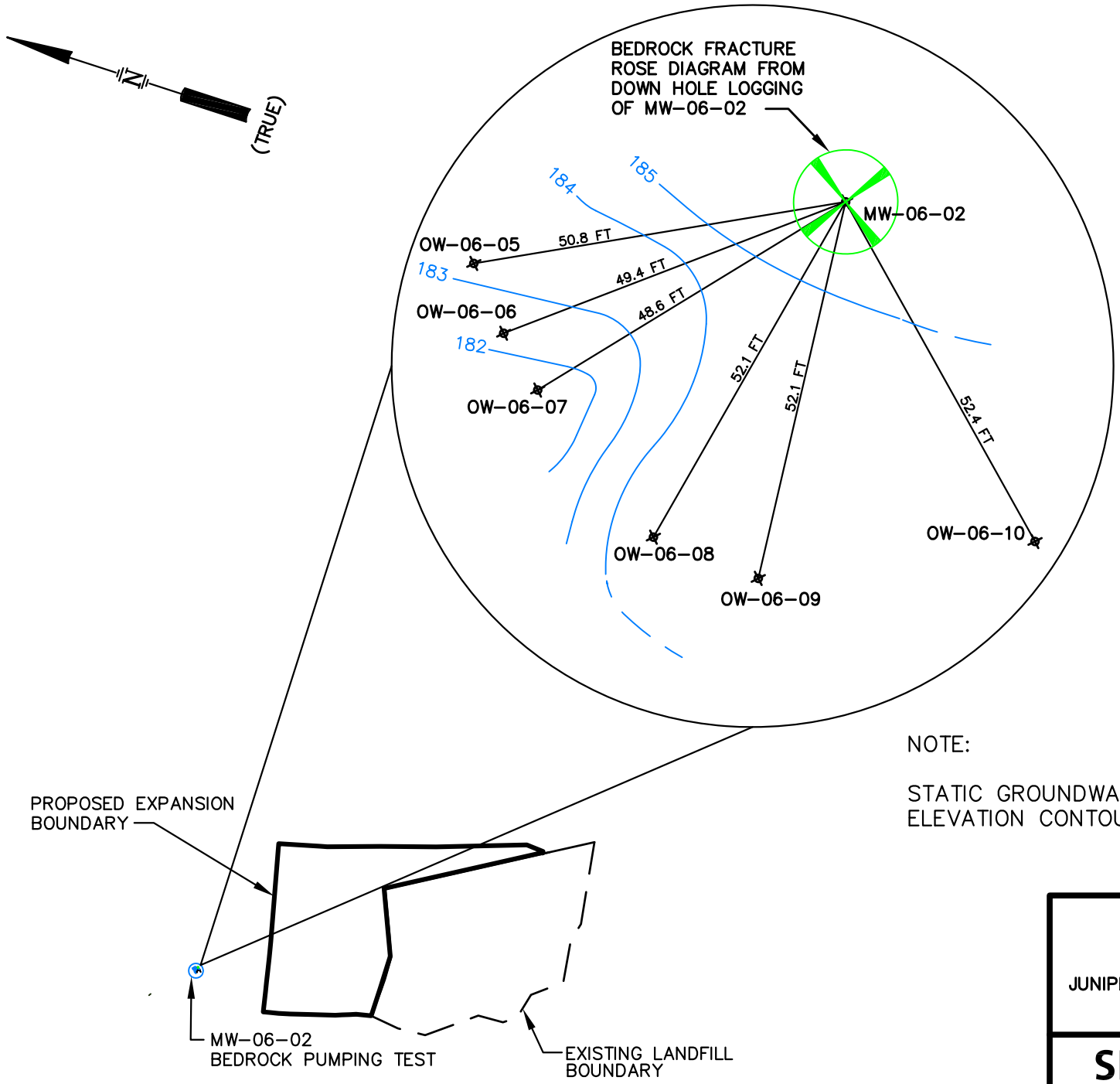
Table J-1 also lists an approximation of the hydraulic conductivity estimated from the respective transmissivities by dividing the transmissivity by the well screen length. These values are greater than measured at the observation wells but, in fact, represent an overall average hydraulic conductivity between the pumping well and the observation wells. The distance allows for hydraulic connections to average out many fracture effects. The higher values may also be due, in part, to partial penetration of the wells in the bedrock formation. Barker and Black, 1983 note that transimissivity values are always overestimated when applying standard type-curve analyses to fracture bedrock. In any case, the pumping test is of value in that it demonstrates the interconnection of fractures and a possible preferential flow path striking to the northeast/southwest.

References

Cooper, H.H. and C.E. Jacob, 1946. A generalized graphical method for evaluating formation constants and summarizing well field history, American Geophysical Union Transactions, Vol. 27, pp. 526-534.

Freeze, R.A. and J.A. Cherry, 1979. Groundwater. Prentice-Hall, Englewood Cliffs, N.J.

Papadopoulos, I. S., 1965. Nonsteady Flow to a Well in an Infinite Anisotropic Aquifer, Symposium of the International Association of Scientific Hydrology, Dubrovnik, Volume 1, No. 73.



NOTE:

STATIC GROUNDWATER PHREATIC SURFACE ELEVATION CONTOURS SHOWN IN BLUE.

FIGURE J-1
WELL LOCATIONS
BEDROCK PUMPING TEST
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

DWG: TRACER-TEST LMN: BR-PIR CTB: BR-PIR REV: 5/22/15

\\Nserver\cfs\Casella\OldTownLandfill\Expansion\9.35MCY-Expansion\Acad\Figures\Tracer-Test.dwg, 5/22/2015 8:13:54 AM, paf

ATTACHMENT A

TABULATED PUMP TEST DATA

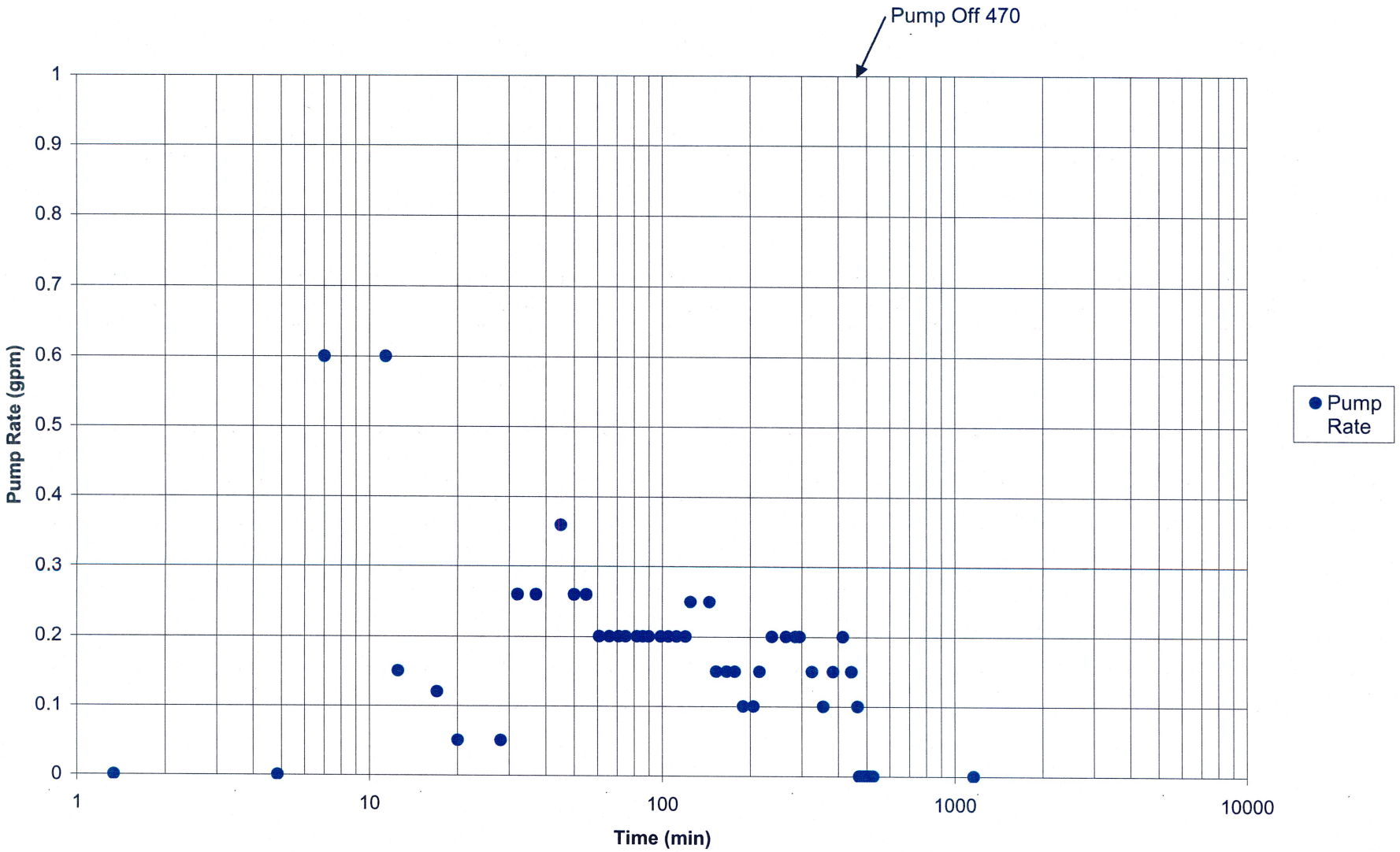
July 10 & 11, 2006 Pumping Test at MW 06 02
Juniper Ridge Landfill, Old Town, Maine

Date	Time	Elapsed Time (min)	Pump Rate (gpm)	MW 06 02 Drawdown (ft)	Drawdown (ft)						Notes
					OW 06 05	OW 06 06	OW 06 07	OW 06 08	OW 06 09	OW 06 10	
7/10/2006	Static WL	0.00	0.00	7.69<TOC	7.52<TOC	7.18<TOC	10.00<TOC	5.54<TOC	6.15<TOC	6.97<TOC	
7/10/2006	11:45:00	0.00	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/10/2006	11:46:20	1.33	0.00	19.81							Pump Stopped Due to Excessive Drawdown
7/10/2006	11:49:50	4.83	0.00	15.06							
7/10/2006	11:52:00	7.00	0.60								
7/10/2006	11:56:21	11.35	0.60								
7/10/2006	11:57:50	12.50	0.15	16.82							
7/10/2006	12:02	17.00	0.12	18.66							
7/10/2006	12:05	20.00	0.05	17.44							
7/10/2006	12:13	28.00	0.05	17.58	0.03	-0.04		0.02	0.21	0.03	
7/10/2006	12:17	32.00	0.26	11.76							
7/10/2006	12:22	37.00	0.26	11.82							
7/10/2006	12:30	45.00	0.36	12.00							Pump at 93.50 Hz
7/10/2006	12:35	50.00	0.26	12.04							
7/10/2006	12:40	55.00	0.26	11.86	0.07	-0.05	0.02	0.02	0.40	0.13	
7/10/2006	12:46	61.00	0.20	11.68							
7/10/2006	12:51	66.00	0.20	11.62							Adjusted Pump to 94.00 Hz
7/10/2006	12:56	71.00	0.20	8.41							
7/10/2006	13:00	75.00	0.20	13.11							
7/10/2006	13:07	82.00	0.20	12.69							
7/10/2006	13:11	86.00	0.20	13.51							
7/10/2006	13:15	90.00	0.20	13.57	0.12	-0.03	0.09	0.05	0.47	0.22	
7/10/2006	13:24	99.00	0.20	13.59							
7/10/2006	13:30	105.00	0.20	13.50							
7/10/2006	13:37	112.00	0.20	13.41							
7/10/2006	13:45	120.00	0.20	13.33	0.18	-0.02	0.15	0.08	0.56	0.27	
7/10/2006	13:50	125.00	0.25	13.36							
7/10/2006	14:10	145.00	0.25	13.00	0.23	0.00	0.24	0.09	0.63	0.34	
7/10/2006	14:18	153.00	0.15	12.68							
7/10/2006	14:31	166.00	0.15	12.71							
7/10/2006	14:42	177.00	0.15	12.66	0.30	0.03	0.32	0.13	0.64	0.38	
7/10/2006	14:54	189.00	0.10	12.67							
7/10/2006	15:10	205.00	0.10	12.39	0.33	0.04	0.36	0.13	0.66	0.41	
7/10/2006	15:20	215.00	0.15	12.13							Adjusted Pump to 106.40 Hz
7/10/2006	15:42	237.00	0.20	12.02	0.38	0.04	0.43	0.10	0.65	0.41	
7/10/2006	16:10	265.00	0.20	11.73	0.41	0.07	0.48		0.62	0.42	
7/10/2006	16:30	285.00	0.20	11.69							
7/10/2006	16:40	295.00	0.20	12.04	0.42	0.02	0.53	0.05	0.60	0.35	
7/10/2006	17:10	325.00	0.15	12.63	0.46	0.02	0.57	0.03	0.59	0.35	
7/10/2006	17:40	355.00	0.10	12.22	0.48	0.05	0.61	-0.04	0.58	0.38	
7/10/2006	18:08	383.00	0.15	11.96	0.49	0.06	0.65	0.02	0.58	0.38	
7/10/2006	18:39	414.00	0.20	11.86	0.52	0.08	0.68	0.01	0.57	0.38	
7/10/2006	19:08	443.00	0.15	11.29	0.52	0.09	0.70	0.03	0.55	0.38	
7/10/2006	19:30	465.00	0.10	10.84	0.53	0.09	0.73	0.00	0.53	0.38	
7/10/2006	19:35	470.00	0.00								PULLED PUMP
7/10/2006	19:41	476.00	0.00	6.36	0.53	0.11	0.74	0.01	0.52	0.38	
7/10/2006	19:50	485.00	0.00	2.78	0.53	0.11	0.75	-0.03	0.50	0.36	
7/10/2006	20:00	495.00	0.00	1.52	0.53	0.12	0.75	-0.02	0.43	0.33	
7/10/2006	20:10	505.00	0.00	0.97	0.54	0.11	0.75	-0.01	0.35	0.32	
7/10/2006	20:20	515.00	0.00	0.64	0.53	0.12	0.76	-0.05	0.27	0.29	
7/10/2006	20:30	525.00	0.00	0.51	0.53	0.13	0.77	-0.06	0.26	0.28	
7/11/2006	7:05	1160.00	0.00	0.18	0.05	0.16	0.13	-0.09	-0.06	-0.06	

ATTACHMENT B

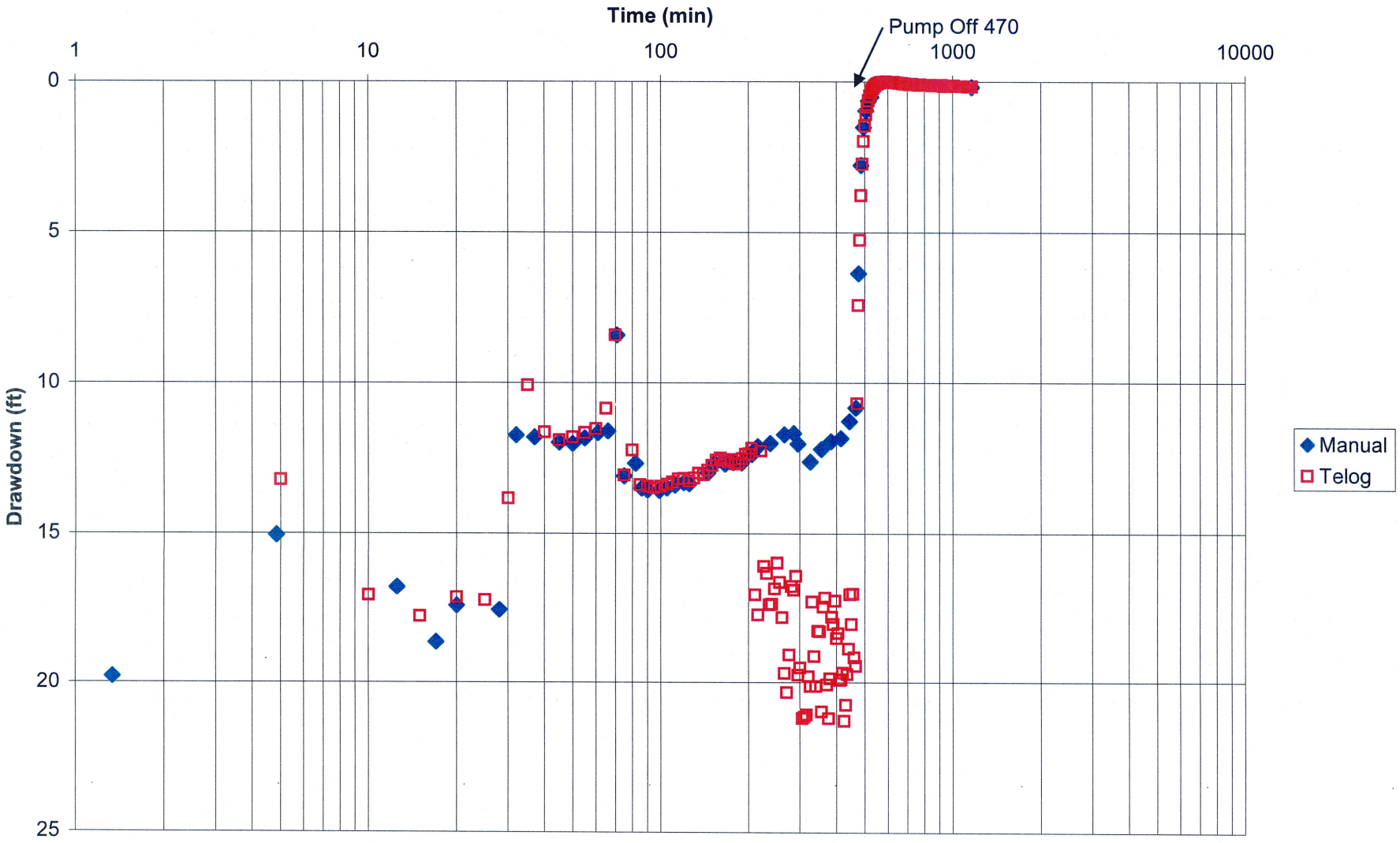
SEMI-LOG TIME vs. PUMP RATE

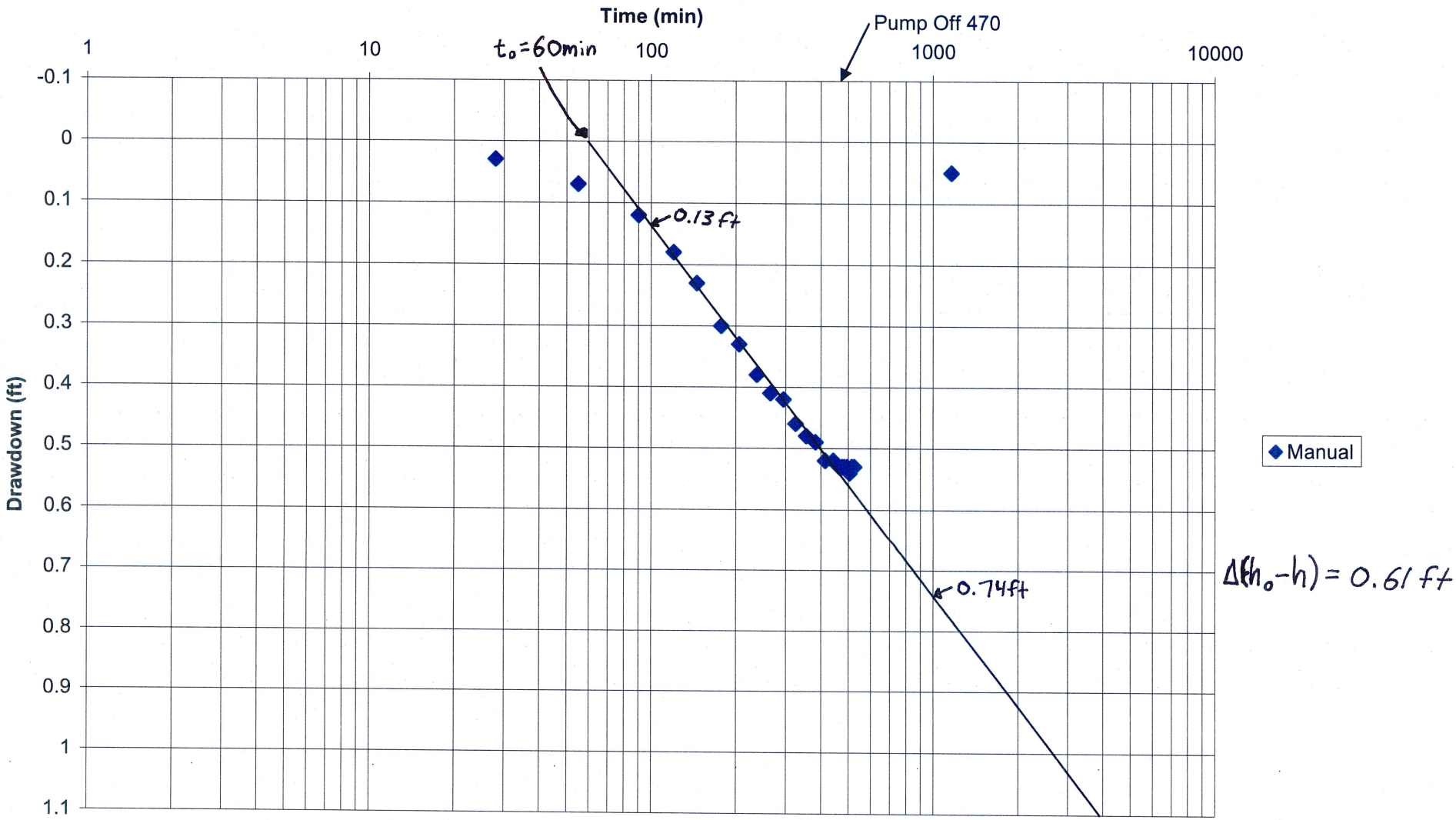
Juniper Ridge Landfill - Pump Rate (First 1.3 minutes pumped at 3.5 gpm)



ATTACHMENT C

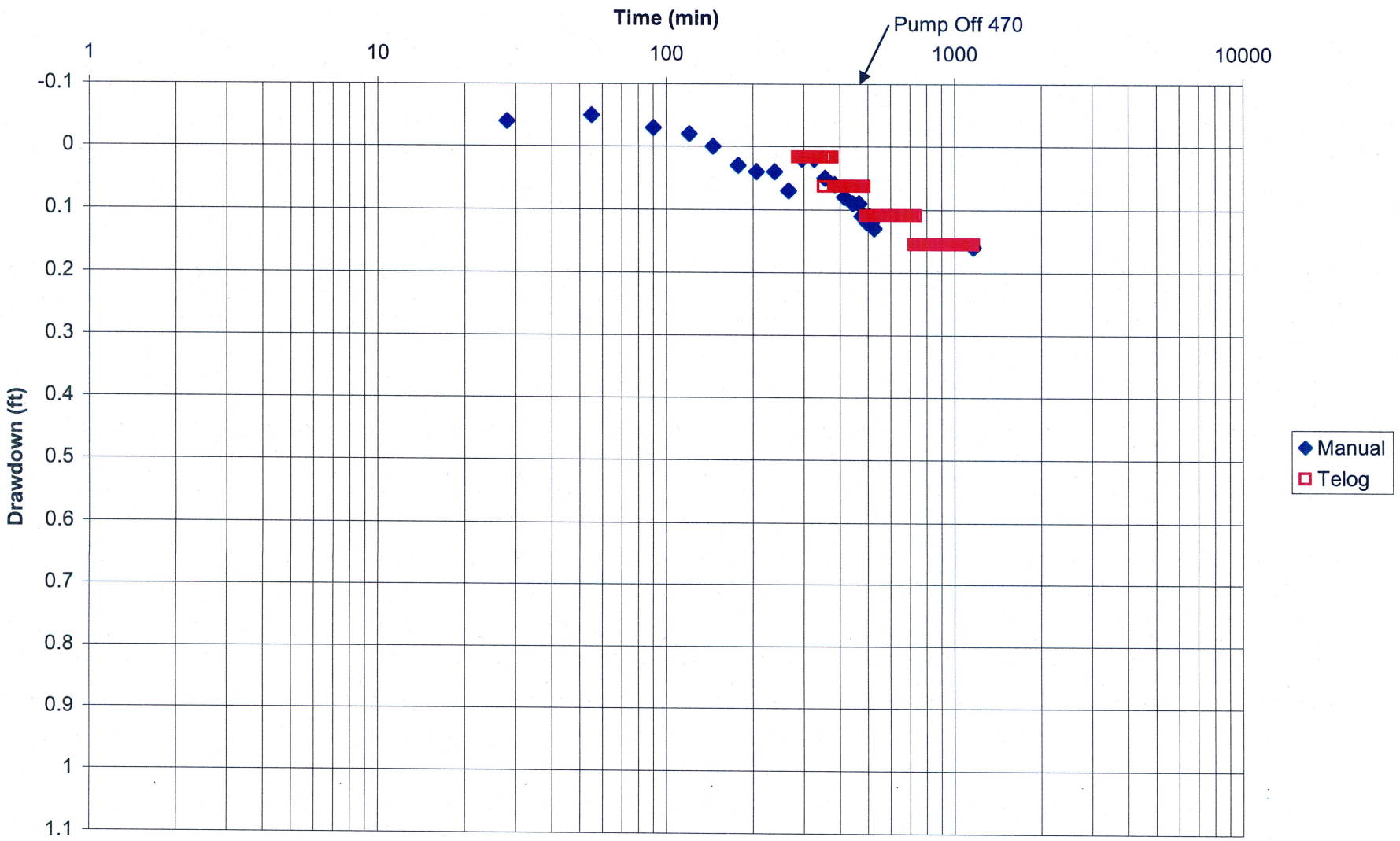
SEMI-LOG TIME vs. DRAWDOWNS

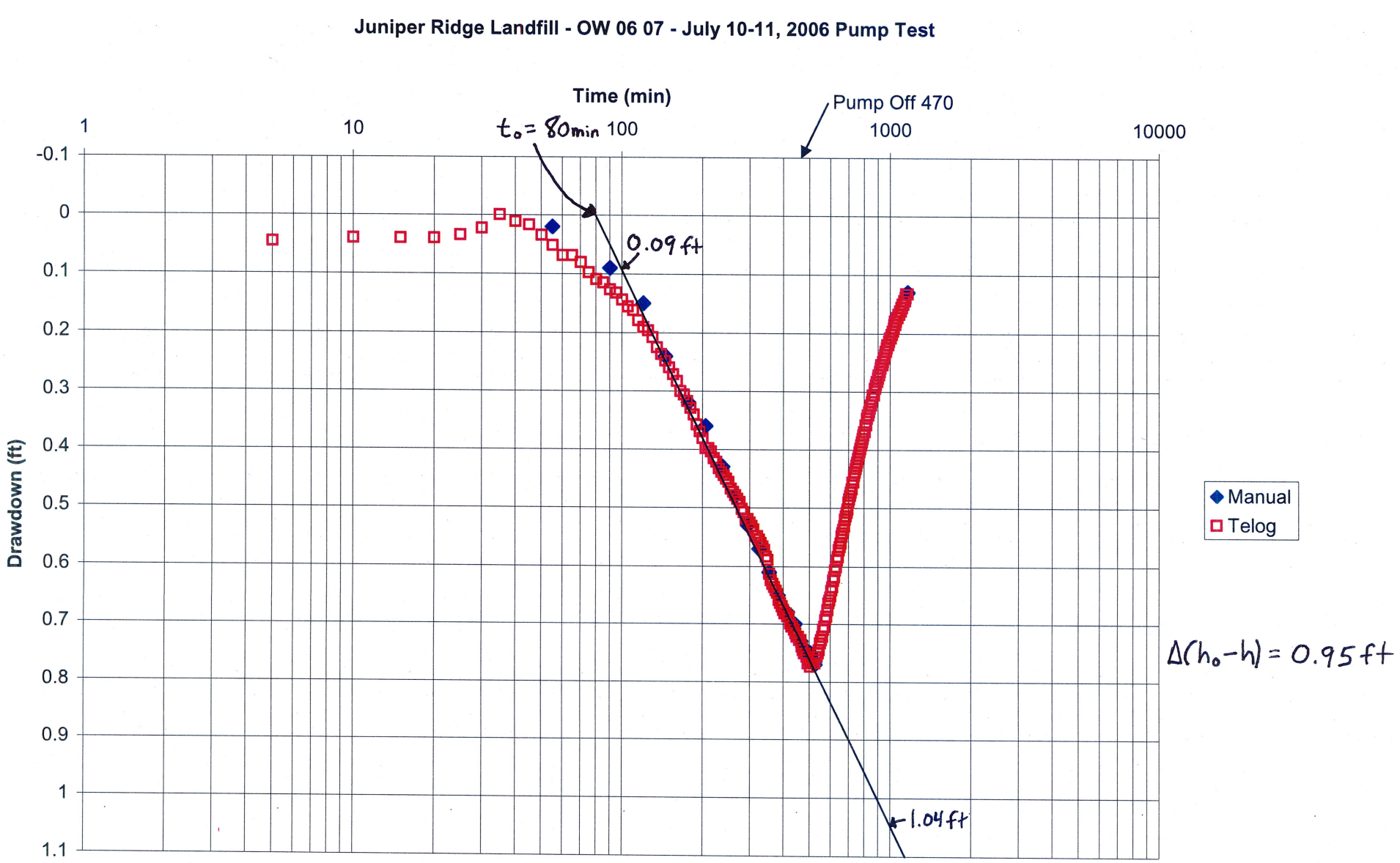

Juniper Ridge Landfill - MW 06 02 - July 10-11, 2006 Pump Test
Time (min)
1
10
100
1000
10000
Pump Off 470
Drawdown (ft)
0
5
10
15
20
25
Manual
Telog



$$T = \frac{2.3Q}{4\pi\Delta(h_o-h)} = \frac{2.3 * 36.58\ ft^3/d}{4\pi * 0.61\ ft} = 10.98\ ft^2/d = 0.12\ cm^2/s$$

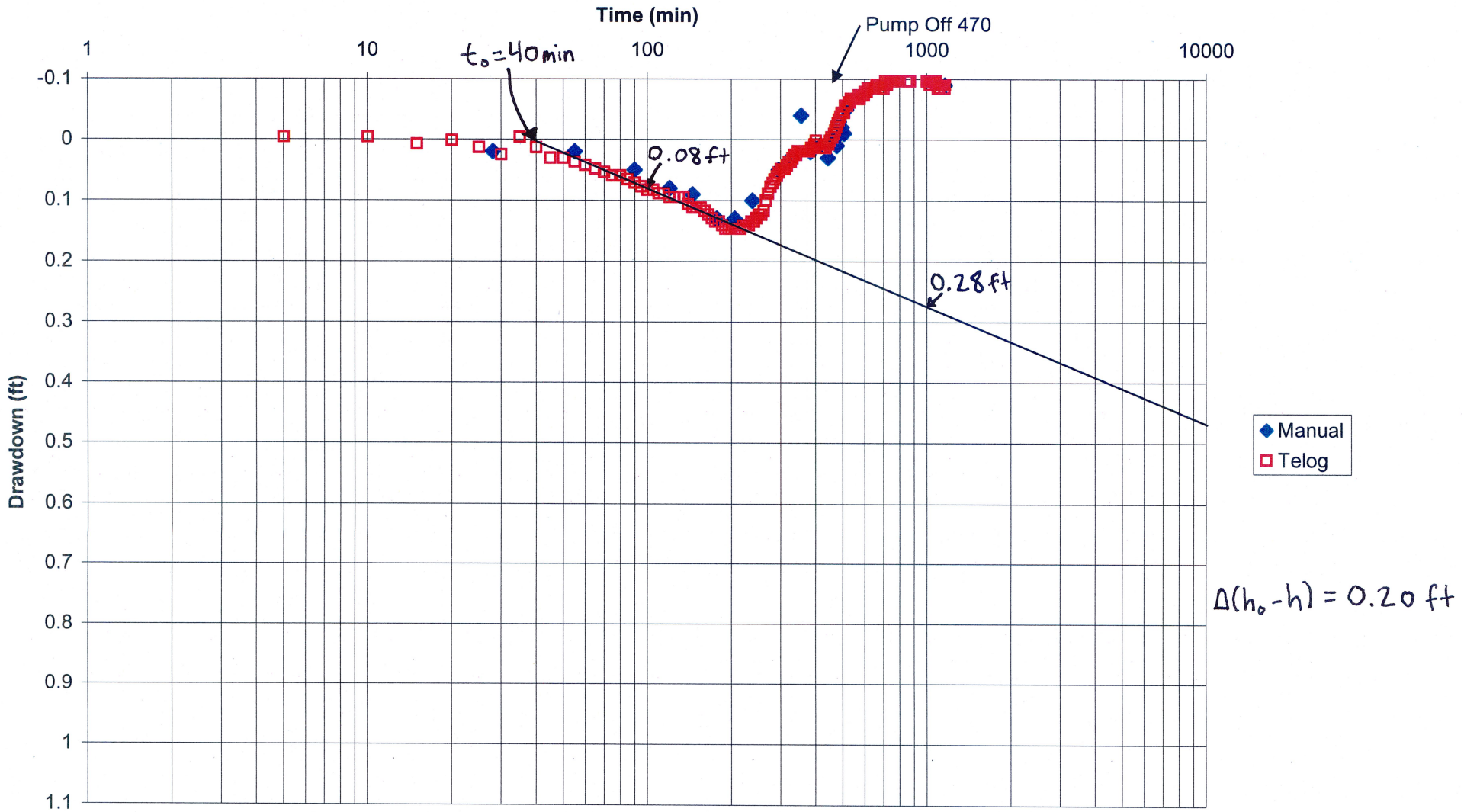
$$S = \frac{2.25Tt_o}{r^2} = \frac{2.25 * 10.98\ ft^2/d * 0.042\ d}{(50.79\ ft)^2} = 0.0004$$


Juniper Ridge Landfill - OW 06 06 - July 10-11, 2006 Pump Test
Time (min)
Pump Off 470
1
10
100
1000
10000
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
Drawdown (ft)
Manual
Telog



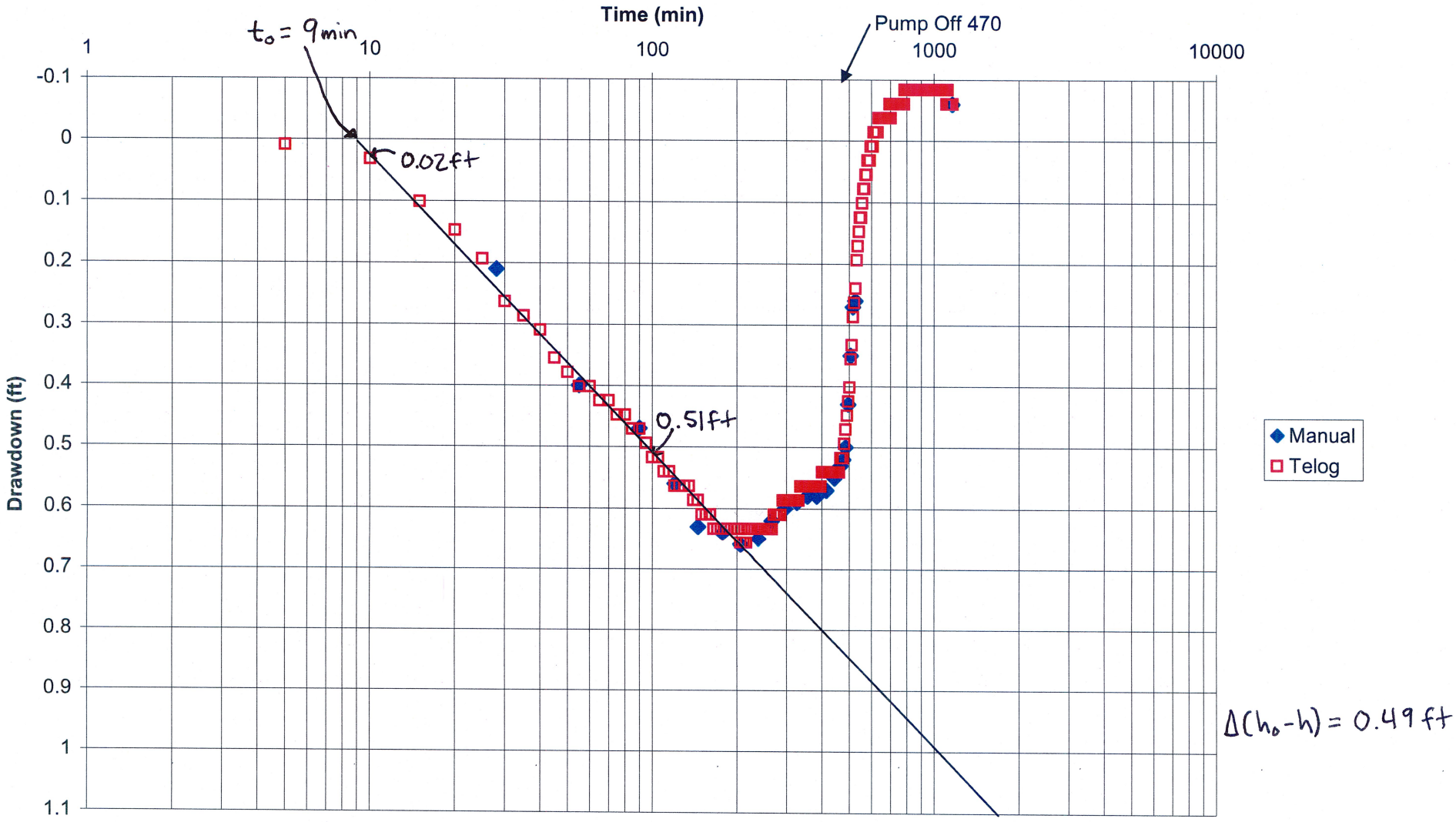
$$T = \frac{2.3Q}{4\pi\Delta(h_o - h)} = \frac{2.3 * 36.58\ ft^3/d}{4\pi * 0.95\ ft} = 7.05\ ft^2/d = 0.08\ cm^2/s$$

$$S = \frac{2.25\,T t_o}{r^2} = \frac{2.25 * 7.05\ ft^2/d * 0.056\ d}{(48.62\ ft)^2} = 0.0004$$



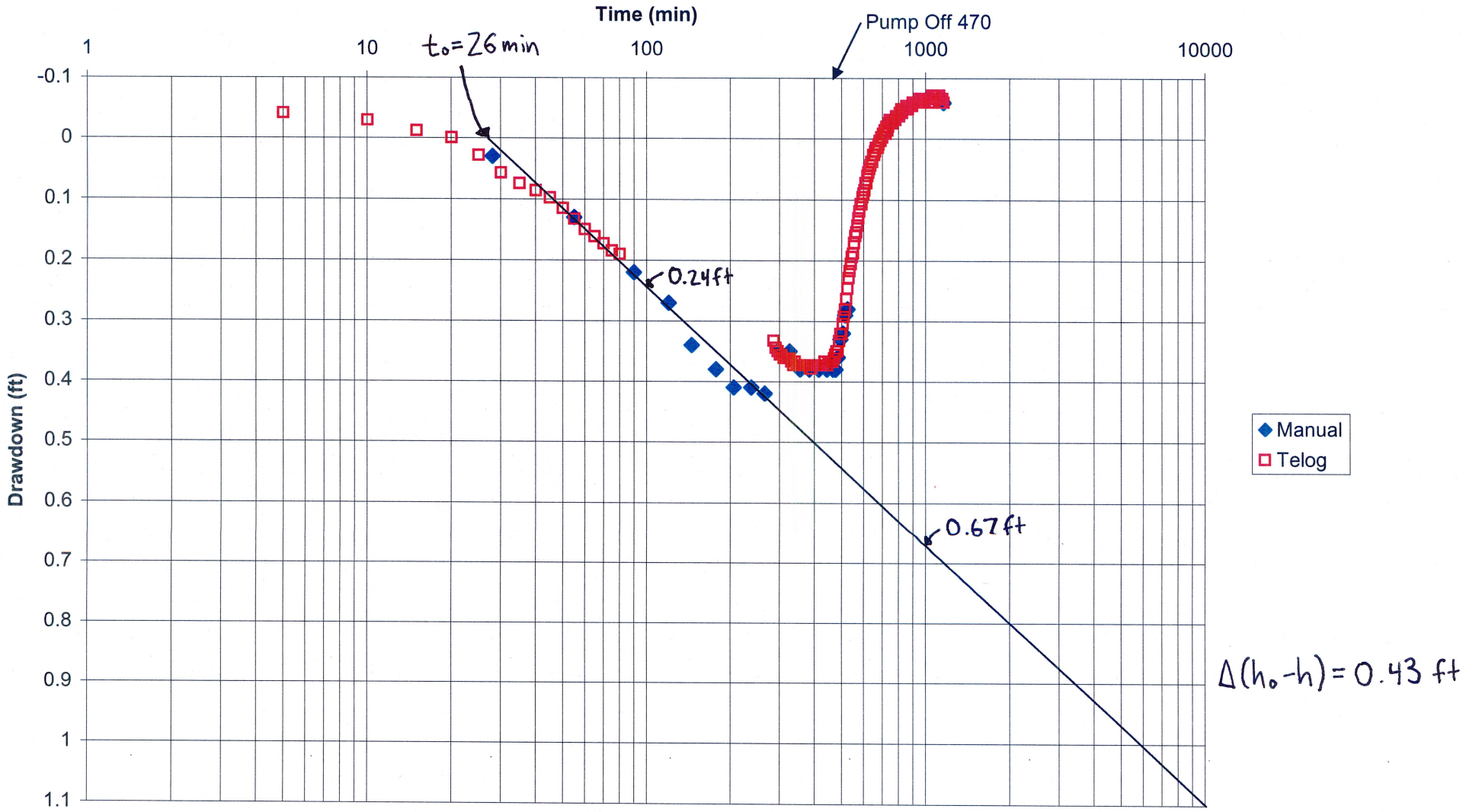
$$T = \frac{2.3Q}{4\pi\Delta(h_o-h)} = \frac{2.3 * 36.58\ ft^3/d}{4\pi * 0.20\ ft} = 33.48\ ft^2/d = 0.36\ cm^2/s$$

$$S = \frac{2.25\,T t_o}{r^2} = \frac{2.25 * 33.48\ ft^2/d * 0.028\ d}{(52.06\ ft)^2} = 0.0008$$



$$T = \frac{2.3Q}{4\pi\Delta(h_o-h)} = \frac{2.3 * 36.58\ ft^3/d}{4\pi(0.49\ ft)} = 13.66\ ft^2/d = 0.15\ cm^2/s$$

$$S = \frac{2.25Tt_o}{r^2} = \frac{2.25 * 13.66\ ft^2/d * 0.006\ d}{(50.79\ ft)^2} = 0.0001$$

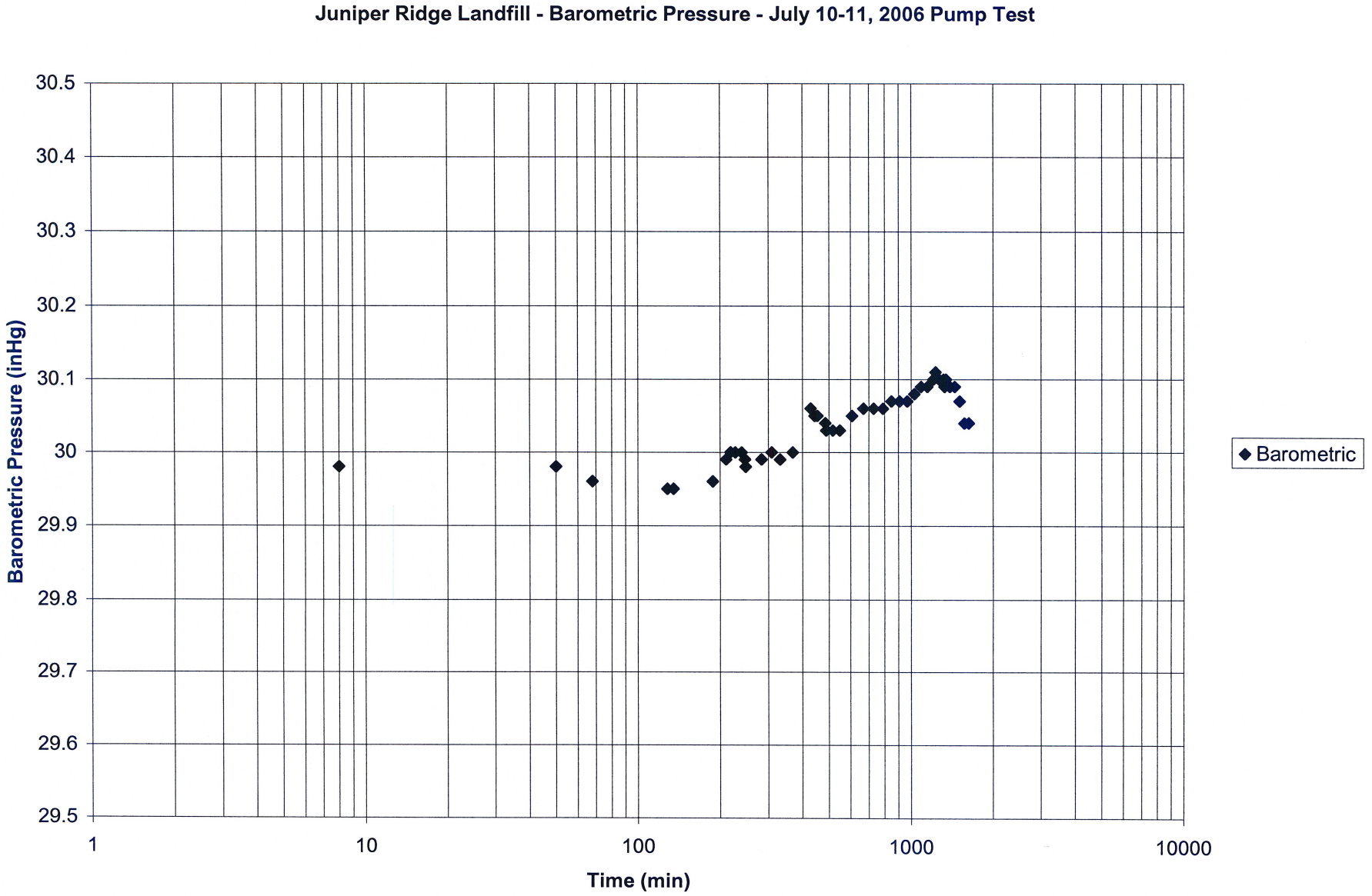


$$T = \frac{2.3Q}{4\pi\Delta(h_o-h)} = \frac{2.3 * 36.58\ ft^3/d}{4\pi * 0.43\ ft} = 15.57\ ft^2/d = 0.17\ cm/s$$

$$S = \frac{2.25Tt_o}{r^2} = \frac{2.25 * 15.57\ ft^2/d * 0.018d}{(52.37\ ft)^2} = 0.0002$$

ATTACHMENT D

WEATHER DATA


Juniper Ridge Landfill - Barometric Pressure - July 10-11, 2006 Pump Test
Barometric Pressure (inHg)
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
1
10
100
1000
10000
Time (min)
Barometric

History for Bangor, ME

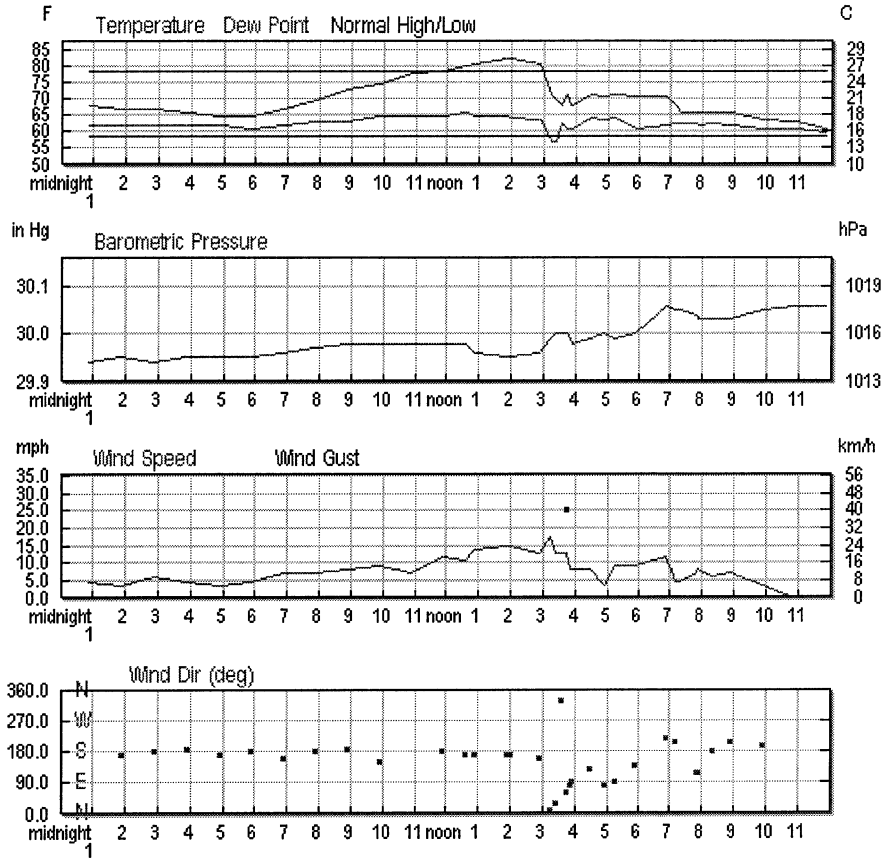
Monday, July 10, 2006

Daily Summary

	Actual:	Average :	Record :
Temperature:			
Mean Temperature	72 °F / 22 °C	69 °F / 20 °C	
Max Temperature	83 °F / 28 °C	79 °F / 26 °C	96 °F / 35 °C (1937)
Min Temperature	61 °F / 16 °C	59 °F / 15 °C	44 °F / 6 °C (1942)
Degree Days:			
Heating Degree Days	0	1	
Month to date heating degree days	0	10	
Since 1 July heating degree days	0	10	
Cooling Degree Days	7	5	
Month to date cooling degree days	53	40	
Year to date cooling degree days	136	89	
Growing Degree Days	22 (Base 50)		
Moisture:			
Dew Point	62 °F / 16 °C		
Average Humidity	78		
Maximum Humidity	100		
Minimum Humidity	55		
Precipitation:			
Precipitation	0.51 in / 1.30 cm	0.11 in / 0.28 cm	0.98 in / 2.49 cm (1972)
Month to date precipitation	0.90	1.10	
Year to date precipitation	23.64	20.55	
Snow:			
Snow	0.00 in / 0.00 cm	0.00 in / 0.00 cm	0.00 in / 0.00 cm (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	0.00 in / 0.00 cm		
Sea Level Pressure:			
Sea Level Pressure	29.95 in / 1014 hPa		
Wind:			
Wind Speed	7 mph / 11 km/h (SSE)		
Max Wind Speed	20 mph / 32 km/h		
Max Gust Speed	25 mph / 40 km/h		
Visibility	7 miles / 11 kilometers		
Events	Rain , Hail , Thunderstorm		

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



Hourly Observations

Time (EDT):	Temp.:	Dew Point:	Humidity:	Sea Level Pressure:	Visibility:	Wind Dir:	Wind Speed:	Gust Speed:	Precip:	Events:	Conditions:
12:53 AM	68.0 °F / 20.0 °C	62.1 °F / 16.7 °C	81%	29.94 in / 1013.8 hPa	10.0 miles / 16.1 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Scattered Clouds
1:53 AM	66.9 °F / 19.4 °C	62.1 °F / 16.7 °C	84%	29.95 in / 1014.0 hPa	10.0 miles / 16.1 kilometers	South	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A		Scattered Clouds
2:53 AM	66.9 °F / 19.4 °C	62.1 °F / 16.7 °C	84%	29.94 in / 1013.9 hPa	10.0 miles / 16.1 kilometers	South	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A		Scattered Clouds
3:53 AM	66.0 °F / 18.9 °C	62.1 °F / 16.7 °C	87%	29.95 in / 1014.0 hPa	10.0 miles / 16.1 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Scattered Clouds
4:53 AM	64.9 °F / 18.3 °C	62.1 °F / 16.7 °C	90%	29.95 in / 1014.0 hPa	8.0 miles / 12.9 kilometers	South	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A		Scattered Clouds
5:53 AM	64.9 °F / 18.3 °C	61.0 °F / 16.1 °C	87%	29.95 in / 1014.2 hPa	6.0 miles / 9.7 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Mostly Cloudy
6:53 AM	66.9 °F / 19.4 °C	62.1 °F / 16.7 °C	84%	29.96 in / 1014.4 hPa	7.0 miles / 11.3 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Mostly Cloudy
7:53 AM	70.0 °F / 21.1 °C	63.0 °F / 17.2 °C	78%	29.97 in / 1014.8 hPa	8.0 miles / 12.9 kilometers	South	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Mostly Cloudy
8:53 AM	73.0 °F / 22.8 °C	63.0 °F / 17.2 °C	71%	29.98 in / 1015.2 hPa	9.0 miles / 14.5 kilometers	South	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Scattered Clouds
9:53 AM	75.0 °F / 23.9 °C	64.9 °F / 18.3 °C	71%	29.98 in / 1015.0 hPa	9.0 miles / 14.5 kilometers	SSE	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A		Scattered Clouds
10:53 AM	78.1 °F / 25.6 °C	64.9 °F / 18.3 °C	64%	29.98 in / 1015.1 hPa	10.0 miles / 16.1 kilometers	Variable	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Mostly Cloudy
11:53 AM	79.0 °F / 26.1 °C	64.9 °F / 18.3 °C	62%	29.98 in / 1015.0 hPa	10.0 miles / 16.1 kilometers	South	11.5 mph / 18.5 km/h /	-	N/A		Scattered Clouds

							5.1 m/s				
12:35 PM	80.6 °F / 27.0 °C	66.2 °F / 19.0 °C	61%	29.98 in / 1015.1 hPa	10.0 miles / 16.1 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	Thunderstorm	Thunderstorm
12:53 PM	81.0 °F / 27.2 °C	64.9 °F / 18.3 °C	58%	29.96 in / 1014.3 hPa	10.0 miles / 16.1 kilometers	South	13.8 mph / 22.2 km/h / 6.2 m/s	-	N/A	Thunderstorm	Thunderstorm
1:53 PM	82.9 °F / 28.3 °C	64.9 °F / 18.3 °C	54%	29.95 in / 1014.0 hPa	10.0 miles / 16.1 kilometers	South	15.0 mph / 24.1 km/h / 6.7 m/s	-	N/A	Thunderstorm	Thunderstorm
2:00 PM	82.4 °F / 28.0 °C	64.4 °F / 18.0 °C	54%	29.95 in / 1014.1 hPa	10.0 miles / 16.1 kilometers	South	15.0 mph / 24.1 km/h / 6.7 m/s	-	N/A		Mostly Cloudy
2:53 PM	81.0 °F / 27.2 °C	64.0 °F / 17.8 °C	56%	29.96 in / 1014.5 hPa	10.0 miles / 16.1 kilometers	SSE	12.7 mph / 20.4 km/h / 5.7 m/s	-	N/A		Mostly Cloudy
3:15 PM	71.6 °F / 22.0 °C	57.2 °F / 14.0 °C	60%	29.99 in / 1015.5 hPa	10.0 miles / 16.1 kilometers	North	17.3 mph / 27.8 km/h / 7.7 m/s	23.0 mph / 37.0 km/h / 10.3 m/s	N/A	Thunderstorm	Thunderstorm
3:23 PM	69.8 °F / 21.0 °C	57.2 °F / 14.0 °C	64%	30.00 in / 1015.8 hPa	8.0 miles / 12.9 kilometers	NNE	12.7 mph / 20.4 km/h / 5.7 m/s	-	N/A	Rain , Thunderstorm	Thunderstorms with Small Hail
3:32 PM	68.0 °F / 20.0 °C	62.6 °F / 17.0 °C	83%	30.00 in / 1015.8 hPa	1.8 miles / 2.8 kilometers	NNW	12.7 mph / 20.4 km/h / 5.7 m/s	23.0 mph / 37.0 km/h / 10.3 m/s	0.17 in / 0.4 cm	Rain , Hail , Thunderstorm	Thunderstorms with Hail
3:44 PM	71.6 °F / 22.0 °C	60.8 °F / 16.0 °C	69%	30.00 in / 1015.8 hPa	0.8 miles / 1.2 kilometers	ENE	12.7 mph / 20.4 km/h / 5.7 m/s	25.3 mph / 40.7 km/h / 11.3 m/s	0.39 in / 1.0 cm	Rain , Thunderstorm	Heavy Thunderstorms and Rain
3:51 PM	68.0 °F / 20.0 °C	60.8 °F / 16.0 °C	78%	29.99 in / 1015.5 hPa	2.0 miles / 3.2 kilometers	East	8.1 mph / 13.0 km/h / 3.6 m/s	-	0.40 in / 1.0 cm	Rain , Thunderstorm	Light Thunderstorms and Rain
3:53 PM	68.0 °F / 20.0 °C	61.0 °F / 16.1 °C	78%	29.98 in / 1015.1 hPa	3.0 miles / 4.8 kilometers	East	8.1 mph / 13.0 km/h / 3.6 m/s	-	0.40 in / 1.0 cm	Thunderstorm	Unknown
4:28 PM	71.6 °F / 22.0 °C	64.4 °F / 18.0 °C	78%	29.99 in / 1015.5 hPa	8.0 miles / 12.9 kilometers	SE	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Overcast
4:53 PM	71.1 °F / 21.7 °C	64.0 °F / 17.8 °C	78%	30.00 in / 1015.7 hPa	9.0 miles / 14.5 kilometers	East	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A		Overcast
5:16 PM	71.6 °F / 22.0 °C	64.4 °F / 18.0 °C	78%	29.99 in / 1015.5 hPa	9.0 miles / 14.5 kilometers	East	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	Thunderstorm	Thunderstorm
5:53 PM	71.1 °F / 21.7 °C	61.0 °F / 16.1 °C	70%	30.00 in / 1015.8 hPa	9.0 miles / 14.5 kilometers	SE	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	Thunderstorm	Thunderstorm
6:53 PM	71.1 °F / 21.7 °C	62.1 °F / 16.7 °C	73%	30.06 in / 1017.9 hPa	8.0 miles / 12.9 kilometers	SW	11.5 mph / 18.5 km/h / 5.1 m/s	-	N/A	Thunderstorm	Thunderstorm
7:08 PM	68.0 °F / 20.0 °C	62.6 °F / 17.0 °C	83%	30.05 in / 1017.5 hPa	1.8 miles / 2.8 kilometers	SSW	4.6 mph / 7.4 km/h / 2.1 m/s	-	0.05 in / 0.1 cm	Rain , Thunderstorm	Heavy Thunderstorms and Rain
7:18 PM	66.2 °F / 19.0 °C	62.6 °F / 17.0 °C	88%	30.05 in / 1017.5 hPa	3.0 miles / 4.8 kilometers	Variable	4.6 mph / 7.4 km/h / 2.1 m/s	-	0.06 in / 0.2 cm	Rain , Thunderstorm	Light Thunderstorms and Rain
7:49 PM	66.2 °F / 19.0 °C	62.6 °F / 17.0 °C	88%	30.04 in / 1017.2 hPa	5.0 miles / 8.0 kilometers	ESE	6.9 mph / 11.1 km/h / 3.1 m/s	-	0.11 in / 0.3 cm	Rain , Thunderstorm	Light Thunderstorms and Rain
7:53 PM	66.0 °F / 18.9 °C	62.1 °F / 16.7 °C	87%	30.03 in / 1016.8 hPa	6.0 miles / 9.7 kilometers	ESE	8.1 mph / 13.0 km/h / 3.6 m/s	-	0.11 in / 0.3 cm	Rain , Thunderstorm	Light Thunderstorms and Rain
8:20 PM	66.2 °F / 19.0 °C	62.6 °F / 17.0 °C	88%	30.03 in / 1016.8 hPa	7.0 miles / 11.3 kilometers	South	5.8 mph / 9.3 km/h / 2.6 m/s	-	0.00 in / 0.0 cm		Overcast
8:53 PM	66.0 °F / 18.9 °C	62.1 °F / 16.7 °C	87%	30.03 in / 1016.9 hPa	8.0 miles / 12.9 kilometers	SSW	6.9 mph / 11.1 km/h / 3.1 m/s	-	0.00 in / 0.0 cm		Overcast
9:53 PM	64.0 °F / 17.8 °C	61.0 °F / 16.1 °C	90%	30.05 in / 1017.5 hPa	6.0 miles / 9.7 kilometers	SSW	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A		Mostly Cloudy
10:53 PM	63.0 °F / 17.2 °C	61.0 °F / 16.1 °C	93%	30.06 in / 1017.8 hPa	4.0 miles / 6.4 kilometers	Calm	Calm	-	N/A		Mostly Cloudy
11:53 PM	61.0 °F / 16.1 °C	60.1 °F / 15.6 °C	97%	30.06 in / 1018.0 hPa	2.0 miles / 3.2 kilometers	Calm	Calm	-	N/A		Scattered Clouds

History for Bangor, ME

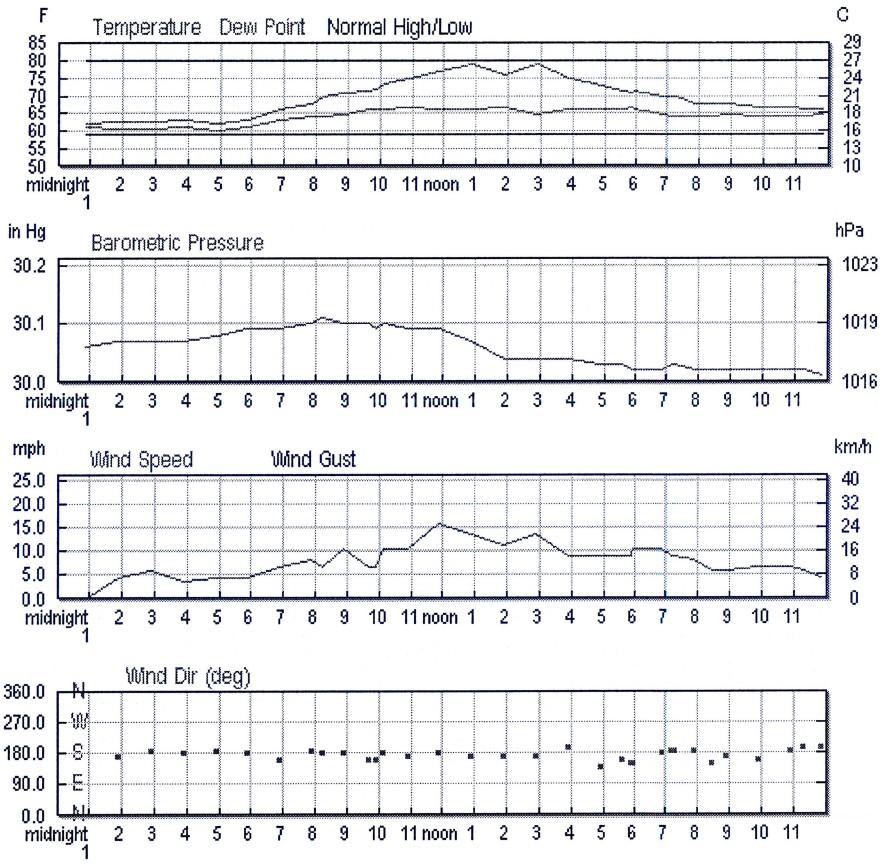
Tuesday, July 11, 2006

Daily Summary

	Actual:	Average :	Record :
Temperature:			
Mean Temperature	71 °F / 21 °C	69 °F / 20 °C	
Max Temperature	79 °F / 26 °C	80 °F / 26 °C	94 °F / 34 °C (1935)
Min Temperature	62 °F / 16 °C	59 °F / 15 °C	47 °F / 8 °C (2002)
Degree Days:			
Heating Degree Days	0	1	
Month to date heating degree days	0	11	
Since 1 July heating degree days	0	11	
Cooling Degree Days	6	5	
Month to date cooling degree days	59	45	
Year to date cooling degree days	142	94	
Growing Degree Days	20 (Base 50)		
Moisture:			
Dew Point	61 °F / 16 °C		
Average Humidity	80		
Maximum Humidity	93		
Minimum Humidity	67		
Precipitation:			
Precipitation	0.01 in / 0.03 cm	0.11 in / 0.28 cm	2.66 in / 6.76 cm (1959)
Month to date precipitation	0.91	1.21	
Year to date precipitation	23.65	20.66	
Snow:			
Snow	0.00 in / 0.00 cm	0.00 in / 0.00 cm	0.00 in / 0.00 cm (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	0.00 in / 0.00 cm		
Sea Level Pressure:			
Sea Level Pressure	30.07 in / 1018 hPa		
Wind:			
Wind Speed	8 mph / 13 km/h (South)		
Max Wind Speed	18 mph / 29 km/h		
Max Gust Speed	23 mph / 37 km/h		
Visibility	6 miles / 9 kilometers		
Events	Rain , Thunderstorm		

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



Hourly Observations

Time (EDT):	Temp.:	Dew Point:	Humidity:	Sea Level Pressure:	Visibility:	Wind Dir:	Wind Speed:	Gust Speed:	Precip:	Events:	Conditions:
12:53 AM	62.1 °F / 16.7 °C	61.0 °F / 16.1 °C	96%	30.06 in / 1018.0 hPa	4.0 miles / 6.4 kilometers	Calm	Calm	-	N/A		Clear
1:53 AM	62.6 °F / 17.0 °C	60.8 °F / 16.0 °C	94%	30.07 in / 1018.2 hPa	3.0 miles / 4.8 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Clear
2:53 AM	62.6 °F / 17.0 °C	60.8 °F / 16.0 °C	94%	30.07 in / 1018.2 hPa	3.0 miles / 4.8 kilometers	South	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A		Clear
3:53 AM	63.0 °F / 17.2 °C	61.0 °F / 16.1 °C	93%	30.07 in / 1018.1 hPa	2.5 miles / 4.0 kilometers	South	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A		Partly Cloudy
4:53 AM	62.1 °F / 16.7 °C	60.1 °F / 15.6 °C	93%	30.08 in / 1018.4 hPa	2.5 miles / 4.0 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	0.01 in / 0.0 cm		Scattered Clouds
5:53 AM	63.0 °F / 17.2 °C	61.0 °F / 16.1 °C	93%	30.09 in / 1018.8 hPa	1.8 miles / 2.8 kilometers	South	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Scattered Clouds
6:53 AM	66.0 °F / 18.9 °C	63.0 °F / 17.2 °C	90%	30.09 in / 1018.9 hPa	2.0 miles / 3.2 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Scattered Clouds
7:53 AM	68.0 °F / 20.0 °C	64.0 °F / 17.8 °C	87%	30.10 in / 1019.2 hPa	2.5 miles / 4.0 kilometers	South	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Scattered Clouds
8:14 AM	69.8 °F / 21.0 °C	64.4 °F / 18.0 °C	83%	30.11 in / 1019.5 hPa	3.0 miles / 4.8 kilometers	South	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Haze
8:53 AM	71.1 °F / 21.7 °C	64.9 °F / 18.3 °C	81%	30.10 in / 1019.2 hPa	4.0 miles / 6.4 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A		Haze
9:40 AM	71.6 °F / 22.0 °C	66.2 °F / 19.0 °C	83%	30.10 in / 1019.2 hPa	4.0 miles / 6.4 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Haze
9:53 AM	72.0 °F / 22.2 °C	66.0 °F / 18.9 °C	81%	30.09 in / 1018.9 hPa	4.0 miles / 6.4 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Haze

10:07 AM	73.4 °F / 23.0 °C	66.2 °F / 19.0 °C	78%	30.10 in / 1019.2 hPa	4.0 miles / 6.4 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	Haze
10:53 AM	75.0 °F / 23.9 °C	66.9 °F / 19.4 °C	76%	30.09 in / 1019.0 hPa	5.0 miles / 8.0 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A	Haze
11:53 AM	77.0 °F / 25.0 °C	66.0 °F / 18.9 °C	69%	30.09 in / 1019.0 hPa	6.0 miles / 9.7 kilometers	South	16.1 mph / 25.9 km/h / 7.2 m/s	-	N/A	Haze
12:53 PM	79.0 °F / 26.1 °C	66.0 °F / 18.9 °C	64%	30.07 in / 1018.2 hPa	7.0 miles / 11.3 kilometers	South	13.8 mph / 22.2 km/h / 6.2 m/s	-	N/A	Haze
1:53 PM	75.9 °F / 24.4 °C	66.9 °F / 19.4 °C	74%	30.04 in / 1017.2 hPa	6.0 miles / 9.7 kilometers	South	11.5 mph / 18.5 km/h / 5.1 m/s	-	0.00 in / 0.0 cm	Rain	Light Rain
2:53 PM	79.0 °F / 26.1 °C	64.9 °F / 18.3 °C	62%	30.04 in / 1017.3 hPa	10.0 miles / 16.1 kilometers	South	13.8 mph / 22.2 km/h / 6.2 m/s	-	0.00 in / 0.0 cm		Mostly Cloudy
3:53 PM	75.0 °F / 23.9 °C	66.0 °F / 18.9 °C	73%	30.04 in / 1017.3 hPa	8.0 miles / 12.9 kilometers	SSW	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A		Mostly Cloudy
4:53 PM	73.0 °F / 22.8 °C	66.0 °F / 18.9 °C	79%	30.03 in / 1016.8 hPa	7.0 miles / 11.3 kilometers	SE	9.2 mph / 14.8 km/h / 4.1 m/s	-	0.00 in / 0.0 cm		Mostly Cloudy
5:35 PM	71.6 °F / 22.0 °C	66.2 °F / 19.0 °C	83%	30.03 in / 1016.8 hPa	5.0 miles / 8.0 kilometers	SSE	9.2 mph / 14.8 km/h / 4.1 m/s	-	0.00 in / 0.0 cm	Rain , Thunderstorm	Light Thunderstorms and Rain
5:53 PM	71.1 °F / 21.7 °C	66.9 °F / 19.4 °C	87%	30.02 in / 1016.4 hPa	5.0 miles / 8.0 kilometers	SSE	9.2 mph / 14.8 km/h / 4.1 m/s	-	0.00 in / 0.0 cm	Thunderstorm	Mostly Cloudy
5:56 PM	71.6 °F / 22.0 °C	66.2 °F / 19.0 °C	83%	30.02 in / 1016.5 hPa	5.0 miles / 8.0 kilometers	SSE	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A		Mostly Cloudy
6:53 PM	70.0 °F / 21.1 °C	64.9 °F / 18.3 °C	84%	30.02 in / 1016.6 hPa	9.0 miles / 14.5 kilometers	South	10.4 mph / 16.7 km/h / 4.6 m/s	-	N/A		Mostly Cloudy
7:10 PM	69.8 °F / 21.0 °C	64.4 °F / 18.0 °C	83%	30.03 in / 1016.8 hPa	8.0 miles / 12.9 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A		Mostly Cloudy
7:17 PM	69.8 °F / 21.0 °C	64.4 °F / 18.0 °C	83%	30.03 in / 1016.8 hPa	7.0 miles / 11.3 kilometers	South	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A		Overcast
7:53 PM	68.0 °F / 20.0 °C	64.0 °F / 17.8 °C	87%	30.02 in / 1016.5 hPa	10.0 miles / 16.1 kilometers	South	8.1 mph / 13.0 km/h / 3.6 m/s	-	N/A		Overcast
8:25 PM	68.0 °F / 20.0 °C	64.4 °F / 18.0 °C	88%	30.02 in / 1016.5 hPa	10.0 miles / 16.1 kilometers	SSE	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A		Overcast
8:53 PM	68.0 °F / 20.0 °C	64.9 °F / 18.3 °C	90%	30.02 in / 1016.6 hPa	10.0 miles / 16.1 kilometers	South	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A		Overcast
9:53 PM	66.9 °F / 19.4 °C	64.0 °F / 17.8 °C	90%	30.02 in / 1016.6 hPa	10.0 miles / 16.1 kilometers	SSE	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Overcast
10:53 PM	66.9 °F / 19.4 °C	64.0 °F / 17.8 °C	90%	30.02 in / 1016.5 hPa	9.0 miles / 14.5 kilometers	South	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A		Overcast
11:19 PM	66.2 °F / 19.0 °C	64.4 °F / 18.0 °C	94%	30.02 in / 1016.5 hPa	8.0 miles / 12.9 kilometers	SSW	5.8 mph / 9.3 km/h / 2.6 m/s	-	N/A		Overcast
11:53 PM	66.0 °F / 18.9 °C	64.9 °F / 18.3 °C	96%	30.01 in / 1016.0 hPa	2.0 miles / 3.2 kilometers	SSW	4.6 mph / 7.4 km/h / 2.1 m/s	-	N/A		Overcast

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ATTACHMENT E

ANISOTROPIC TRANSMISSIVITY ANALYSES

ANISOTROPIC TRANSMISSIVITY ESTIMATION

(after Papadopoulos, 1965)

WEST OLD TOWN LANDFILL DATA FROM PUMP TEST ON MW-06-02

COMBINING WELLS OW-06-05,08,10

average pumping rate:

$x_0 := 45$ ft $\quad y_0 := 22$ ft $\quad Q := 38.4$ ft^3/day

$x_1 := 12 \quad y_1 := 50$

$x_2 := -37 \quad y_2 := 36$

$to_0 := \frac{60}{1440}$ day $\quad \Delta s := .61$ ft/ $\log_{10}$ cycle

$to_1 := \frac{39}{1440}$ day

$to_2 := \frac{26}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2}$ $S = 2.506 \times 10^{-4}$

$Txx := \frac{A}{S}$ $Txx = 9.402$

$Tyy := \frac{B}{S}$ $Tyy = 17.134$

$Txy := \frac{C}{S}$ $Txy = -5.291$

$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $T\xi = 19.821$ ft²/day

$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $T\eta = 6.715$ ft²/day

$T\xi \cdot \frac{900}{1440 \cdot 60} = 0.206$ cm²/sec

$T\eta \cdot \frac{900}{1440 \cdot 60} = 0.07$ cm²/sec

$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right)$ $\frac{\theta prime \cdot 180}{\pi} = -63.079$ degrees

Note: negative clockwise from True North

COMBINING WELLS OW-06-05,07,10

$x_0 := 45$ ft $y_0 := 22$ ft

$x_1 := 32$ $y_1 := 36$

$x_2 := -37$ $y_2 := 36$

$to_0 := \frac{60}{1440}$ day $\Delta s := .66$ ft/ $\log_{10}$ cycle

$to_1 := \frac{80}{1440}$ day

$to_2 := \frac{26}{1440}$ day

$$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s} \quad ft^2/day$$

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 2.403 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 24.266$$

$$Tyy := \frac{B}{S} \qquad Tyy = 7.705$$

$$Txy := \frac{C}{S} \qquad Txy = -8.559$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 27.894 \ ft^2/day$$

$$T\xi \cdot \frac{900}{1440 \cdot 60} = 0.291 \quad cm^2/sec$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\eta = 4.076 \ ft^2/day$$

$$T\eta \cdot \frac{900}{1440 \cdot 60} = 0.042 \quad cm^2/sec$$

$$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = -22.974 \quad degrees$$

COMBINING WELLS OW-06-05,09,10

$x_0 := 45$ ft $\quad y_0 := 22$ ft

$x_1 := -3 \quad y_1 := 52$

$x_2 := -37 \quad y_2 := 36$

$to_0 := \frac{60}{1440}$ day $\quad \Delta s := .51$ ft/ $\log_{10}$ cycle

$to_1 := \frac{9}{1440}$ day

$to_2 := \frac{26}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2}$ $\quad S = 1.813 \times 10^{-4}$

$Txx := \frac{A}{S}$ $\quad Txx = 6.184$

$Tyy := \frac{B}{S}$ $\quad Tyy = 39.792$

$Txy := \frac{C}{S}$ $\quad Txy = -7.46$

$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\xi = 41.374$ ft²/day

$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\xi \cdot \frac{900}{1440 \cdot 60} = 0.431$ cm²/sec

$T\eta = 4.602$ ft²/day

$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right)$ $\quad \frac{\theta prime \cdot 180}{\pi} = -78.03$ degrees $\quad T\eta \cdot \frac{900}{1440 \cdot 60} = 0.048$ cm²/sec

---

COMBINING WELLS OW-06-07,08,10

$x_0 := -37$ ft $\quad y_0 := 36$ ft

$x_1 := 12 \quad y_1 := 50$

$x_2 := 32 \quad y_2 := 36$

$to_0 := \frac{26}{1440}$ day $\quad \Delta s := .53$ ft/ $\log_{10}$ cycle

$to_1 := \frac{39}{1440}$ day

$to_2 := \frac{80}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft²/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} (y_0)^2 & (x_0)^2 & -2 \cdot (x_0 \cdot y_0) \\ (y_1)^2 & (x_1)^2 & -2 \cdot (x_1 \cdot y_1) \\ (y_2)^2 & (x_2)^2 & -2 \cdot (x_2 \cdot y_2) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 1.878 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 10.025$$

$$Tyy := \frac{B}{S} \qquad Tyy = 57.027$$

$$Txy := \frac{C}{S} \qquad Txy = -19.884$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 64.31 \quad ft^2/day$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi \cdot \frac{900}{1440 \cdot 60} = 0.67 \quad cm^2/sec$$

$$T\eta = 2.742 \quad ft^2/day$$

$$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = -69.883 \quad degrees \qquad T\eta \cdot \frac{900}{1440 \cdot 60} = 0.029 \quad cm^2/sec$$

COMBINING WELLS OW-06-07,09,10

$x_0 := -37\ ft \qquad y_0 := 36\ ft$

$x_1 := -3 \qquad y_1 := 52$

$x_2 := 32 \qquad y_2 := 36$

$$to_0 := \frac{26}{1440} \quad day \qquad \Delta s := .63 \quad ft/\log_{10} cycle$$

$$to_1 := \frac{9}{1440} \quad day$$

$$to_2 := \frac{80}{1440} \quad day$$

$$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s} \quad ft^2/day$$

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 4.988 \times 10^{-5}$$

$$Txx := \frac{A}{S} \qquad Txx = 18.643$$

$$Tyy := \frac{B}{S} \qquad Tyy = 160.793$$

$$Txy := \frac{C}{S} \qquad Txy = -53.599$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 178.737 \quad ft^2/day$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi \cdot \frac{900}{1440 \cdot 60} = 1.862 \quad cm^2/sec$$

$$T\eta = 0.698 \quad ft^2/day$$

$$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right) \qquad T\eta \cdot \frac{900}{1440 \cdot 60} = 7.272 \times 10^{-3} \quad cm^2/sec$$

$$\frac{\theta prime \cdot 180}{\pi} = -71.49 \quad degrees$$

APPENDIX N

BEDROCK OUTCROP MAPPING DATA

SME
SEVEE & MAHER
ENGINEERS

BEDROCK OUTCROP OC-AG FRACTURE SURVEY
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

Fracture ID	Number of Intersecting Fractures	Azimuth (1)(2)	Dip (1)
1	2	72°	12°E
2	2	134°	75°W
3	1	-	-
4	3	-	-
5	1	-	-
6	2	-	-
7	2	-	-
8	10	108°	28°E
9	1	-	-
10	5	-	-
11	1	-	-
12	3	-	-
13	3	142°	62°W
14	2	-	-
15	3	-	-
16	4	-	-
17	4	-	-
18	6	-	-
19	3	-	-
20	1	-	-
21	5	108°	25°E
22	4	-	-
23	1	-	-
24	6	-	-
25	6	-	-
26	2	-	-
27	5	-	-
28	7	23°	30°W
29	3	-	-
30	16	118°	79°E
31	17	116°	79°E
32	12	-	-
33	6	-	-
34	7	-	-

Fracture ID	Number of Intersecting Fractures	Azimuth (1)(2)	Dip (1)
35	4	94°	34°E
36	3	-	-
37	4	-	-
38	2	-	-
39	3	-	-
40	2	-	-
41	2	-	-
42	4	-	-
43	5	142°	23°W
44	4	-	-
45	3	-	-
46	4	-	-
47	5	162°	50°E
48	1	-	-
49	4	-	-
50	2	-	-
51	5	95°	73°E
52	2	120°	82°E
53	15	116°	84°E
54	8	112°	72°E
55	4	-	-
56	4	-	-
57	3	-	-
58	3	-	-
59	5	-	-
60	4	154°	70°W
61	3	160°	83°W
62	3	-	-
63	4	150°	7°W
64	2	-	-
65	2	-	-
66	5	-	-
67	2	101°	75°E
68	Outcrop Face	106°	79°W

Notes:
1. Fractures without azimuths and dips displayed were linear features not accessible for planar measurements.
2. Azimuth relative to True North.
3. See Figure 3-3 for fracture location.

SUPPLEMENTAL AZIMUTH AND DIP MEASUREMENTS
ON OUTCROP OC-AG
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

Fracture ID	Azimuth	Dip
1A	116°	62°E
2A	68°	8°W
3A	98°	7°E
4A	76°	82°E
5A	53°	76°E
6A	58°	79°W
7A	60°	79°W
8A	54°	79°W
9A	6°	18°W
10A	162°	65°E
11A	136°	52°E
12A	124°	68°E
13A	159°	50°W
14A	179°	83°E
15A	118°	62°E
16A	168°	63°E
17A	61°	78°W
18A	44°	65°W
19A	26°	22°E
20A	82°	43°W
21A	70°	69°E
22A	155°	85°E
23A	160°	64°W
24A	62°	72°W
25A	63°	71°W
26A	161°	63°E
27A	60°	75°W
28A	161°	61°W
29A	128°	81°E
30A	42°	41°W

Fracture ID	Azimuth	Dip
31A	118°	72°E
32A	165°	62°W
33A	128°	76°E
34A	41°	27°W
35A	107°	73°E
36A	38°	73°E
37A	34°	41°E
38A	40°	67°W
39A	116°	79°E
40A	32°	33°W
41A	133°	48°E
42A	39°	76°E
43A	114°	79°E
44A	59°	72°E
45A	37°	80°E
46A	165°	73°W
47A	125°	53°E
48A	30°	20°E
49A	173°	52°W
50A	47°	7°W
51A	116°	81°E
52A	43°	81°E
53A	133°	51°E
54A	67°	30°W
55A	15°	60°W
56A	132°	49°E
57A	50°	70°E
58A	40°	81°E
59A	134°	82°E
60A	11°	8°E

Note
Azimuth relative True North.

APPENDIX O

ELECTRICAL EARTH RESISTIVITY AND VLF-EM GEOPHYSICAL SURVEY REPORTS

SME
SEVEE & MAHER
ENGINEERS

ELECTRICAL RESISTIVITY AND VLF EM SURVEYS AT THE WEST OLD LANDFILL SITE, OLD TOWN, MAINE

For:

SEVEE & MAHER ENGINEERS

Northeast Geophysical Services
4 Union Street, Suite 3
Bangor, Maine 04401
December, 2004

ELECTRICAL RESISTIVITY AND VLF EM SURVEYS AT THE WEST OLD LANDFILL SITE, OLD TOWN, MAINE

INTRODUCTION

At the request of Sevee & Maher Engineers, Inc. electrical resistivity and VLF EM surveys were completed by Northeast Geophysical Services (NGS) at the West Old Town Landfill site in Old Town, Maine. Three survey lines totaling 6,628 linear feet (2,020 meters) were surveyed using both geophysical methods. Fieldwork was done on October 8th, 19th, 25th-28th and November 10th, 2004 by Rudy Rawcliffe, Mike Scully and John Breedlove of NGS. The results of the surveys will be used to assist in the selection of well drilling locations. This report describes the equipment and methods used and the results of the survey. Vertical profiles that show the modeled 2-D resistivity for each survey line are included with the report.

LOCATION AND SITE CONDITIONS

The three survey lines are located in the wooded area to the north of the West Old Town Landfill in Old Town, Maine and trend generally east to west. Line cutting was done on each line and pin flags were placed at 20-meter intervals. Sevee & Maher engineers later did an elevation survey at selected points on each line.

Line 1 is located roughly 200 to 300 feet north of the northern fence that surrounds the landfill. Line 2 is located about 1,100 feet north of Line 1 and Line 3 is located about 900 feet north of Line 2. Lines 1 and 2 both cross the paved access road. Buried and overhead utility lines located by the access road affected the resistivity and VLF measurements in this immediate area. At the time of the survey the soil was generally moist this benefited the survey because the electrodes made good electrical contact with the ground.

SUMMARY OF RESULTS

The interpreted resistivity data are presented in the appendix as colorized vertical profiles of the modeled resistivity for each of the three survey lines. The lowest resistivities, which are shown in blue, are interpreted to represent saturated clay/silt soils. The highest resistivities, shown in dark red-brown, are interpreted to represent dry soil or bedrock. Intermediate colors (yellows) are interpreted to represent intermediate conditions, i.e. - moist sandy or gravel soils or saturated fractured bedrock.

The VLF survey detected a few generally weak to moderate anomalies along the survey lines. The locations of detected anomalous VLF responses are indicated on the profiles as Vs.

METHODS AND INSTRUMENTATION

Electrical Resistivity

The resistivity data were collected using an ABEM Terrameter SAS 1000 resistivity meter with an ABEM LUND ES464 electrode selector. This is an automated multi-electrode resistivity system. The survey was conducted using the dipole-dipole array. The dipole-dipole

configuration consists of a pair of current electrodes (C1-C2) followed in line by a pair of potential electrodes (P1-P2). Depth of investigation is determined by the spacing width between the electrode pairs with the wider electrode spacing penetrating more deeply into the earth.

VLF EM:

A Geonics EM-16 VLF instrument was used for the survey. This instrument measures the inphase and quadrature components of the electromagnetic field that is produced by VLF transmitters. Readings were taken at 20-meter intervals along the survey lines.

At the West Old Town landfill site the Cutler VLF transmitter station was used for all three VLF survey lines. Cutler is located east of the site at approximately 130^0 from magnetic north. So, in order to receive at least 50% of the Cutler VLF signal a conductor would need to have a strike of between 70^0 and 190^0 from magnetic north. North-northeasterly trending conductors would probably not be detected by this VLF survey

ELECTRICAL RESISTIVITY SURVEY RESULTS

The data were interpreted using the RES2DINV interpretation software written by M.H. Loke. This program creates a 2-dimensional model of the subsurface resistivity based on the apparent resistivities measured at the surface. The effectiveness of the model to match the surface measurements is calculated as a percentage of the root-mean-square (% RMS) difference between the modeled and actual measurements. In general, a RMS value of 10% or less is considered a close match between the model and field measurements. At the West Old Town site the RMS values for the models was generally good, averaging under 6%. The exception was Line 1 East, which had an RMS value of 9.9%.

The interpreted data was then contoured using the Surfer contouring program by Golden Software and presented as colorized vertical sections of apparent resistivity for each line. The colors in these sections depict the modeled resistivity with light orange-red to dark red-brown representing areas of high resistivity (2,000 to >10,000 ohmmeters) and low resistivities (below 200 ohmmeters) shown in blue shades. Resistivities from 200 to 2,000 ohmmeters are represented by white to yellow tones.

The areas of high resistivity (greater than 2,000 ohmmeters) are interpreted to represent dry or gravel soil or massive bedrock. Low resistivities of below 200 ohmmeters are interpreted to represent saturated clayey soils. Areas of intermediate resistivity (200 to 2,000 ohmmeters) are interpreted to represent saturated sandy or gravel soil or saturated fractured bedrock.

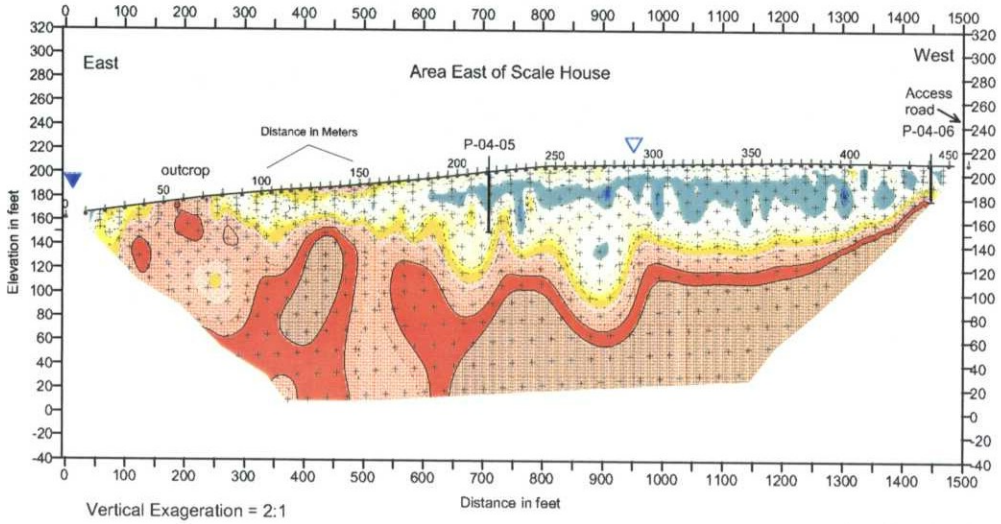
The modeled resistivity profiles generally show a surficial layer of relatively low resistivity (50 to 800 ohmmeters) that is underlain by higher resistivity (1,000 to 10,000 ohmmeters). The boundary between these two layers is characterized by a steep increase in resistivity gradient. This boundary generally occurs at about the 1,000 to 1,500 ohmmeter contour line. The surficial layer is interpreted to represent saturated soil and the deeper layer is interpreted to represent bedrock. Within the higher resistivity layer there are some areas of lower resistivity. These areas may represent bedrock fracture zones.

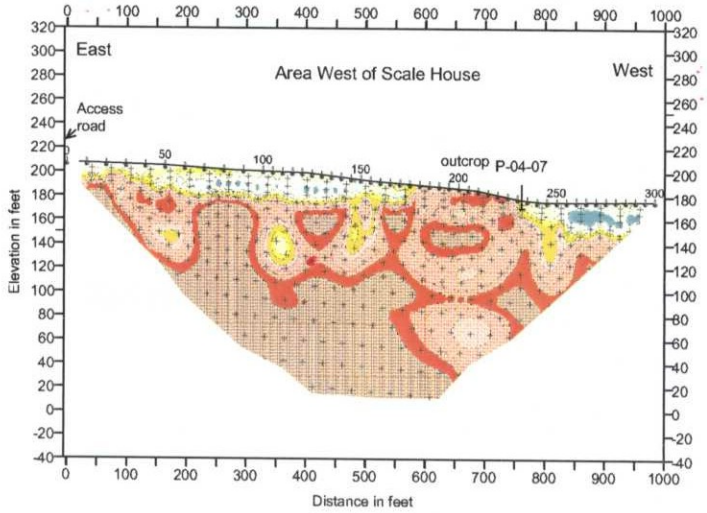
The interpreted resistivity data are presented in the appendix as colorized vertical profiles of the modeled resistivity for each of the three survey lines.

MODELED RESISTIVITY PROFILES

WEST OLD TOWN LANDFILL SITE

RESISTIVITY LINE 1





Looking South

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF-EM Conductors

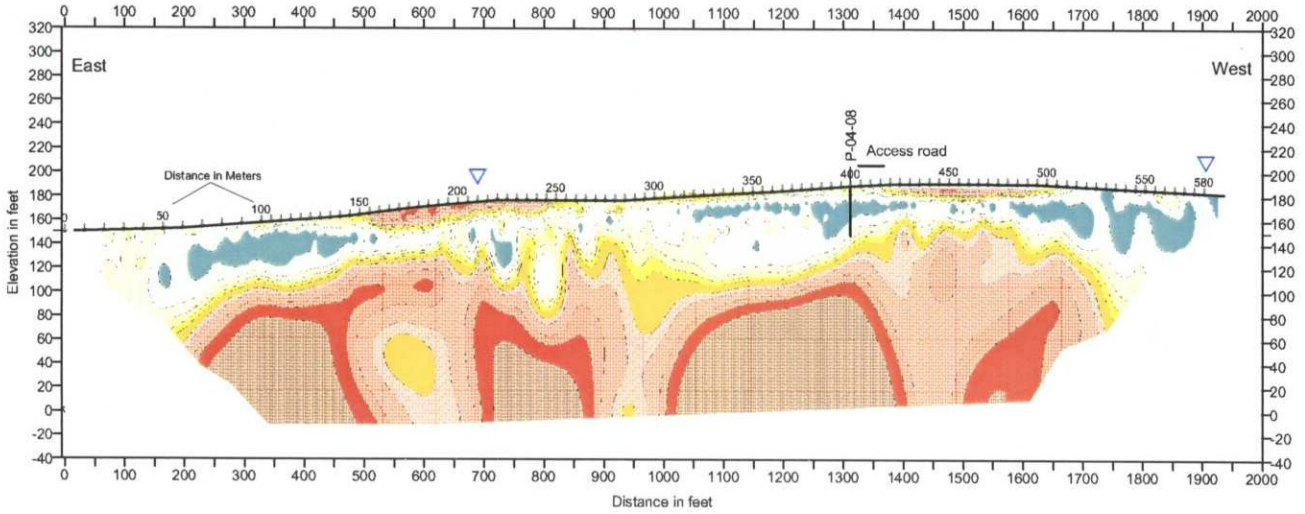
- ▼ **Strong (Fraser >30)**
- ▽ **Moderate (Fraser 20-30)**
- ▽ **Weak (Fraser 10-20)**

Surveyed 10/27/04 by:

Northeast Geophysical Services

WEST OLD TOWN LANDFILL SITE

RESISTIVITY LINE 2



Vertical Exageration = 2:1

Looking South

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF-EM Conductors

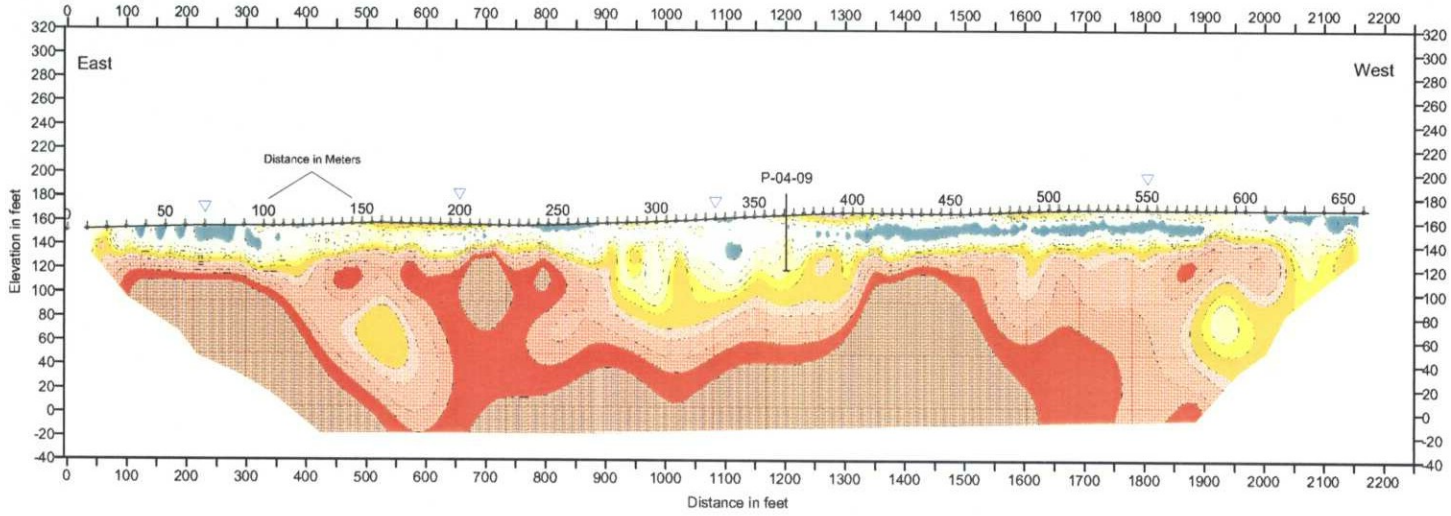
- **Strong (Fraser >30)**
- **Moderate (Fraser 20-30)**
- **Weak (Fraser 10-20)**

Surveyed 10/25/04 by:

Northeast Geophysical Services

WEST OLD TOWN LANDFILL SITE

RESISTIVITY LINE 3



Vertical Exageration = 2:1

Looking South

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF-EM Conductors

- **Strong (Fraser >30)**
- **Moderate (Fraser 20-30)**
- **Weak (Fraser 10-20)**

Surveyed 10/28/04 by:

Northeast Geophysical Services

SECOND ROUND OF ELECTRICAL RESISTIVITY AND VLF EM SURVEYS AT THE JUNIPER RIDGE LANDFILL SITE, OLD TOWN, MAINE

For:

SEVEE & MAHER ENGINEERS

Northeast Geophysical Services
4 Union Street, Suite 3
Bangor, Maine 04401
April, 2009

SECOND ROUND OF ELECTRICAL RESISTIVITY AND VLF EM SURVEYS AT THE JUNIPER RIDGE LANDFILL SITE, OLD TOWN, MAINE

INTRODUCTION

At the request of Sevee & Maher Engineers, Inc. (SME) a second round of electrical resistivity and VLF EM surveys were completed by Northeast Geophysical Services (NGS) at the Juniper Ridge Landfill site in Old Town, Maine. In 2004 three survey lines having a total length of 2,020 meters (6,628 feet) were surveyed using both geophysical methods. The new fieldwork consisted of 8 new survey lines having a total length of 7,900 meters (25,920 feet) as well as 600 meters (1,969 feet) on extensions of two of the 2004 survey lines. The new work was completed during the period from November 23, 2008 to January 23, 2009 by Rudy Rawcliffe, Mike Scully, Chris Dorion and Joshua Rhoades of NGS with the help of Andrew Gobeil of SME. The results of the surveys are being used to assist in the selection of monitoring well drilling locations. This report describes the equipment and methods used and the results of the surveys. A line location map and vertical profiles showing the modeled 2-D resistivity as well as VLF EM anomalies for each survey line are included with the report.

LOCATION AND SITE CONDITIONS

The eight new survey lines are located in wooded areas to the north and east of the existing Juniper Ridge Landfill in Old Town, Maine as shown on Figure 3-1 of SME's report. Two of the lines (Lines 5 and 11) trend generally east - west while six of the lines (Lines 4, 6, 7, 8, 9, & 10) trend generally north - south. Line 4 was originally surveyed November 25, 2008. It began at a dirt access road and went northerly, eventually crossing the paved main site access road. In mid January the line was extended 800 meters to the south at roughly the same bearing. The two line segments (Line 4 and Line 4SE) are shown on separate profiles here so that the plot scales could be kept the same for all of the line profiles. Line clearing was done by NGS on all of the lines and the lines were marked with pin flags at 20-meter intervals. SME personnel later surveyed selected points on most of the lines.

During the field surveys soil conditions were generally moist. This is beneficial to the survey since it helps the electrodes make good electrical contact with the ground. Lines 4, 6, 7, 8, 9 and the extensions of Lines 1 and 2 were completed in November and December before severe winter conditions set in. For these survey days the snow cover was minimal or non-existent and the mean daily temperature averaged 31^0 F. Lines 4SE, 5, 10 and 11 were done in mid to late January when weather conditions had become more severe. For these survey days the snow cover was on the order of two feet deep and the mean daily temperature averaged 10.5^0 F. Despite the snow cover, frost had penetrated up to about 3 inches into the soil. For these later lines the freezing ground conditions may have negatively affected the quality of the resistivity surveys to some extent. This issue is discussed in more detail below.

SUMMARY OF RESULTS

The survey data are presented in the appendix as color-contoured vertical profiles of the modeled resistivity for each of the survey lines. The lowest resistivities, which are shown in blue, are interpreted to represent saturated clayey to silty soils. The highest resistivities, shown in orange to dark red-brown, are interpreted to represent dry soil or massive bedrock. Intermediate colors (white and yellows) are interpreted to represent intermediate conditions, i.e. - moist sandy or gravel soils or saturated fractured bedrock.

The VLF survey detected several anomalies along the survey lines that range in intensity from very weak to strong. The locations and relative strengths of the VLF anomalies are indicated on the profiles as blue inverted triangles as shown in the explanations of the figures.

METHODS AND INSTRUMENTATION

Electrical Resistivity: The resistivity data were collected using an ABEM Terrameter SAS 1000 resistivity meter with an ABEM LUND ES464 electrode selector. This is an automated multi-electrode resistivity system. The surveys were conducted using the dipole-dipole array. The dipole-dipole configuration consists of a pair of current electrodes (C1-C2) followed in line by a pair of potential electrodes (P1-P2). Depth of investigation is determined by the spacing width between the electrode pairs with the wider electrode spacing penetrating more deeply into the earth.

VLF EM: A Geonics EM-16 VLF instrument was used for this survey. This instrument measures the inphase and quadrature components of the electromagnetic field that is produced by VLF transmitters. Readings were taken at 20-meter intervals along the survey lines. At the Juniper Ridge landfill site the Cutler VLF transmitter station was used for all of the VLF survey lines. The strength of VLF response from a geologic conductor such as a bedrock fracture zone is directly related to the angle between the strike of the conductor and the direction to the VLF transmitter. The best case is where the conductor is pointing directly toward the transmitter. Cutler is located east of the site at a bearing of approximately 130^0 from magnetic north. In order to receive at least 50% of the Cutler VLF signal a conductor would need to have a strike of between 70^0 and 190^0 from magnetic north. North-northeasterly (10^0 to 70^0) trending conductors would probably not be detected by this VLF survey.

DISCUSSION OF ELECTRICAL RESISTIVITY SURVEY RESULTS

The data were interpreted using the RES2DINV interpretation software written by M.H. Loke. This program creates a 2-dimensional model of the subsurface resistivity based on the apparent resistivities measured at the surface. The effectiveness of the model to match the surface measurements is calculated as a percentage of the root-mean-square (% RMS) difference between the modeled and actual measurements. In general, a RMS value of 10% or less is considered a close match between the model and field measurements.

At the Juniper Ridge site the RMS values for the models were generally good, averaging approximately 8.5%. Lines 4SE, 5, 10, and 11 had the highest RMS errors at 15.4%, 11.3%, 12.1% and 15.1% respectively. These lines were all conducted in very cold weather conditions with at least some frost in the ground. The extreme weather conditions may have negatively impacted the data quality somewhat on these lines. One way this can happen is, although the electrodes are driven through the frost, they will conduct the cold and eventually freeze the soil around the bottom of the electrodes. This condition will impede the transfer of current from the electrodes to the soil which will result in lower data quality. These RMS values should not be considered unacceptable, but they do tend to reflect that the data was somewhat noisy, likely due to the extreme conditions. It is possible that false anomalies could be created by the modeling software in this situation. In particular the strong low resistivity anomaly that occurs on Line 4SE at about 1,325 feet (-300M) is suspect. This line was conducted on a day when the mean daily temperature was -5^0 F and the model has the highest RMS error of all (15.4%). This portion of the line also occurs close to a metal chain link fence. Also, Line 10, which was done approximately 200 feet to the east of Line 4SE does not show an anomaly in a similar position.

The interpreted data was then contoured using the Surfer contouring program by Golden Software and presented as color-contoured vertical sections of apparent resistivity for each line. The colors on these sections depict the modeled resistivity with light orange-red to dark red-brown representing areas of high resistivity (2,000 to >10,000 ohmmeters) and low resistivities (below 200 ohmmeters) shown in blue shades. Resistivities from 200 to 2,000 ohmmeters are represented by white to yellow tones.

The areas of high resistivity (greater than 2,000 ohmmeters) are interpreted to represent dry sand or gravel soil or massive bedrock. Low resistivities of below 200 ohmmeters are interpreted to represent saturated clayey soils. Areas of intermediate resistivity (200 to 2,000 ohmmeters) are interpreted to represent saturated sandy or gravel soil or saturated fractured bedrock.

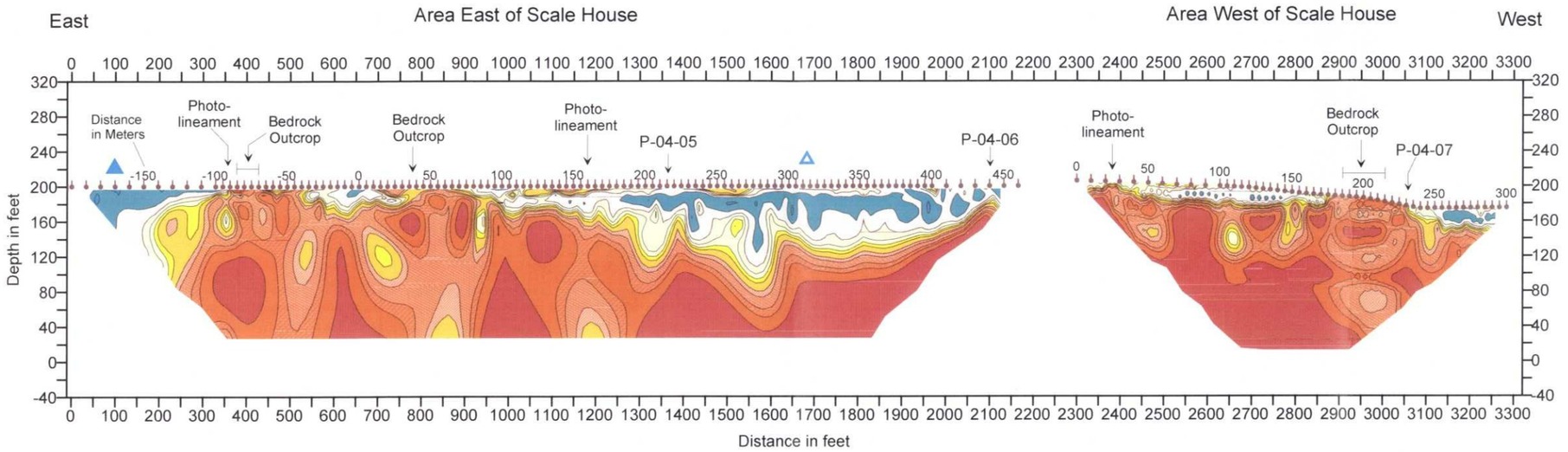
The modeled resistivity profiles generally show a surficial layer of relatively low resistivity (50 to 800 ohmmeters) that is underlain by higher resistivity (1,000 to 10,000 ohmmeters). The boundary between these two layers is characterized by a steep increase in resistivity gradient. This boundary generally occurs at about the 1,000 to 1,500 ohmmeter contour line. The surficial layer is interpreted to represent saturated soil and the deeper layer is interpreted to represent bedrock. Within the higher resistivity layer there are some areas of lower resistivity. These areas may represent saturated bedrock fracture zones or more conductive bedrock types such as graphitic shale. Many of the lines also show a very thin surface veneer of high resistivity which is interpreted to represent dry soil.

The resistivity data are presented in the appendix as color-contoured vertical profiles of the modeled resistivity for each of the survey lines.

MODELED RESISTIVITY PROFILES

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 1



Vertical Exageration = 2:1

Looking South

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

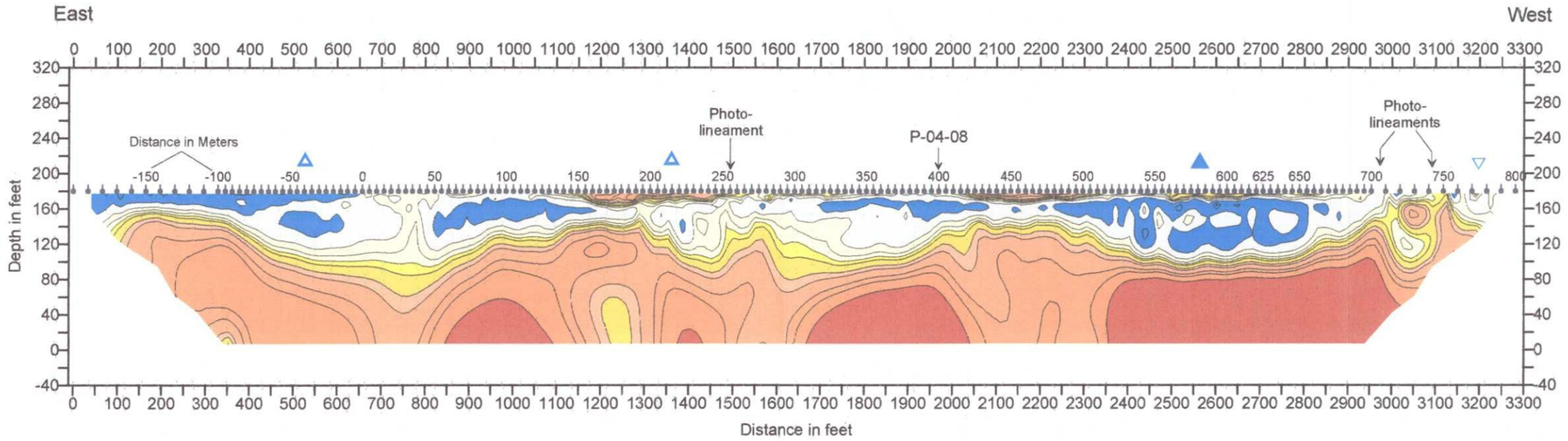
- Weak VLF Conductor
- Moderate VLF Conductor
- Strong VLF Conductor

Surveyed 10/27/04 & 12/04/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

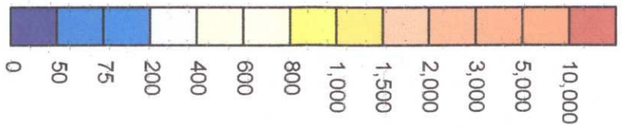
RESISTIVITY LINE 2



Vertical Exageration = 2:1

Looking South

Resistivity in Ohm-Meters



VLF ANOMALIES

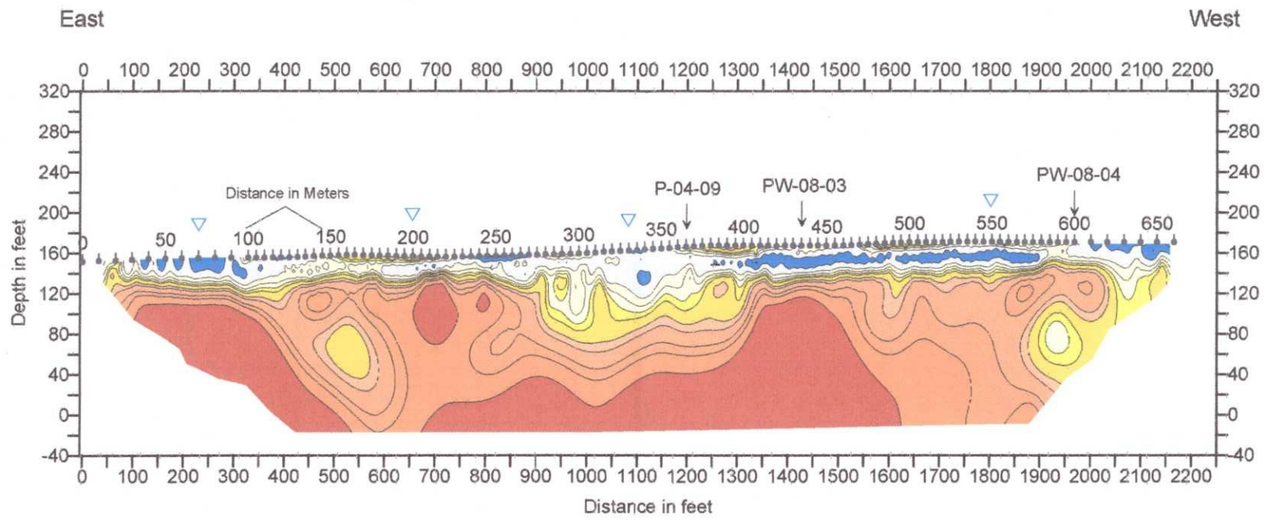
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 10/25/04 & 12/05/08 by:

Northeast Geophysical Services

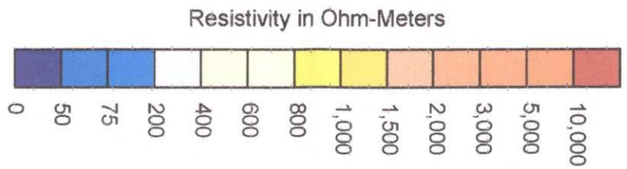
JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 3



Vertical Exageration = 2:1

Looking South



VLF ANOMALIES

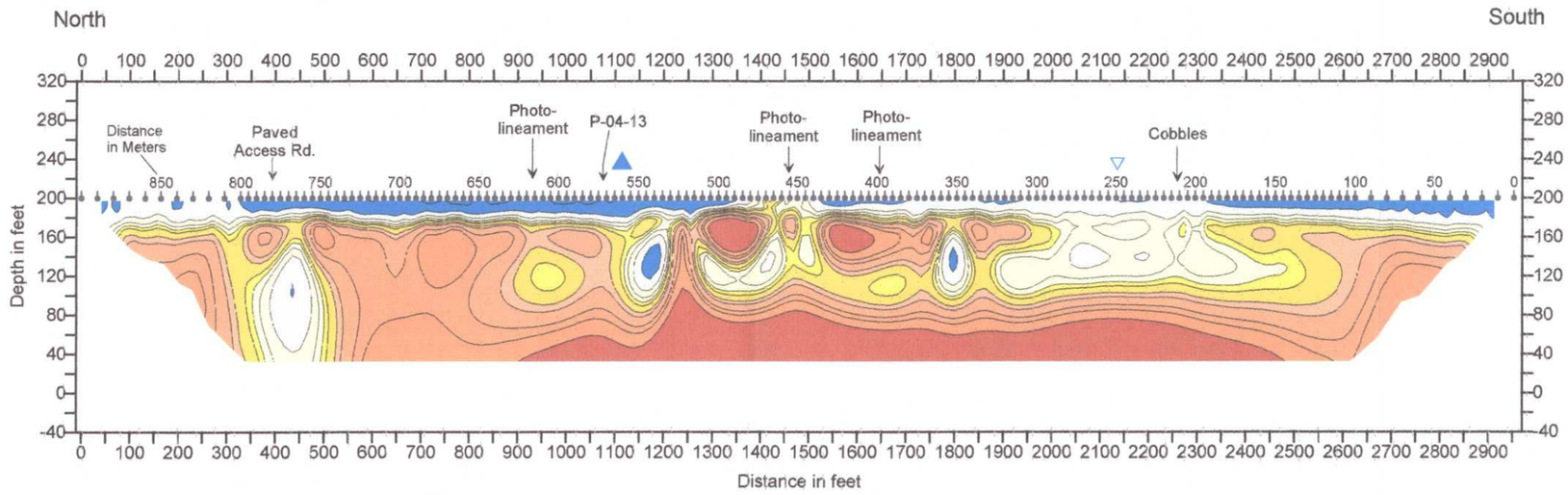
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 10/28/04 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 4



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

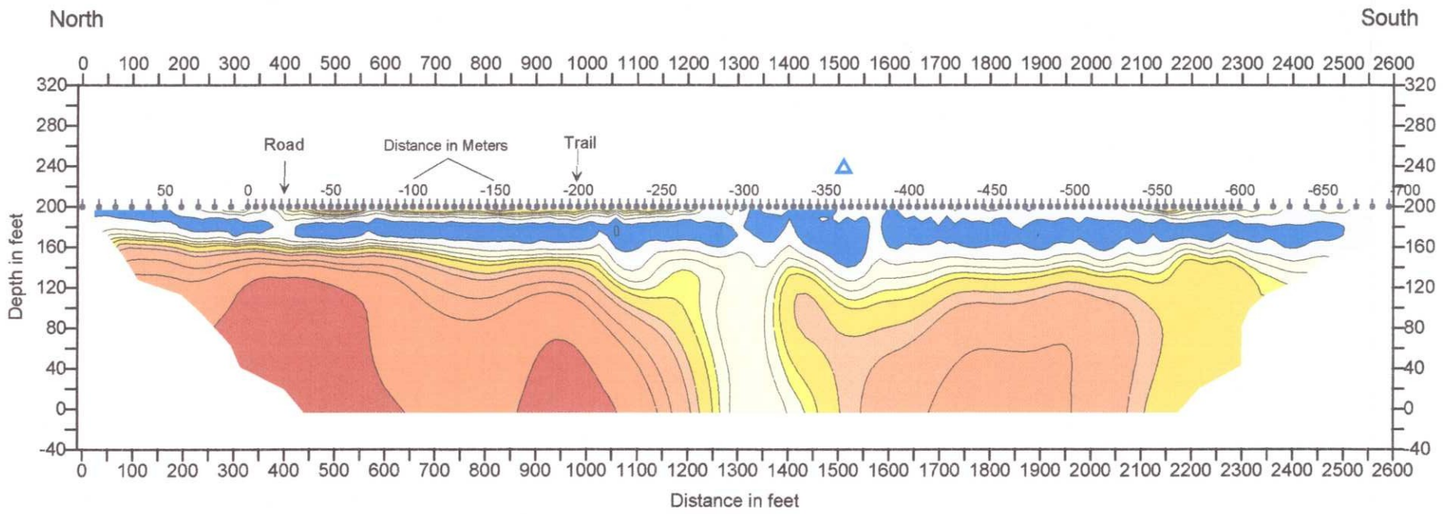
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 11/24/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 4 - SOUTH EXTENSION



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

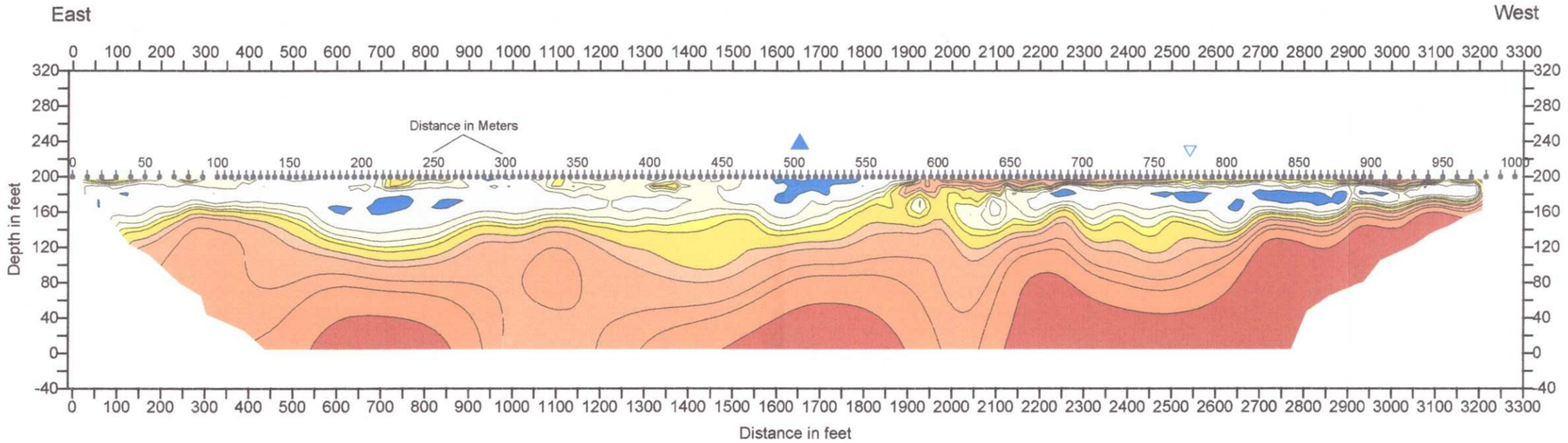
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 1/14/09 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 5



Vertical Exageration = 2:1

Looking South

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

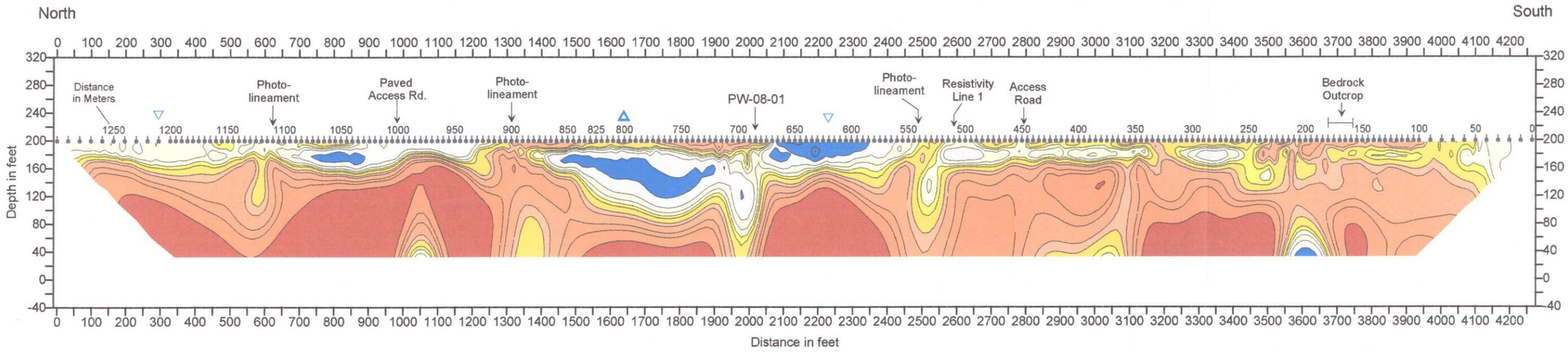
- Weak VLF Conductor
- Moderate VLF Conductor
- Strong VLF Conductor

Surveyed 1/12/09 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 6



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

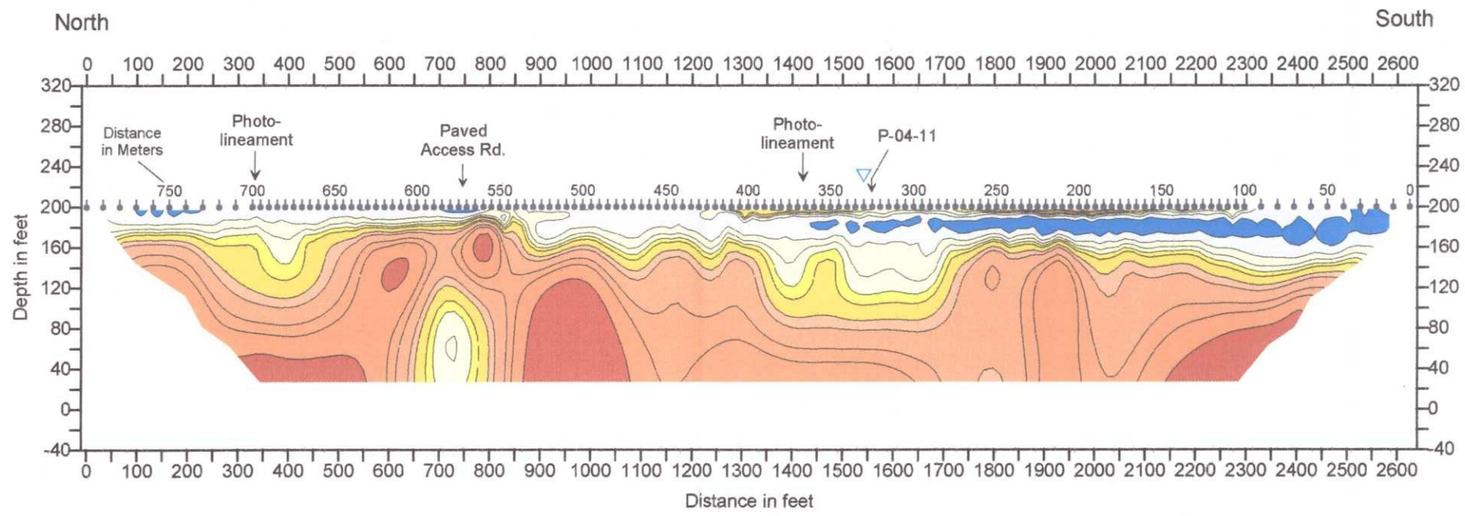
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 11/26/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 7



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

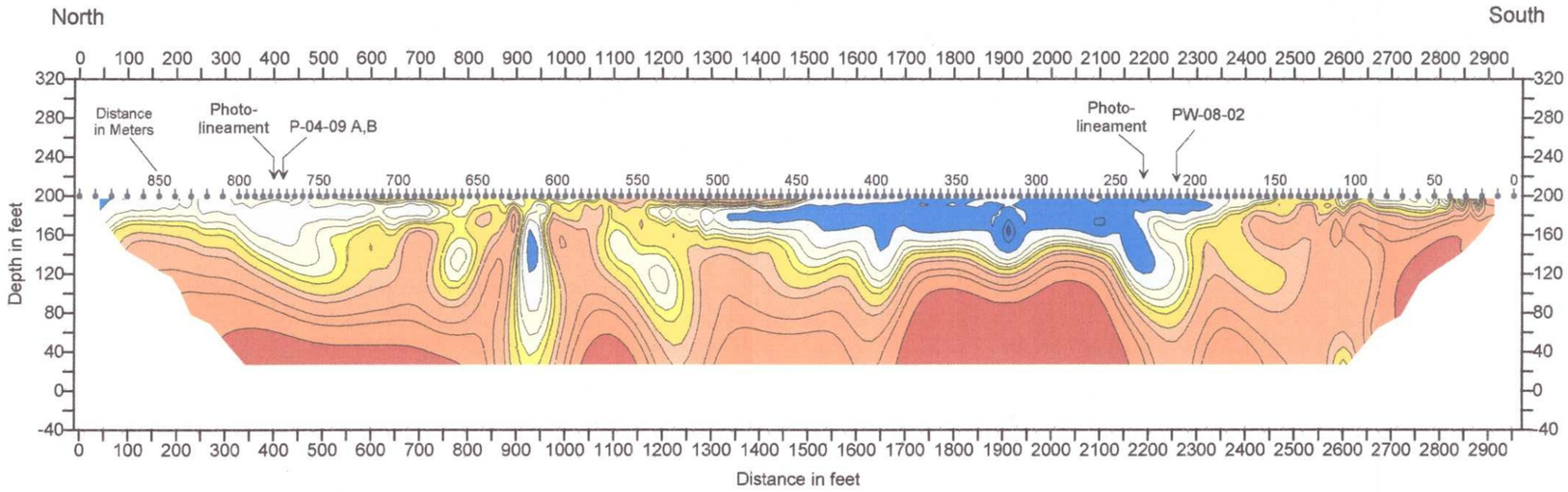
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 12/3/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 8



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

* No VLF done on this line due to proximity to power line.

▽ Weak VLF Conductor

△ Moderate VLF Conductor

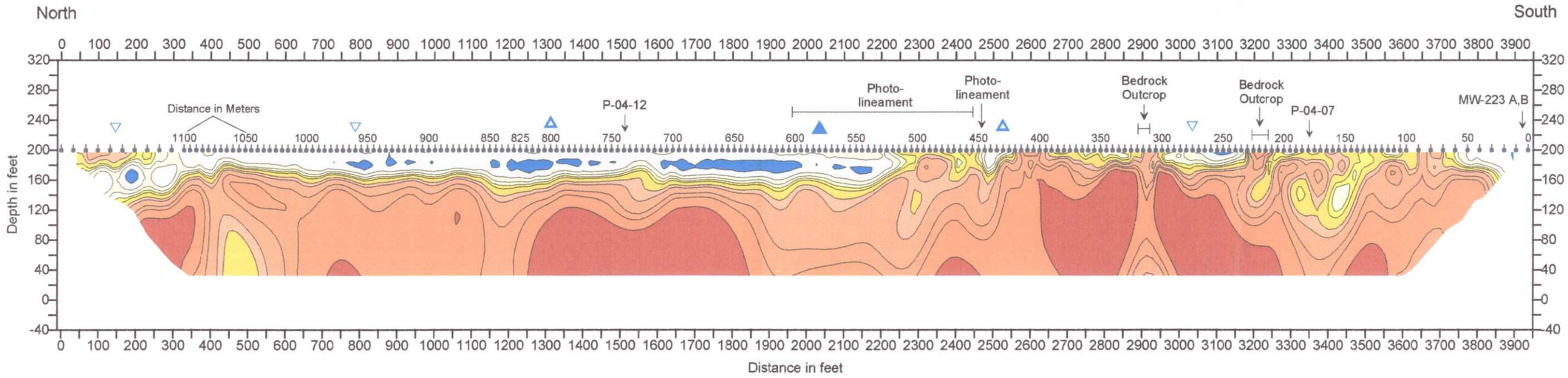
▲ Strong VLF Conductor

Surveyed 12/4/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 9



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

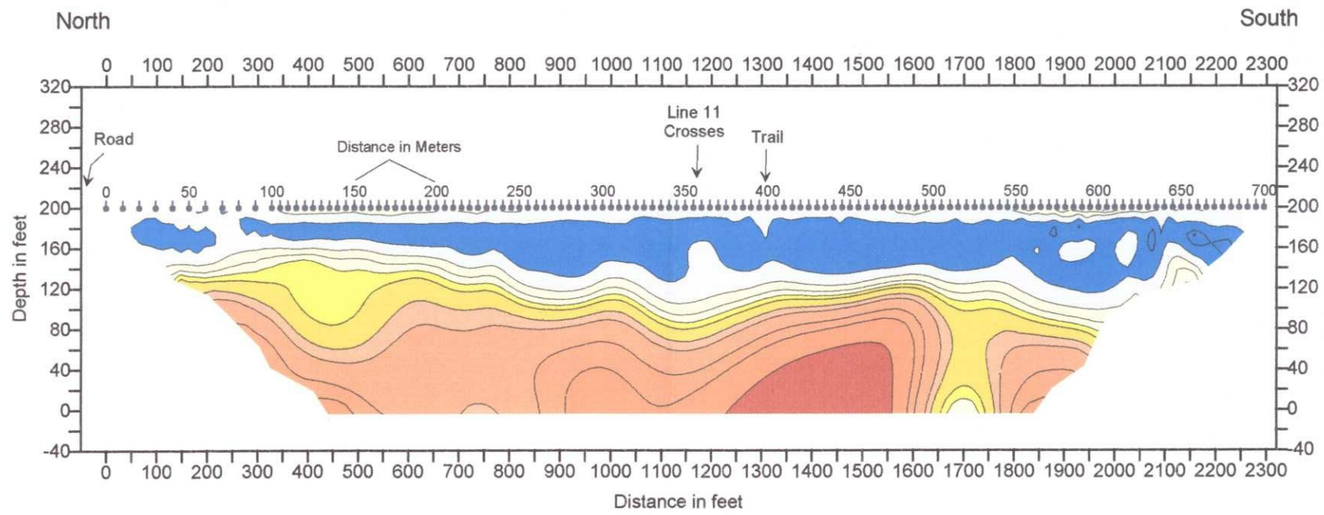
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 11/21/08 by:

Northeast Geophysical Services

JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 10



Vertical Exageration = 2:1

Looking East

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

VLF ANOMALIES

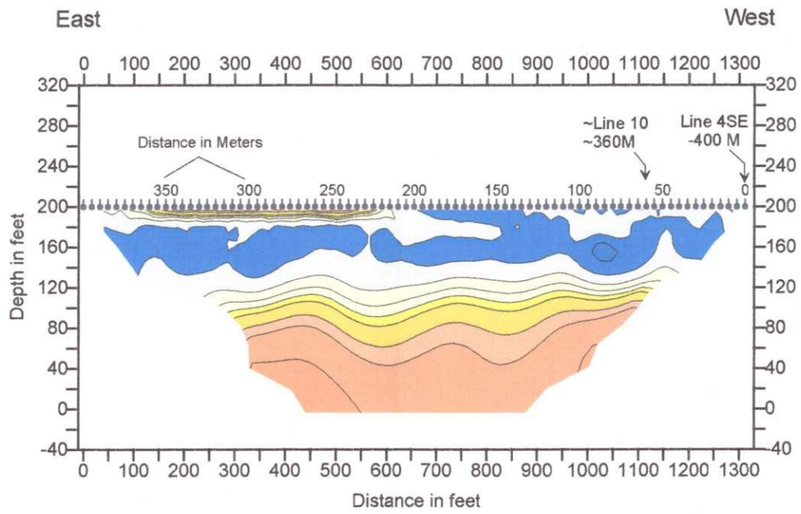
- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 1/14/09 by:

Northeast Geophysical Services

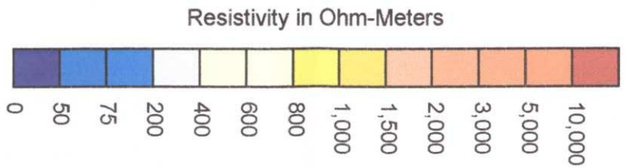
JUNIPER RIDGE LANDFILL SITE

RESISTIVITY LINE 11



Vertical Exageration = 2:1

Looking South



VLF ANOMALIES

- ▽ Weak VLF Conductor
- △ Moderate VLF Conductor
- ▲ Strong VLF Conductor

Surveyed 1/23/09 by:

Northeast Geophysical Services

APPENDIX P

HYDRAULIC ANALYSIS OF DATA FROM LONG-TERM BEDROCK PUMP TEST AT PW-08-01

SME
SEVEE & MAHER
ENGINEERS

HYDRAULIC ANALYSIS OF DATA FROM LONG-TERM BEDROCK PUMP TEST AT PW-08-01

1.0 PURPOSE

Five bedrock groundwater pump tests were conducted at the proposed Expansion between January 29, 2009 and April 6, 2009 to evaluate fracture interconnectivity. One of the tests consisted of a long-term fourteen-day pump test during which PW-08-01 was pumped for the first seven days and both PW-08-01 and PW-08-02 were pumped for the last seven days. The drawdown data was analyzed for aquifer parameters from the first seven days of this test during which only PW-08-01 was pumped. This test was selected since it was a long-term test and affected a broad area of the bedrock. Thus, bulk aquifer parameters could be checked against the slug test data and the MW-06-02 short-term pump test results.

2.0 PUMP TEST DESCRIPTION OF SEVEN-DAY PUMP TEST OF PW-08-01

The pump test started with pumping PW-08-01 beginning at 12:30 PM on March 23, 2009. The pump test period relevant to this discussion ended on March 30, 2009 at 2:15 PM, at which time groundwater was also pumped from PW-08-02. Daily average temperatures during the pump test ranged between 22 and 41 degrees Fahrenheit. The amount of precipitation during the one-week period totaled approximately 0.6 inches. Recharge to groundwater during this pumping test likely occurred due to snowmelt and precipitation.

The pump in PW-08-01 was set at a depth of approximately 186 feet bgs in an open-borehole diameter of about six inches. Groundwater was pumped from PW-08-01 through a 6-inch diameter pipe with a 3-inch orifice plate, and discharged approximately 700 feet away in a downslope and hydraulically downgradient direction. The pumped groundwater discharge from PW-08-01 was directed away from PW-08-02, and the pumped groundwater discharge from

PW-08-02 was directed away from PW-08-01. The pumping rates for PW-08-01 were set to the highest capacity of the pump by leaving the flow valve open. The pumping rate at the beginning of the test was about 200 gpm, but dropped to about 155 gpm on the afternoon of March 30, 2009, due to the increased head as the water level dropped in the borehole. The static depth to groundwater before the pumping test in PW-08-01 was 7.42 feet bgs. The maximum drawdown in PW-08-01 during the first seven days of this pumping test was 120.22 feet.

Groundwater levels were monitored in wells and piezometers using pressure transducers and a manual water level meter. The data is attached to this Appendix in graphical (transducer) and tabular (manual) forms. It should be noted that earth tide variations are seen in some of the time drawdown data. They generally caused a head change of about one-tenth of one foot when the effects were strongest, which occurred during a new moon on March 26, 2009. However, local precipitation records, barometric pressure records, earth tides, barometric efficiencies of the monitoring wells, and onsite pre-pump test groundwater level trends were not used to correct measured drawdowns. Estimates of aquifer parameters were not sought in wells with limited drawdown (i.e., 0.5 foot or less).

3.0 PUMP TEST ANALYSIS

Hydrogeologic parameters were estimated by use of the time versus drawdown data from the bedrock monitoring wells and piezometers during the first seven days of the long-term pump test at pump well PW-08-01. This analysis was done for a representative number of observation wells which included PW-08-02, PW-08-03, PW-08-04, the office supply well (OSW), the scale house supply well (SHSW), P-04-06A, P-04-07B, and MW-223A (well construction specifications for OSW and SHSW are estimated based on available well drilling information). The selection of these monitoring locations was based on the following criteria: (1) the data was collected by a pressure transducer with adequate water level measurement frequencies, (2) the monitoring well or piezometer was screened in bedrock or entirely open to the bedrock, and (3) there was adequate drawdown to stress the bedrock formation.

The bedrock aquifer in the pump test area is generally overlain by relatively low-permeability glacial till. Each of the above-mentioned monitoring locations for which hydrogeologic parameters were analyzed is overlain by the till. Previous field and laboratory testing has shown that the saturated till generally has a lower hydraulic conductivity than the bedrock. Thus, the saturated till acts as a leaky semi-confining layer overlying the bedrock. This results in a delayed source of recharge to the bedrock from the till after a sufficient period of pumping groundwater from the bedrock.

The till groundwater monitoring locations with substantial drawdown were generally in monitoring wells and piezometers that are screened just above the bedrock surface. The presence of groundwater level drawdowns in the till is evidence of groundwater draining from the till into the bedrock during the pump tests. Little or no groundwater level influence in the till near the groundwater table surface was observed. This was due in part to the limited amount of till recharge due to its relatively low hydraulic conductivity, as well as precipitation events and melting of the snow pack during the pump test, maintaining the water table. The till drainage is temporary unless recharged by precipitation.

The method used for analysis of transmissivity and storativity of the bedrock was that of Hantush and Jacob, 1955 for confined aquifers with leaky aquitards (semi-confining layers) with no storage from the aquitard. This method has the further benefit of estimating both the hydrogeologic parameters of the bedrock, as well as the till leakage. The estimated bedrock aquifer transmissivity values calculated at the specified locations range from 0.49 to 6.0 cm^2/sec, with a geometric mean of 3.0 cm^2/sec. The estimated bedrock aquifer storativity values range from 0.000052 to 0.00022, with a geometric mean of 0.0001. The fact that these values are generally consistent on a site-wide scale supports the concept of treating bedrock fractures as well interconnected. The analyses are attached to this Appendix.

The transmissivities estimated from the MW-06-02 test ranged from 0.08 to 0.36 cm^2/sec. However, the MW-06-02 well only penetrated the upper 20 feet of bedrock, whereas PW-08-01 penetrated about 200 feet of bedrock. Thus, the bedrock contribution was about ten times greater for the deeper wells due to the penetration depth, which suggests transmissivities should be about ten times greater, assuming the same average hydraulic conductivity. Also, PW-08-01 was positioned in permeable rock based on the earth resistivity survey which may also be part of the reason the transmissivities are greater. The storativity for the MW-06-02 pump test ranged from 0.0001 to 0.0008, again generally consistent with the PW-08-01 long-term test estimate.

Based on the delayed recharge response from the overlying till, the distance of each monitoring location from the pumping well, and the estimated saturated till thickness near the end of the pump test, the hydraulic conductivity of the till confining layer was calculated for each of the specified locations (Hantush and Jacob, 1955). The calculated hydraulic conductivities of the till through this analysis ranged from $1.0x10^{-7}$ to $3.0x10^{-6}$ cm/sec, with a geometric mean of $7.3x10^{-7}$ cm/sec. The geometric mean vertical hydraulic conductivity from the laboratory undisturbed test samples was $1.5x10^{-7}$ cm/sec, with a range from $2.4x10^{-8}$ to $1.8x10^{-6}$ cm/sec (see Section 3.3.4). Although the values are different, the order of magnitude is similar. Furthermore, the assumptions of the Hantush and Jacob analytical method (such as full penetration and no aquitard storage) are not met, which can lead to greater transmissivity estimate.

As a supplemental check on bedrock transmissivity anisotropy, the method of Papadopoulos (1965) was used to analyze a random selection of nine wells for the first seven days of PW-08-01 pumping during the long-term pump test (the data used was collected before PW-08-02 started pumping). This analysis showed anisotropic effects that favored a greater transmissivity to the northeast/southwest direction. However, two of the seven various well combinations showed anisotropic effects favoring a greater transmissivity to the northwest/southeast. This is due to the bedrock heterogeneity and its discrete fractured nature. However, when all seven sets of analyses were averaged, the maximum principal hydraulic conductivity was oriented on an azimuth of N36E relative to True North. The average maximum principal transmissivity was

calculated at 54 cm^2/sec to the northeast/southwest. The minimum principal transmissivity was calculated at 16 cm^2/sec and is oriented perpendicular to the maximum value. Thus, the anisotropy ratio for the PW-08-01 long-term pump test was about 3.4 to 1. The calculations are attached to this Appendix. Care should be exercised in directly applying these transmissivity values since they are over-estimated due to the recharge from the till and deeper bedrock that was occurring during the test. The conditions violate basic assumptions of the Papadopoulos method. Alternately, the calculated transmissivities may be greater than the average bedrock transmissivity since PW-08-01 was positioned in lower resistivity rock, suggesting a greater local fracture density. Since the early-time data was used for calculations, the transmissivities may represent conditions very local to the borehole. Local conditions to the well may be more permeable than the average bedrock condition. Certainly this is supported by the resistivity data and comparison of the PW-08-03 test results with the other three deep borehole tests. In any case, the analysis is useful in that it supplements the MW-06-02 analysis and confirms the hydraulic conductivity anisotropy in the bedrock over a Site-wide scale. We believe that even though this method over-estimates the transmissivity, the ratio of the two principal transmissivities is useful in supplementing the MW-06-02 ratio value. The lower calculated anisotropy ratio from the long-term PW-08-01 pump test may suggest that the localized MW-06-02 anisotropy ratio calculated may be too high for the overall Site.

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PUMP TEST WORK PLAN

DATA COMPILATION AND UPDATED WORK PLAN FOR INVESTIGATION OF THE BEDROCK UNDERLYING THE PROPOSED EXPANSION OF THEJUNIPER RIDGE LANDFILL SITE OLD TOWN, MAINE

1.0 BACKGROUND

The Work Plan submitted to MEDEP November 2008 outlined an investigatory program to address the questions raised in MEDEP's October 15, 2008 memorandum. The work plan included proposed surface geophysics, drilling and borehole geophysics tasks that have now been completed and are reported/ compiled in this document. The purpose of this document is to transmit the data from that bedrock characterization and to refine the pump testing to evaluate bedrock fracture interconnectedness. Figures 1 and 2 show the location of the nine geophysical survey lines, four deep bedrock wells and bedrock strikes from borehole geophysics. The following sections summarize the approach of the various investigations, methodologies, and a schedule for completing the pump testing phase of work.

2.0 GEOPHYSICAL INVESTIGATION

Figure 1 and 2 illustrate the earth electrical resistivity transect results completed throughout the proposed landfill expansion. Figure 1 shows the resistivity profiles in a general north – south orientation. Figure 2 shows the resistivity profiles oriented in a general east-west orientation. Collectively, the geophysical transects are approximately perpendicular to one another, a pattern that should help compensate if some of the transects are parallel to bedrock features or other extraneous conductive interferences.

The geophysical resistivity lines were supplemented with VLF-EM to aid in picking up electromagnetic anomalies as was done during the 2004 geophysical survey. The geophysical surveys were performed by Northeast Geophysical Services of Bangor, Maine. The data from the surficial geophysical survey is presented as a two-dimensional vertical profile of the modeled

resistivities along each transect. As a result of the resistivity and from discussions with MEDEP, SME selected four bedrock drilling sites, two in low resistance zones within the proposed expansion footprint, and one zone north of the proposed expansion in the direction of potential receptors. The fourth location drilled was also in the north area of the expansion, but was selected from a high resistance location to further confirm the resistivity profile interpretations. The resistivity profiles are in Attachment A.

3.0 DRILLING AND BOREHOLE GEOPHYSICAL LOGGING

Four boreholes PW-08-01 through PW-08-04 were drilled from December 30, 2008 to January 9, 2009. The drilling was performed by Goodwin Well and Water of Turner, Maine and overseen by a SME Maine Certified Geologist (CG). The open borehole wells were advanced into stable bedrock using mud rotary (8-$^3/_4$ –inch diameter roller bit). Six-inch OD steel casing was set into bedrock and the boring was advanced an additional 200 feet into the bedrock using the six-inch air hammer technique. The steel casing was set a minimal amount into the bedrock so as to isolate and stabilize the overburden from erosion, but without isolating upper bedrock fractures from the open borehole so that shallow structures could be logged by the downhole geophysical methods. SME drilling logs and Goodwin Well and Water drilling logs are included in Attachment B

Borehole geophysical logging was done by the same methods found to be successful at MW-06-02. Again, the geophysics was performed by NEG using a suite of borehole geophysical methods including, calipers, fluid conductivity (resistivity), single-point resistance, spontaneous potential, fluid temperature, optical televiewer, and flowmeter. The optical televiewer logs were utilized to calculate fracture and structural strikes and dips of features observed along the borehole. Rose diagrams of the bedrock strikes were measured from the borehole geophysics. The cumulative fracture strikes for each borehole are shown on Figures 1 and 2 to assist in evaluating the common fracture orientations.

Borehole geophysical logs are included in Attachment C including:

- Composite logs of calipers, flow meter, fluid conductivity (resistivity), single-point resistance, spontaneous potential, fluid temperature and strike and dip results,
- Optical Televiewer Logs including calipers, flow meter, structure interpretation, and optical image results.
- Strike and Dip Rose Diagrams of all features, and
- Dip Amount and Dip Azimuth of planar features.

4.0 PROPOSED BOREHOLE PUMPING TESTS

A water pump will be placed just above the deepest fracture in each well. Each well will be pumped to induce the maximum drawdown without dewatering the well for a minimum of 24 hours. During the pump test, existing bedrock wells and piezometers that are located within 1,500 feet of the pumping well will be monitored for drawdowns (see 1,500 foot diameter circles in Figure 3). Proposed pumping and monitoring locations in bedrock and overburden wells and piezometers are shown on Figure 3. Water level drawdown data from the pumping well and the existing bedrock wells and piezometers will be measured utilizing downhole pressure transducers. Periodic manual water level measurements will be made to confirm the electronic transducers set in bedrock wells. At the end of the 24-hour pumping period, the water levels will be allowed to recover for a period equal to the period of pumping. The groundwater level recovery period will also be recorded by the transducers. Since the pump test is only over a period of about one day, background data in terms of ambient groundwater level trends is not considered necessary. However, atmospheric barometric pressure will be measured during the pump test(s). Pump flow rates will be measured by an orifice weir discharging a minimum of 300 feet from the well in a downgradient direction.

The pump testing will be performed with assistance from Goodwin Well Drilling, Inc. The groundwater level drawdowns will be presented on drawdown versus time graphs for all

monitored well locations. The purpose of these pump tests are to examine hydraulic fracture interconnectedness; therefore, transmissivities and storage coefficients will not be calculated. Fracture interconnectedness will be based on the presence of measurable groundwater level drawdowns.

5.0 SCHEDULE

This pumping test work will begin is currently planned to begin January 26, 2009. Once the pump testing is complete, the information will be supplied to MEDEP.

FIGURES

LINE 1
LINE 2
LINE 3
LINE 4
LINE 5
LINE 6
LINE 7
LINE 8
LINE 9
LINE 10
LINE 11
Paved Access Rd.
Distance in Meters
OC-AG
OC-1
OC-2
OC-3
OC-4
P-04-13
P-04-12A
P-04-12B
P-04-14A
P-04-14B
P-06-04A
P-08-09A
P-06-03
P-08-01
P-08-06
P-04-10A
P-04-10B
P-04-11A
P-04-11B
P-08-02
P-04-09A
P-04-09B
P-08-03
P-04-08A
P-04-08B
P-04-06A
P-04-06B
P-08-02
P-08-04A
P-08-04B
P-08-04
P-08-05
P-08-07
P-08-08
P-04-05A
P-04-05B
P-225
P-228
P-230
P-229
P-222A
P-222B
P-223A
P-223B
P-215A
P-215B
P-205B
P-205A
P-226B
P-226A
P-504A
P-504B
P-504C
P-503A
P-503B
P-502A
P-502B
P-501A
P-501B
P-501C
P-211A
P-211B
P-210
P-214A
P-214B
P-214C
P-218A
P-218B
P-203A
P-203B
P-201A
P-201B
P-201C
P-202A
P-202B
P-209A
P-209B
P-209C
P-220A
P-220B
MW-206A
MW-303
MW-207
MW-304A
MW-302
MW-302R
MW-04-106
MW-04-103B
MW-04-104
MW-04-105
MW-04-101
MW-04-102
MW-04-110
MW-216B
MW-216R
MW-04-109R
MW-401A
MW-401B
MW-204
MW-301
MW-227
MW-402B
MW-402A
OW-06-05
OW-06-09
OW-06-08
OW-06-10
MW-04-111
MW-05-05
MW-06-02
MW-05-04
MW-05-03
MW-05-02
MW-05-01
B-08-01
XXXXX
XXXXXX
XXXXXXX
XXXX
XXX
XX
X

ROSE DIAGRAM FROM BORE HOLE GEOPHYSICS SHOW STRIKE OF ALL FEATURES (TYP)

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

150 0 300 600 FEET

LEGEND

- PROPERTY LINE
- BEDDING AND FOLIATE (———) AND FRACTURE (– – –) ORIENTATIONS MEASURED AT OUTCROPS; DIPS SHOWN IN PARENTHESIS (LOCATION APPROXIMATE)
- BEDROCK OUTCROPS
- STRONG VLF CONDUCTOR
- MODERATE VLF CONDUCTOR
- WEAK VLF CONDUCTOR
- GEOPHYSICAL SURVEY LINE
- —E— UNDERGROUND ELECTRIC AND COMMUNICATIONS (OUT OF SERVICE)
- STRIKE OF ALL FEATURES. ORIENTATION MEASURE BY OPTICAL LOGGER DURING BOREHOLE GEOPHYSIC LOGGING
- PHOTO LINEAR LINE

DWG: FIGURES LMN: FIG 2-1-NS CTB: RESISTIVITY REV: 5/21/15

FIGURE 1
RESULTS OF RESISTIVITY AND VLF SURVEY
NORTH-SOUTH
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

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LINE 4
LINE 5
LINE 6
LINE 7
LINE 8
LINE 9
LINE 10
LINE 11
LINE 1
LINE 2
LINE 3
OC-AG
OC-1
OC-2
OC-3
PW-08-01
PW-08-02
PW-08-03
PW-08-04
MW-06-01
MW-213
MW-206A
MW-303
MW-304A
MW-212
MW-207
MW-302R
MW-302
MW-04-106
MW-04-110
MW-216B
MW-216BR
MW-04-109R
MW-04-103B
MW-04-104
MW-04-105
MW-223A
MW-223B
MW-227
MW-204
MW-301
MW-401A
MW-401B
MW-402B
MW-402A
P-04-13A
P-04-13B
P-04-13C
P-04-14A
P-04-14B
P-04-10A
P-04-10B
P-04-11A
P-04-11B
P-04-09A
P-04-09B
P-04-06A
P-04-06B
P-04-12A
P-04-12B
P-04-12C
P-08-10A
P-08-09A
P-06-04A
P-06-03
P-08-06
P-08-07
P-08-04A
P-08-04B
P-04-01
P-04-02
P-04-04
P-04-07
P-226B
P-226A
P-504A
P-504B
P-504C
P-503A
P-503B
P-501A
P-501B
P-501C
P-228
P-230
P-215A
P-215B
P-205B
P-205A
P-229
P-222A
P-222B
P-203B
P-203A
P-218A
P-218B
P-211A
P-211B
P-210
P-214A
P-214B
P-214C
P-201A
P-201B
P-201C
P-209A
P-209B
P-209C
P-202A
P-202B
P-220A
P-220B
B-08-08
B-08-02
B-08-01
B-04-05
B-05-05
OW-06-07
OW-06-08
MW-04-111
MW-05-05
MW-04-102
MW-04-103
MW-04-107
MW-04-108
MW-04-101
XXXXXX
XXXXX
XXXX
XXX

Resistivity in Ohm-Meters

0 50 75 200 400 600 800 1,000 1,500 2,000 3,000 5,000 10,000

150 0 300 600 FEET

LEGEND

- PROPERTY LINE
- BEDDING AND FOLIATE (———) AND FRACTURE (— — —) ORIENTATIONS MEASURED AT OUTCROPS; DIPS SHOWN IN PARENTHESIS (LOCATION APPROXIMATE)
- BEDROCK OUTCROPS
- STRONG VLF CONDUCTOR
- MODERATE VLF CONDUCTOR
- WEAK VLF CONDUCTOR
- GEOPHYSICAL SURVEY LINE
- UE — UNDERGROUND ELECTRIC AND COMMUNICATIONS (OUT OF SERVICE)
- STRIKE OF ALL FEATURES. ORIENTATION MEASURE BY OPTICAL LOGGER DURING BOREHOLE GEOPHYSIC LOGGING
- PHOTO LINEAR LINE

DWG: FIGURES LMN: FIG 2-2 EW CTB: RESISTIVITY REV: 5/21/15

FIGURE 2
RESULTS OF RESITIVITY AND VLF SURVEY
EAST-WEST
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

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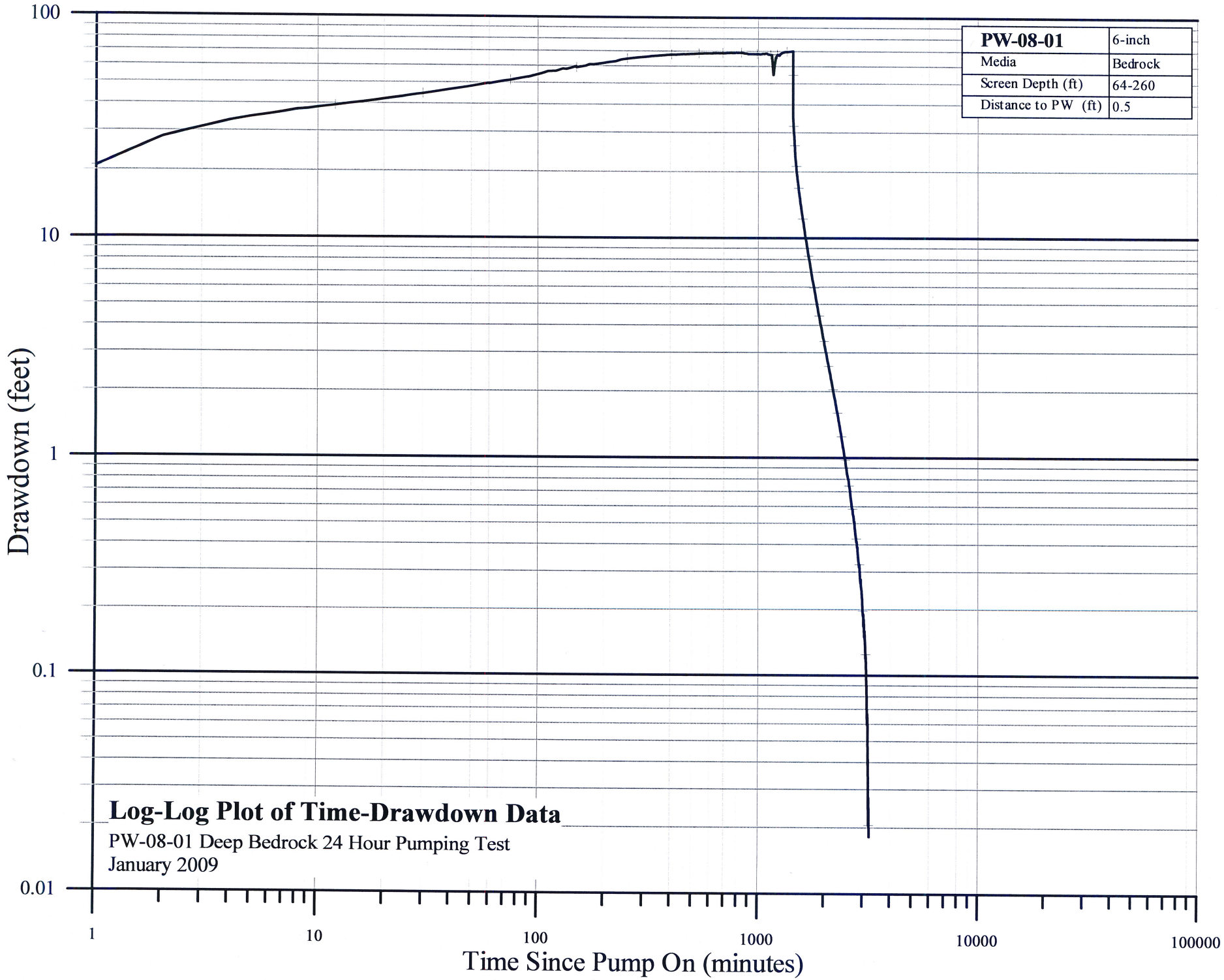
1500 FOOT RADIUS AROUND PUMPING WELLS FOR WATER LEVEL MONITORING

LANDFILL EXPANSION BOUNDARY

P-04-13A P-04-13B P-04-13C
P-04-14A P-04-14B
P-04-10A P-04-10B
P-04-11A P-04-11B
P-04-09B P-04-09A
P-04-08A P-04-08B
P-04-06A P-04-06B
P-04-12A P-04-12B P-04-12C
P-04-07A P-04-07B P-04-07C
P-08-03A P-08-03B
P-08-01 P-08-06
P-08-02
P-08-07
P-08-04
P-04-05A P-04-05B
P-06-04A P-06-04B
P-08-09A
P-08-10A
P-04-01 P-04-02 P-04-03 P-04-04
P-04-101 P-04-102
P-04-103B P-04-104 P-04-105
P-04-110 P-04-109R
P-04-106
P-04-02
P-04-03
P-04-04
P-04-01
P-04-101
P-04-102
P-04-103B
P-04-104
P-04-105
P-04-110

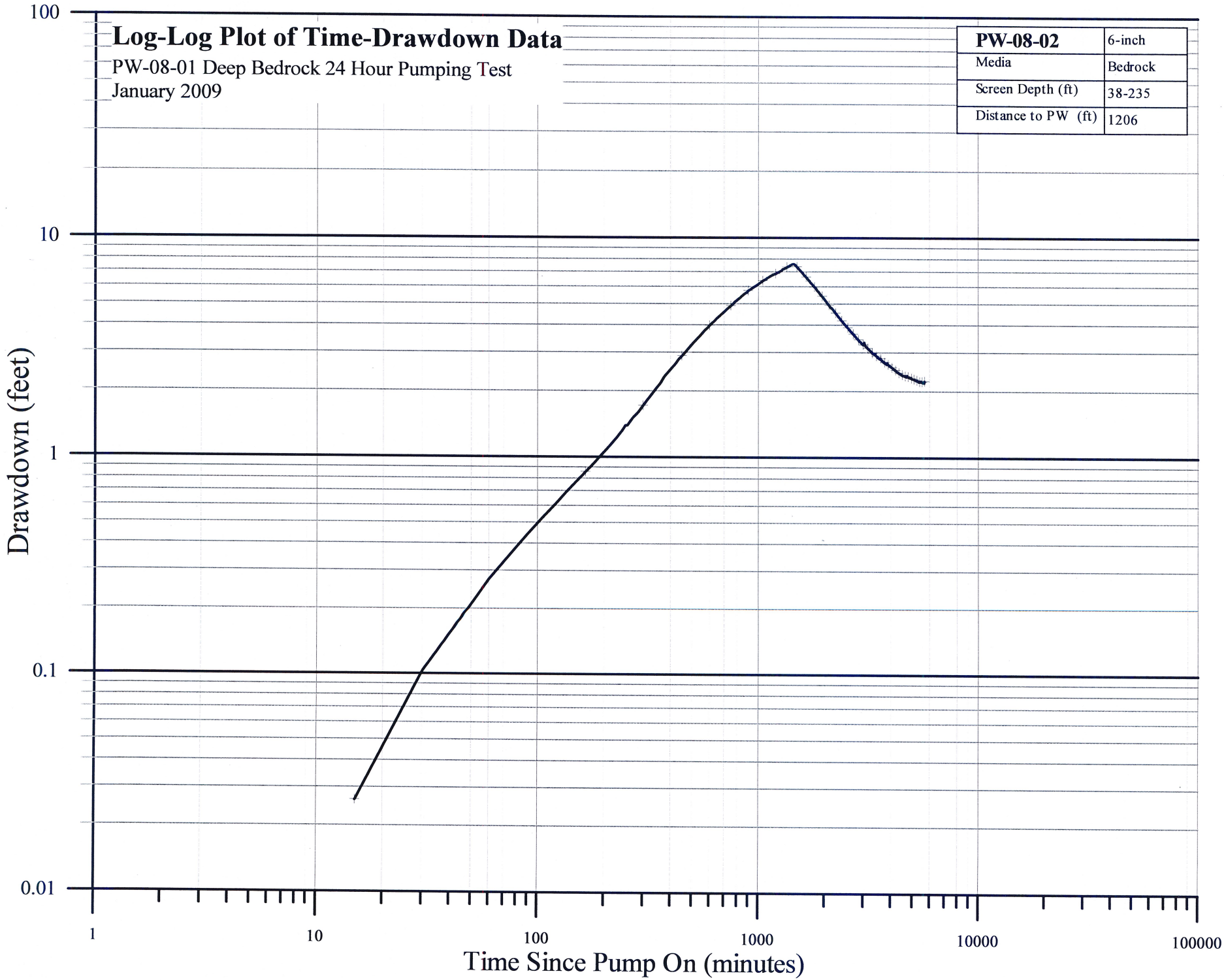
TRANSDUCER DRAWDOWN PLOTS

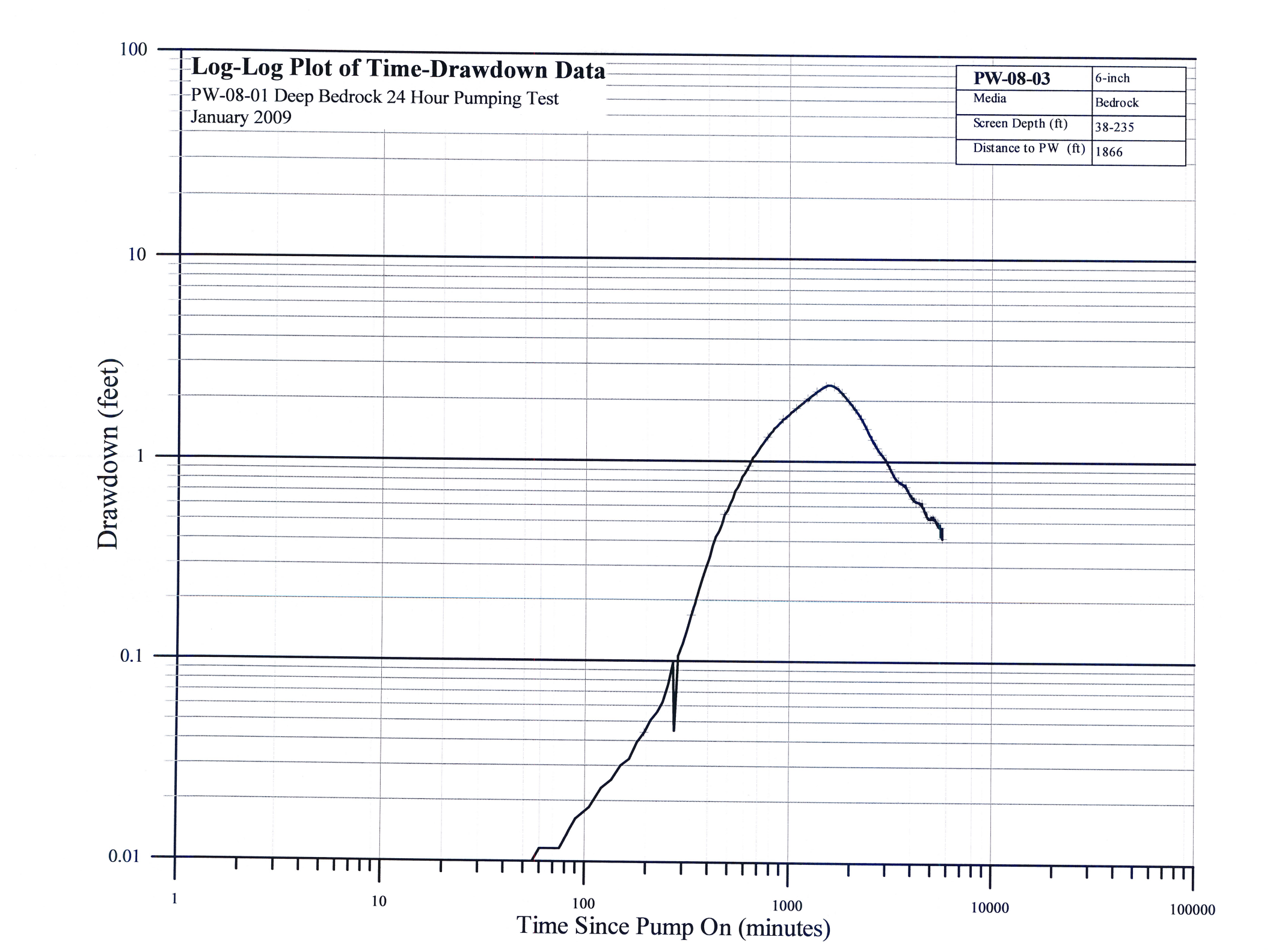

PW-08-01 | 6-inch
Media | Bedrock
Screen Depth (ft) | 64-260
Distance to PW (ft) | 0.5
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)
Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

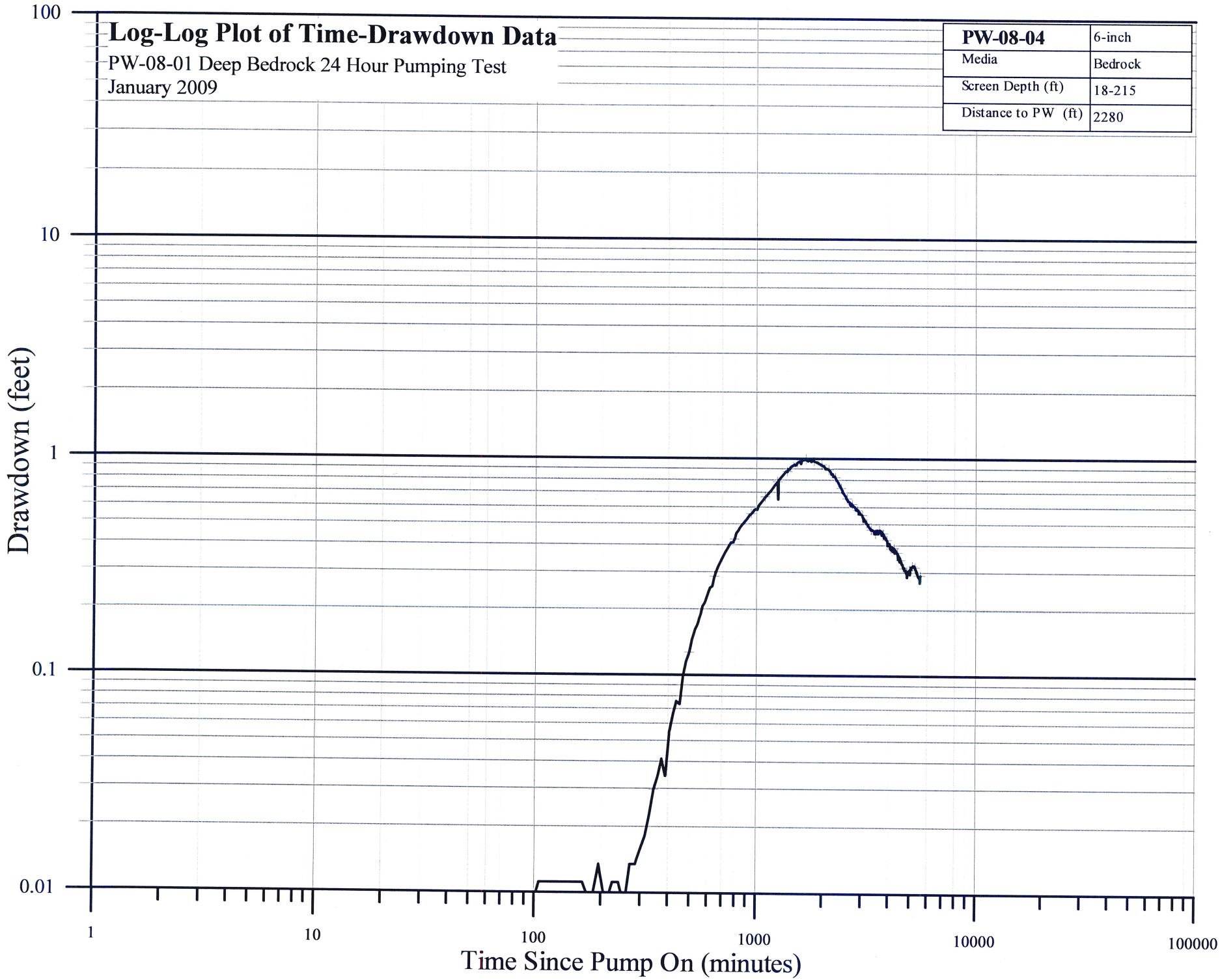
Log-Log Plot of Time-Drawdown Data

PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

PW-08-02	6-inch
Media	Bedrock
Screen Depth (ft)	38-235
Distance to PW (ft)	1206



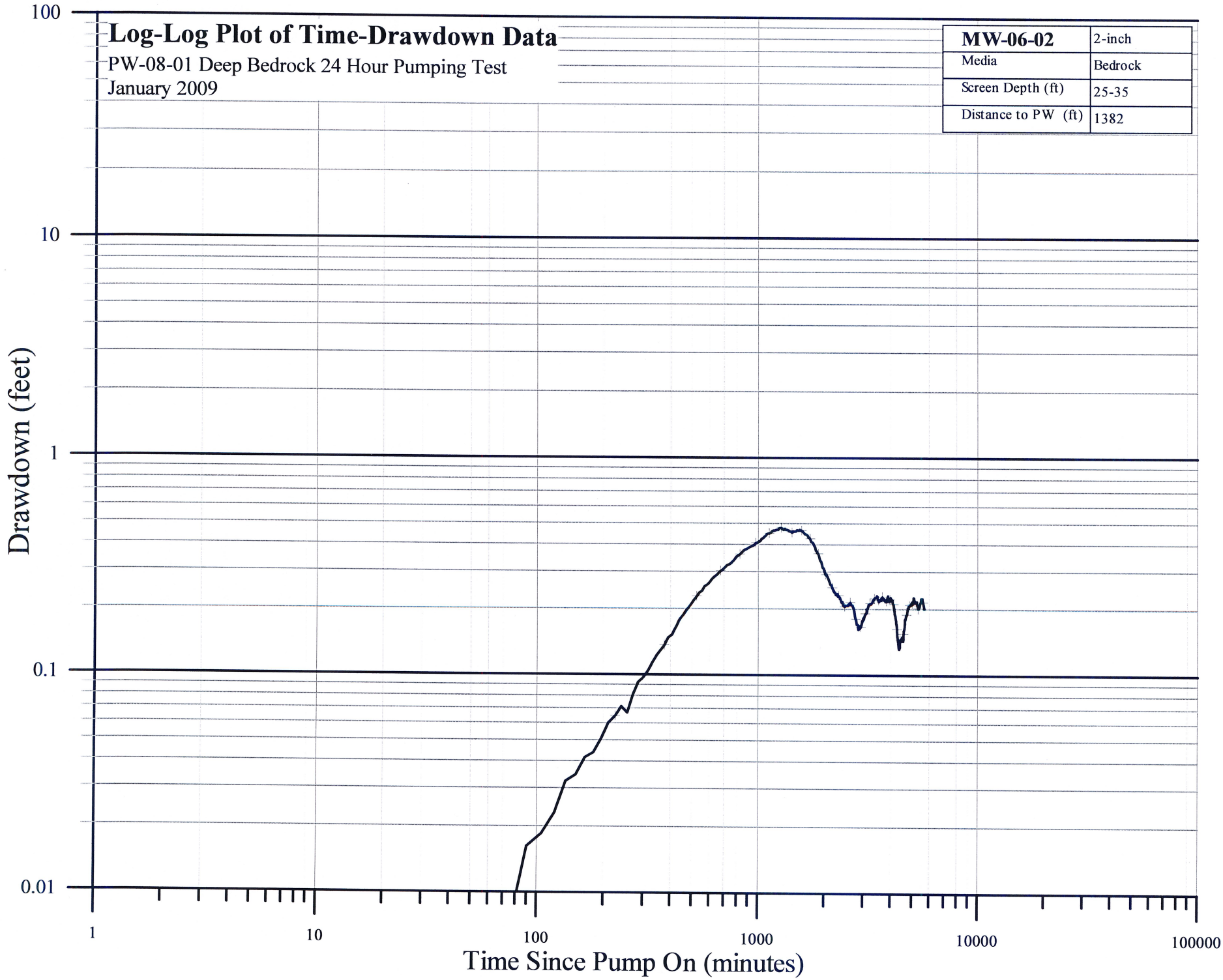

Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
PW-08-03 | 6-inch
Media | Bedrock
Screen Depth (ft) | 38-235
Distance to PW (ft) | 1866
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

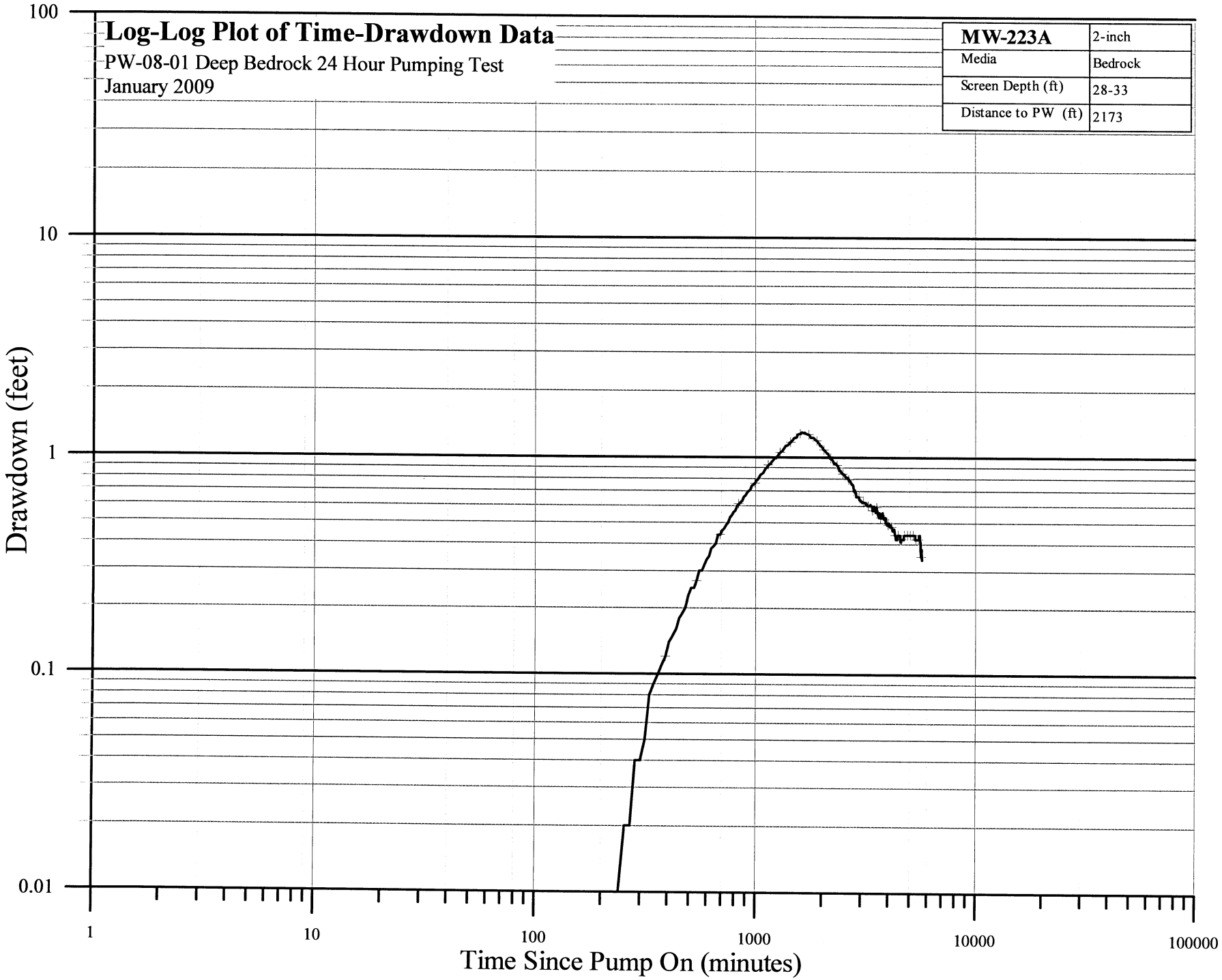

Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
PW-08-04 | 6-inch
Media | Bedrock
Screen Depth (ft) | 18-215
Distance to PW (ft) | 2280
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

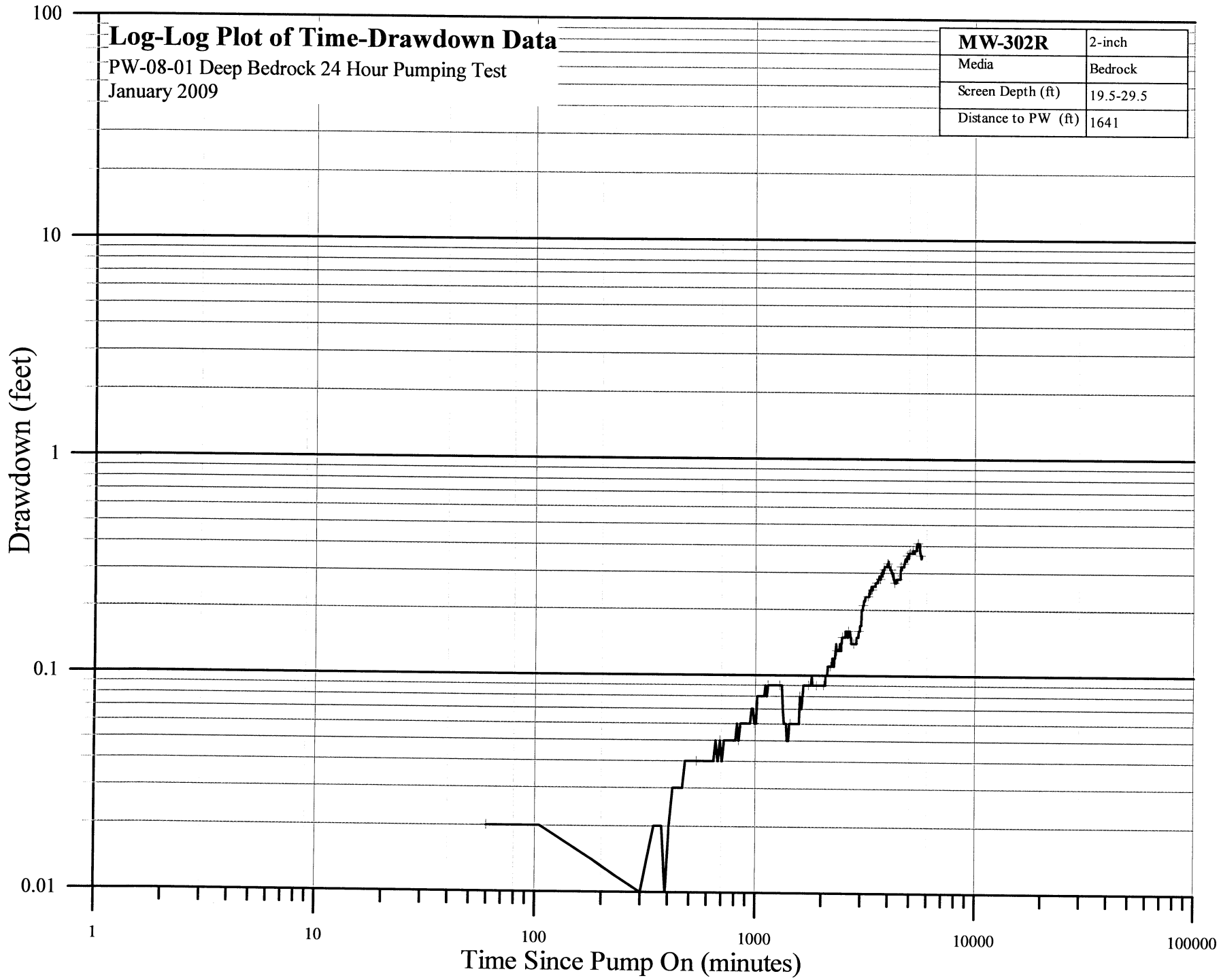
Log-Log Plot of Time-Drawdown Data

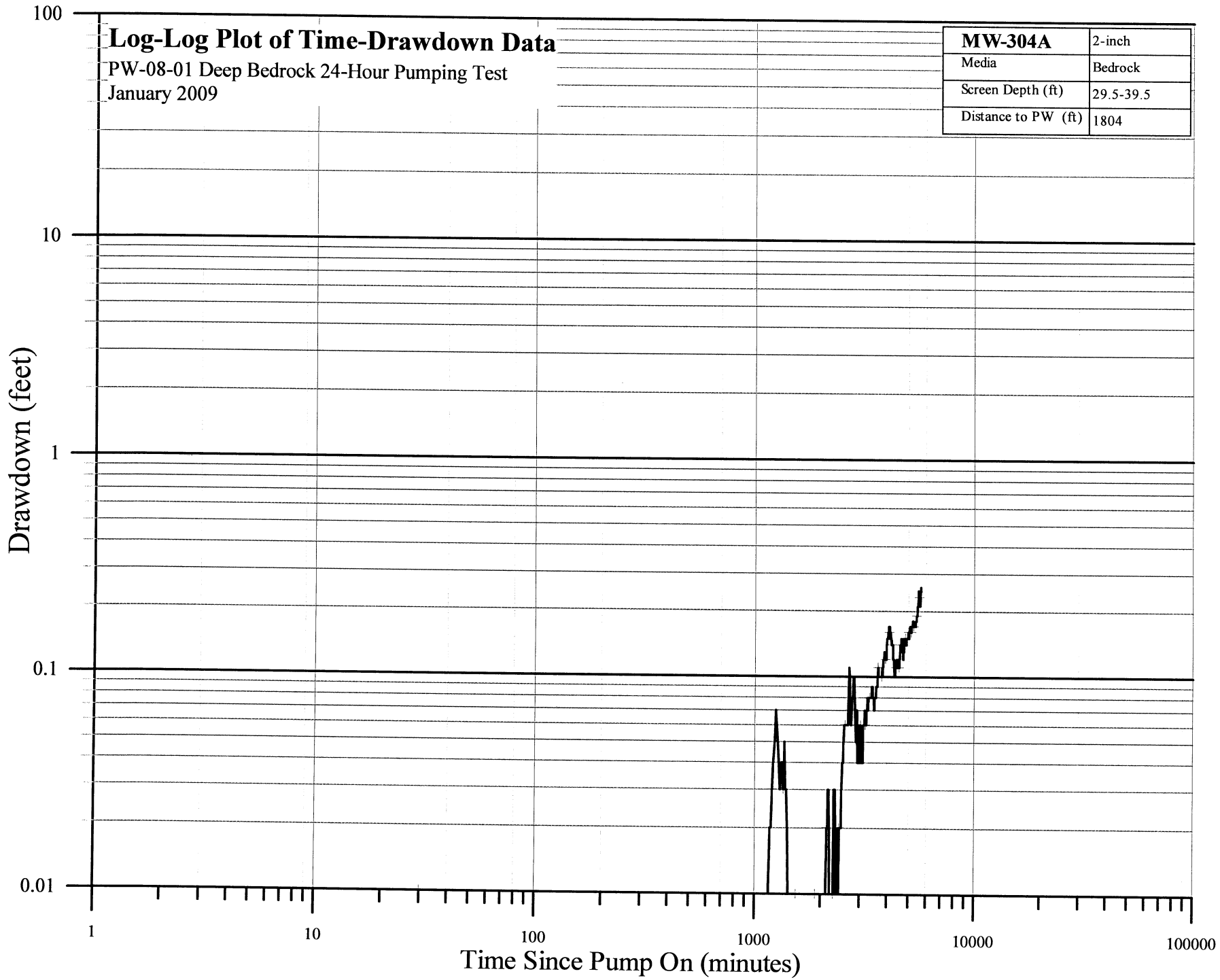
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

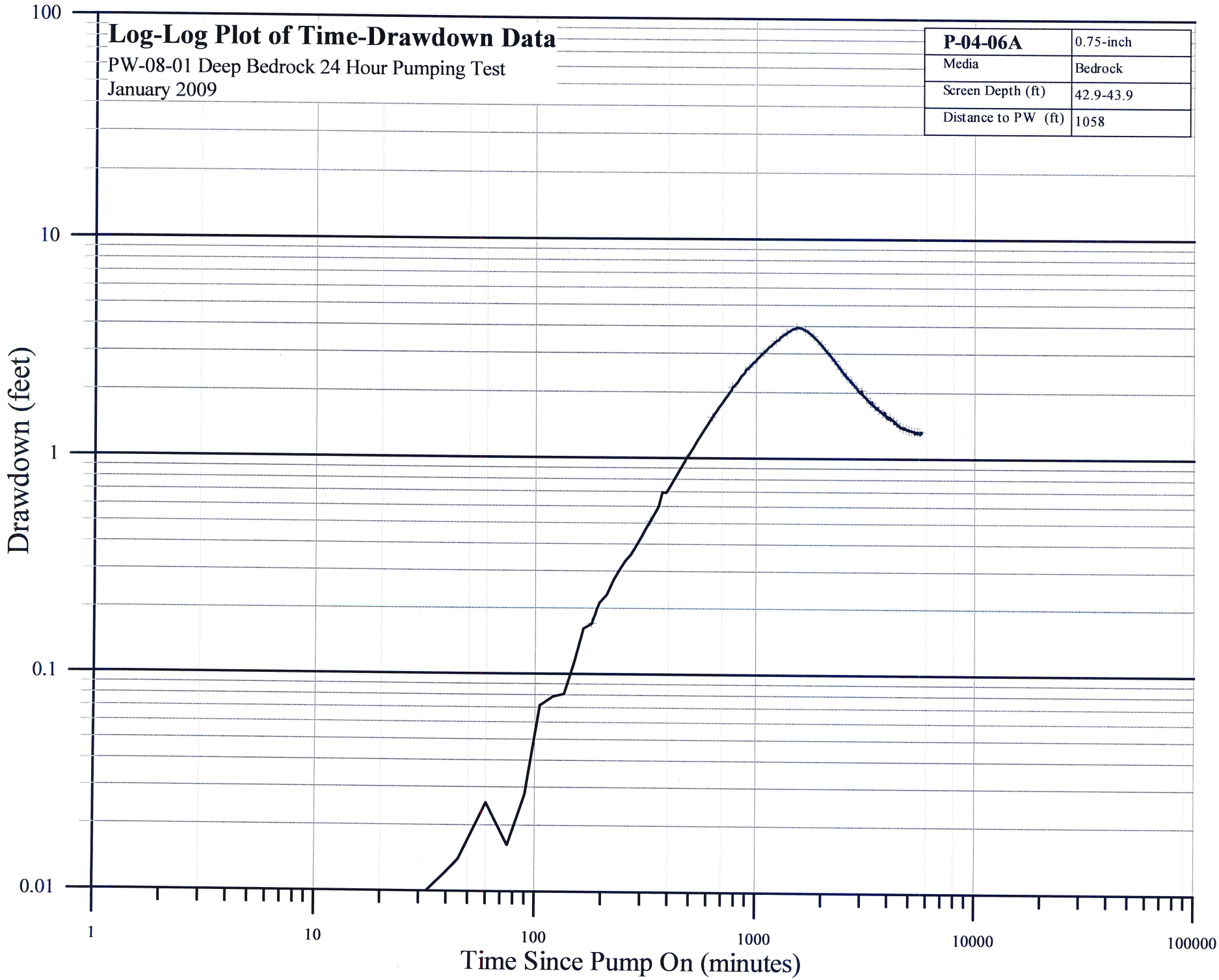
MW-06-02	2-inch
Media	Bedrock
Screen Depth (ft)	25-35
Distance to PW (ft)	1382

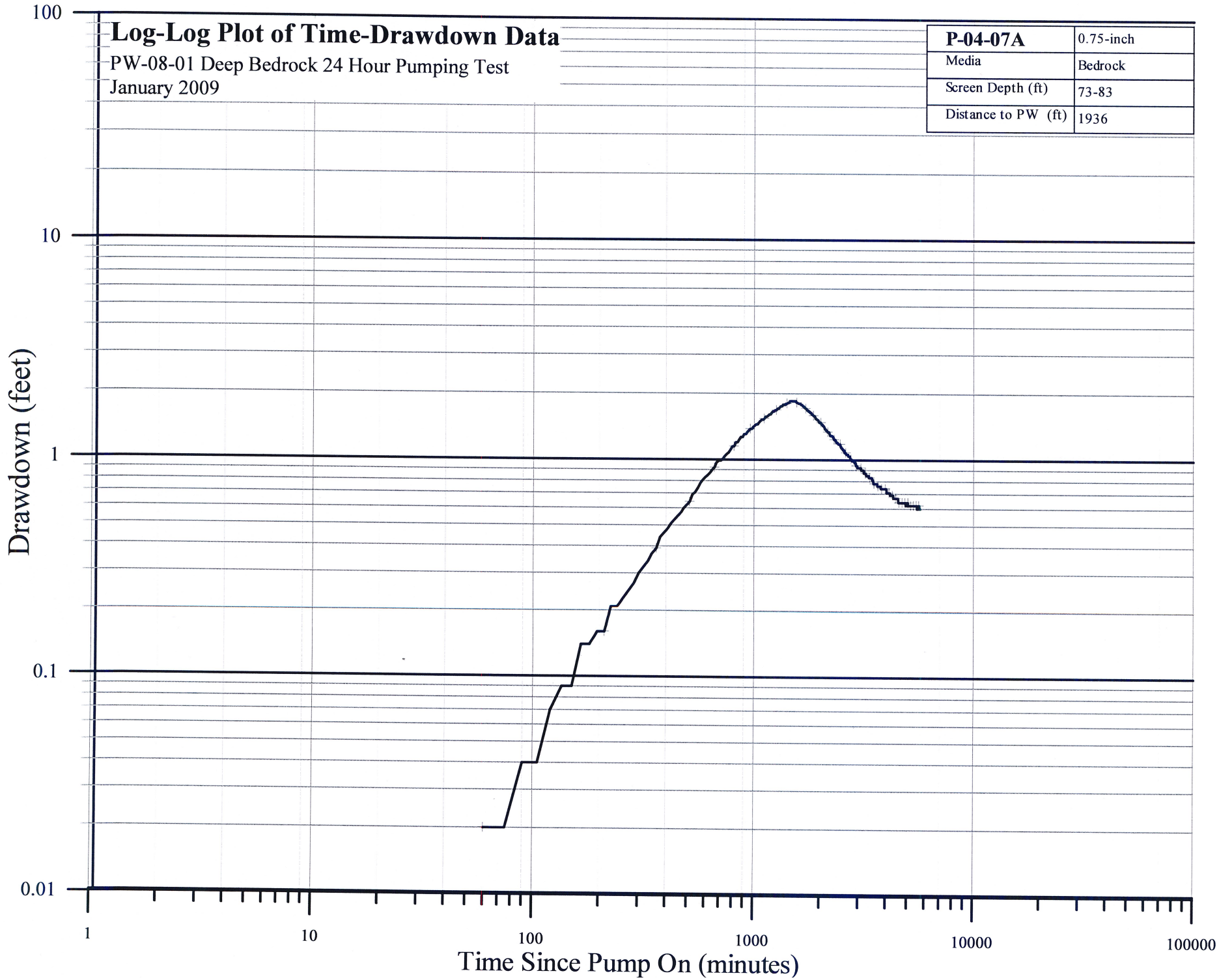



Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
MW-223A
2-inch
Media
Bedrock
Screen Depth (ft)
28-33
Distance to PW (ft)
2173
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
MW-302R
2-inch
Media
Bedrock
Screen Depth (ft)
19.5-29.5
Distance to PW (ft)
1641
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24-Hour Pumping Test
January 2009
MW-304A
2-inch
Media
Bedrock
Screen Depth (ft)
29.5-39.5
Distance to PW (ft)
1804
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

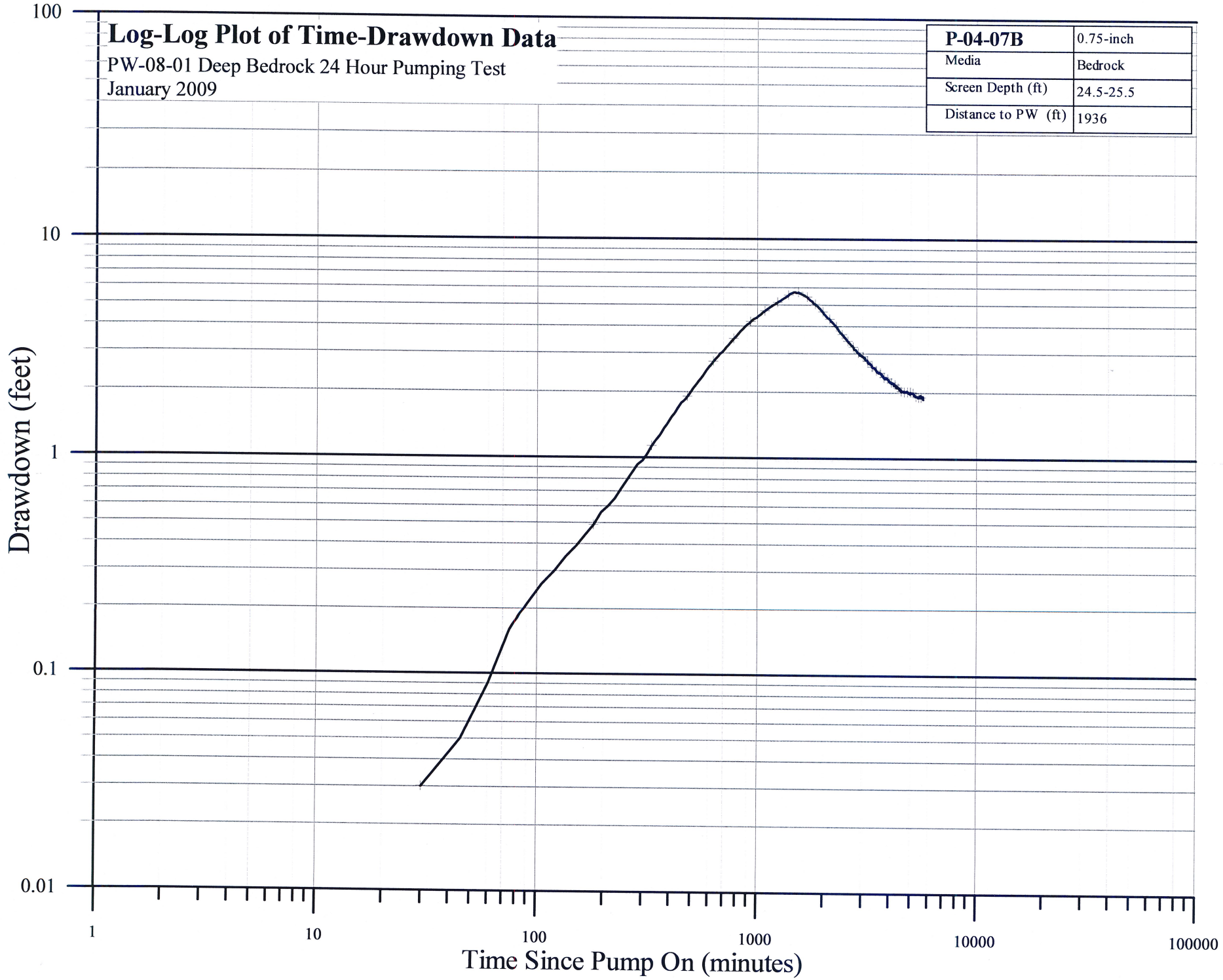

Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
P-04-06A
0.75-inch
Media
Bedrock
Screen Depth (ft)
42.9-43.9
Distance to PW (ft)
1058
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
P-04-07A
0.75-inch
Media
Bedrock
Screen Depth (ft)
73-83
Distance to PW (ft)
1936
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

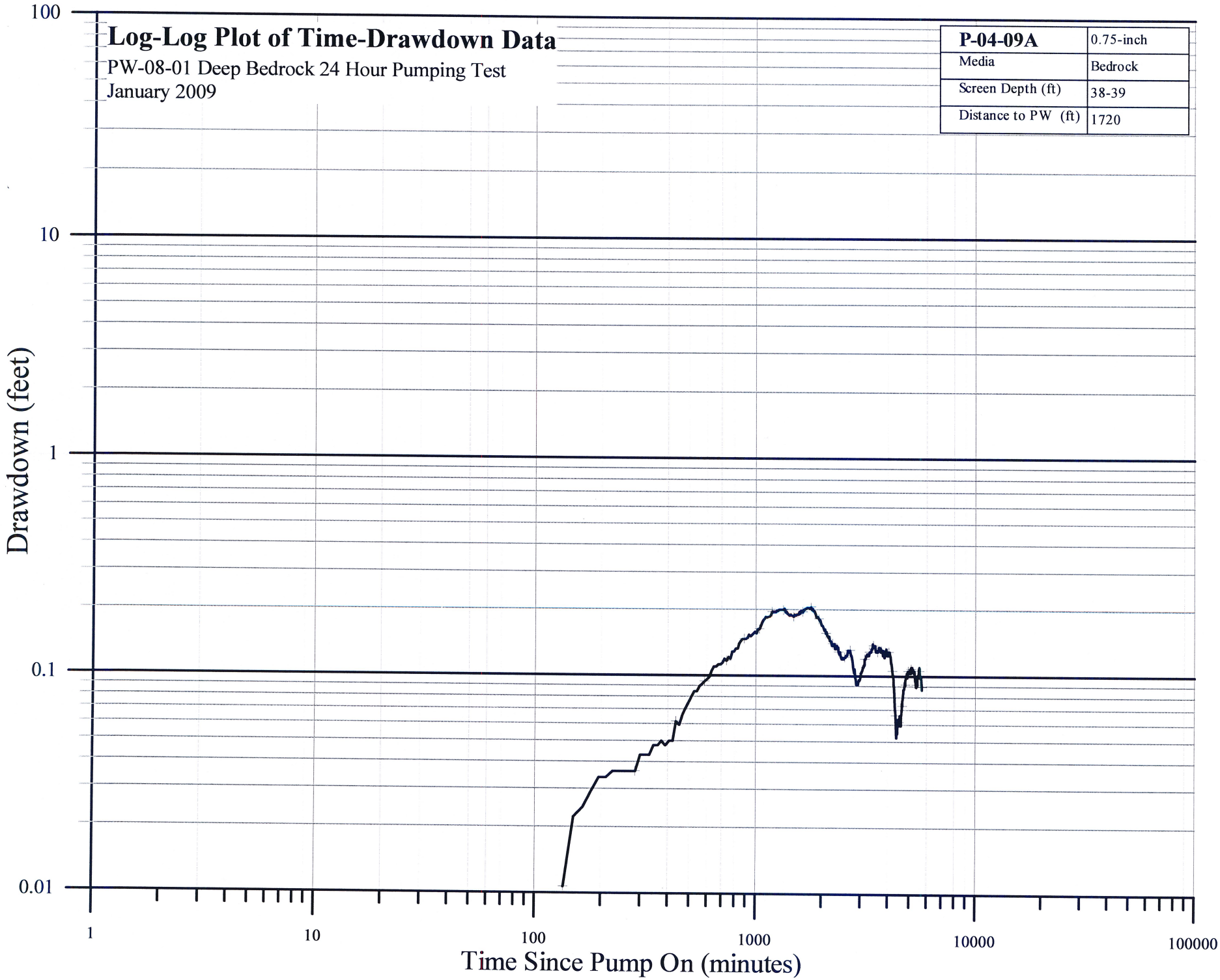
P-04-07B	0.75-inch
Media	Bedrock
Screen Depth (ft)	24.5-25.5
Distance to PW (ft)	1936



Log-Log Plot of Time-Drawdown Data

PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

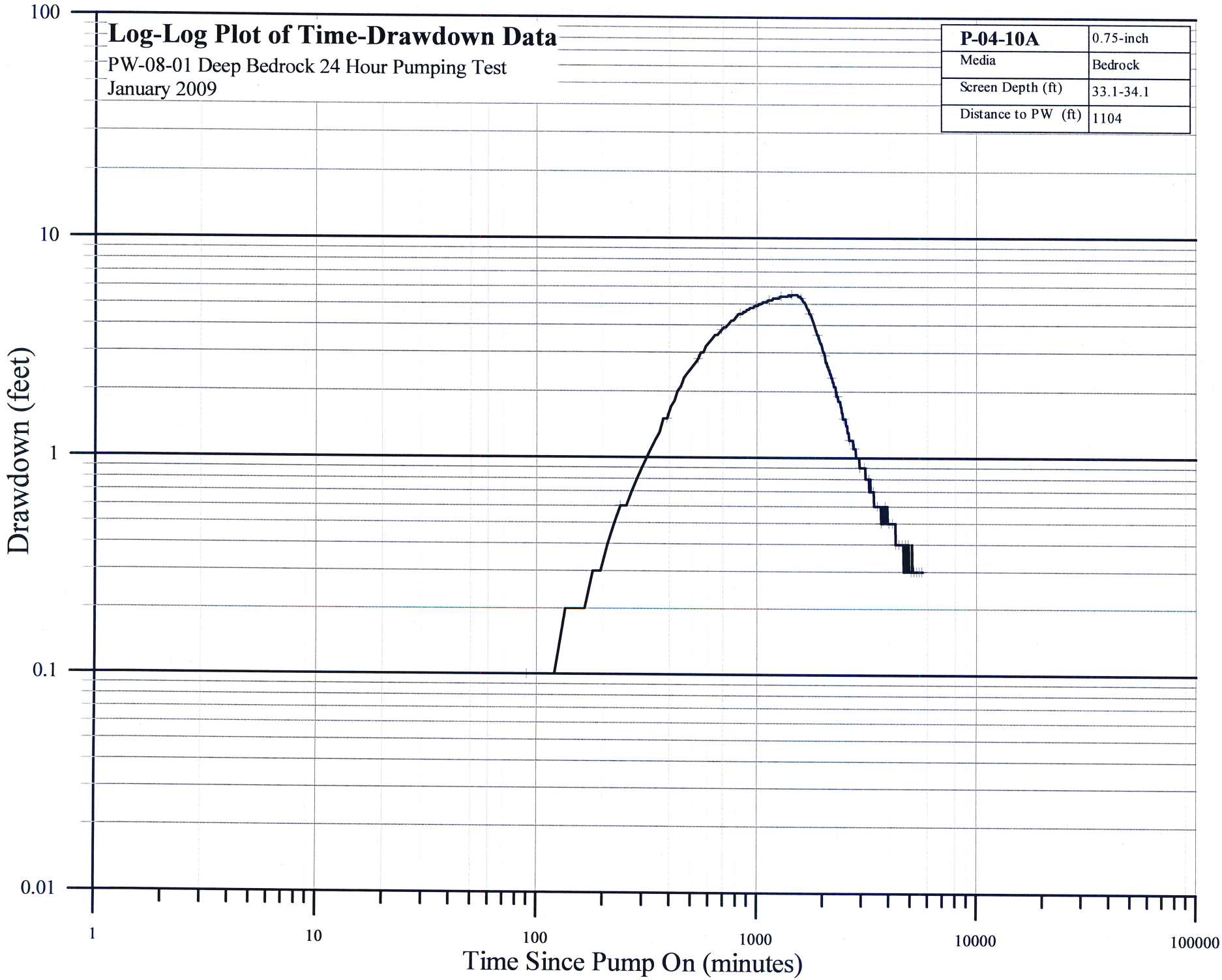
P-04-09A	0.75-inch
Media	Bedrock
Screen Depth (ft)	38-39
Distance to PW (ft)	1720



Log-Log Plot of Time-Drawdown Data

PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

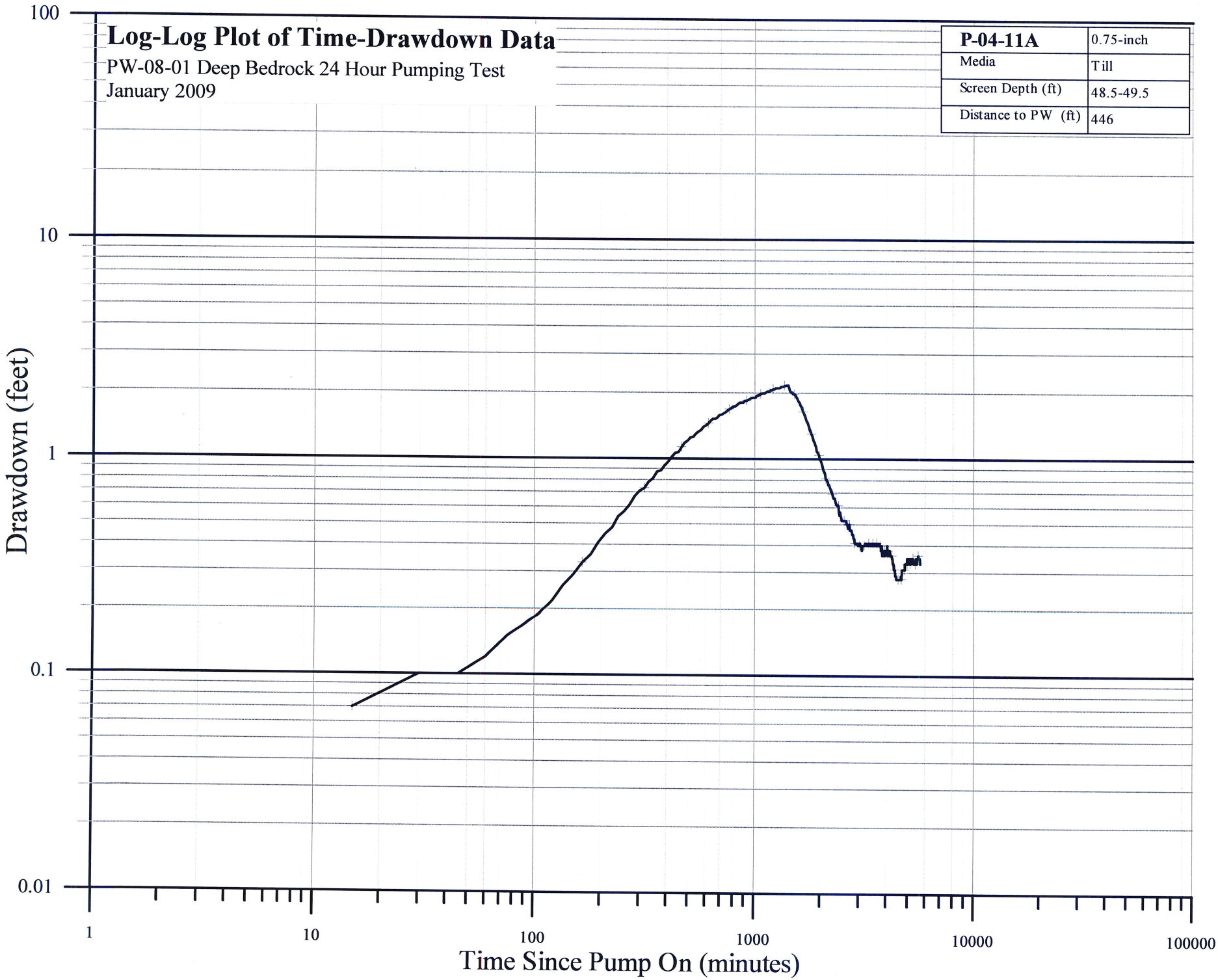
P-04-10A	0.75-inch
Media	Bedrock
Screen Depth (ft)	33.1-34.1
Distance to PW (ft)	1104

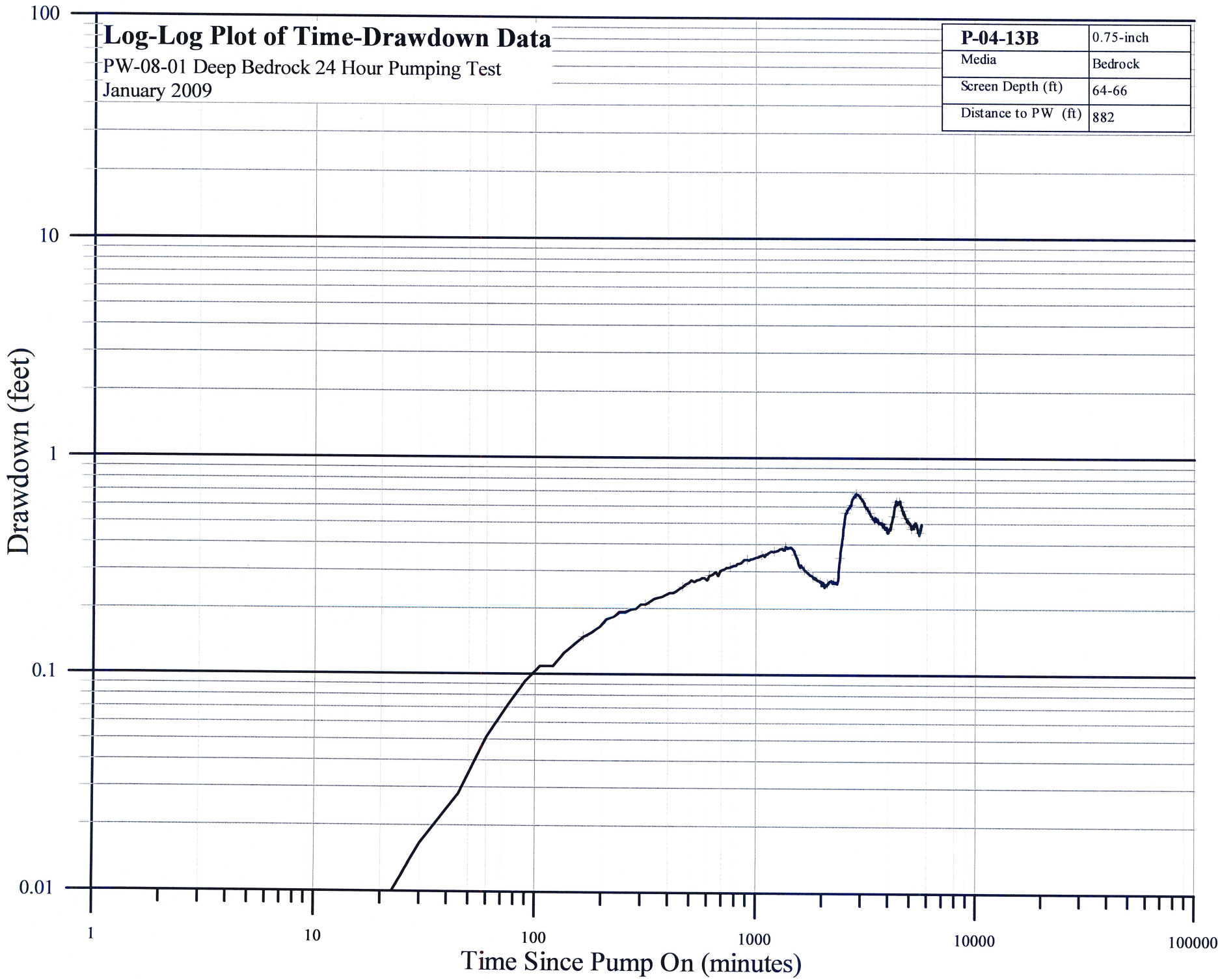


Log-Log Plot of Time-Drawdown Data

PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

P-04-11A	0.75-inch
Media	Till
Screen Depth (ft)	48.5-49.5
Distance to PW (ft)	446

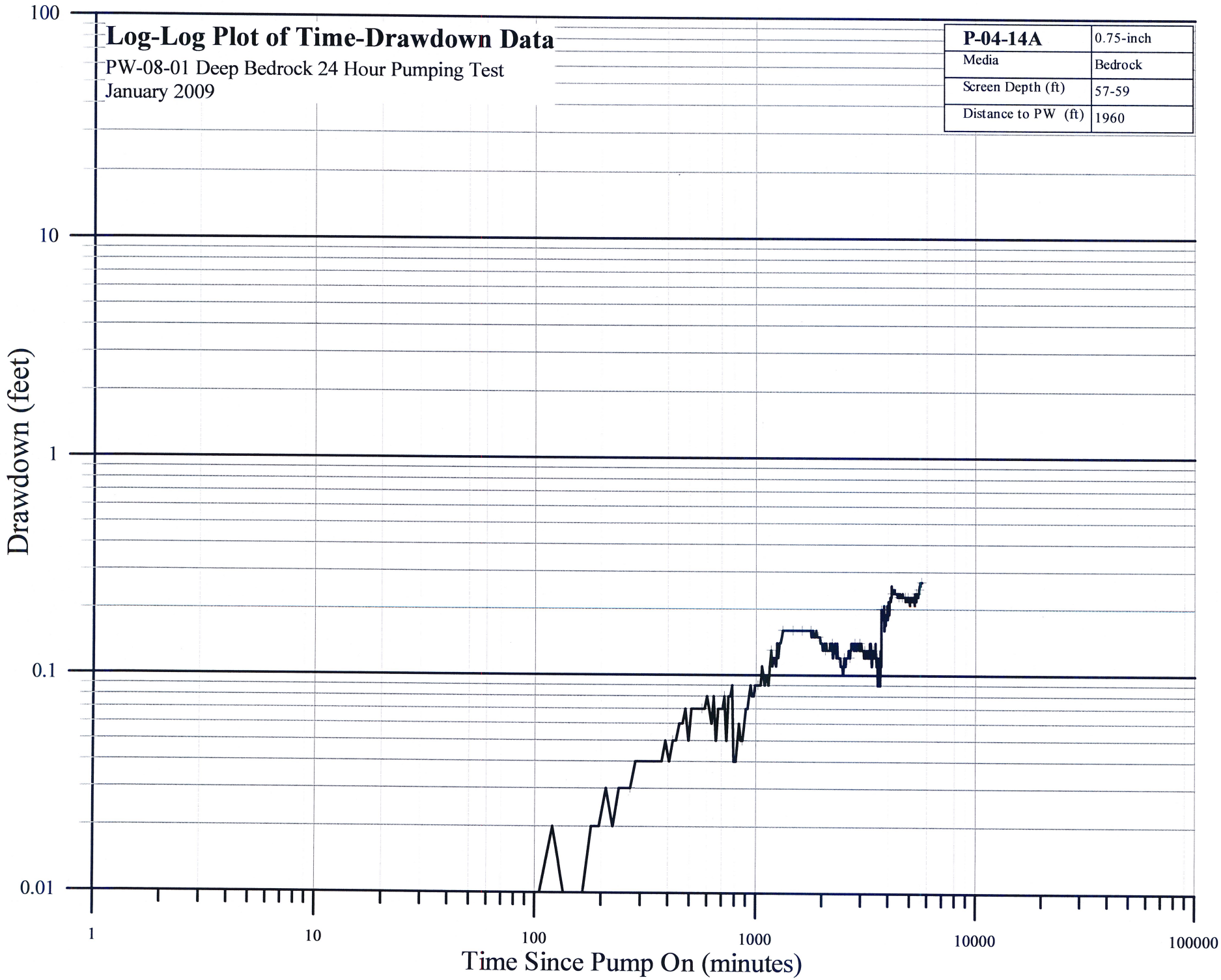


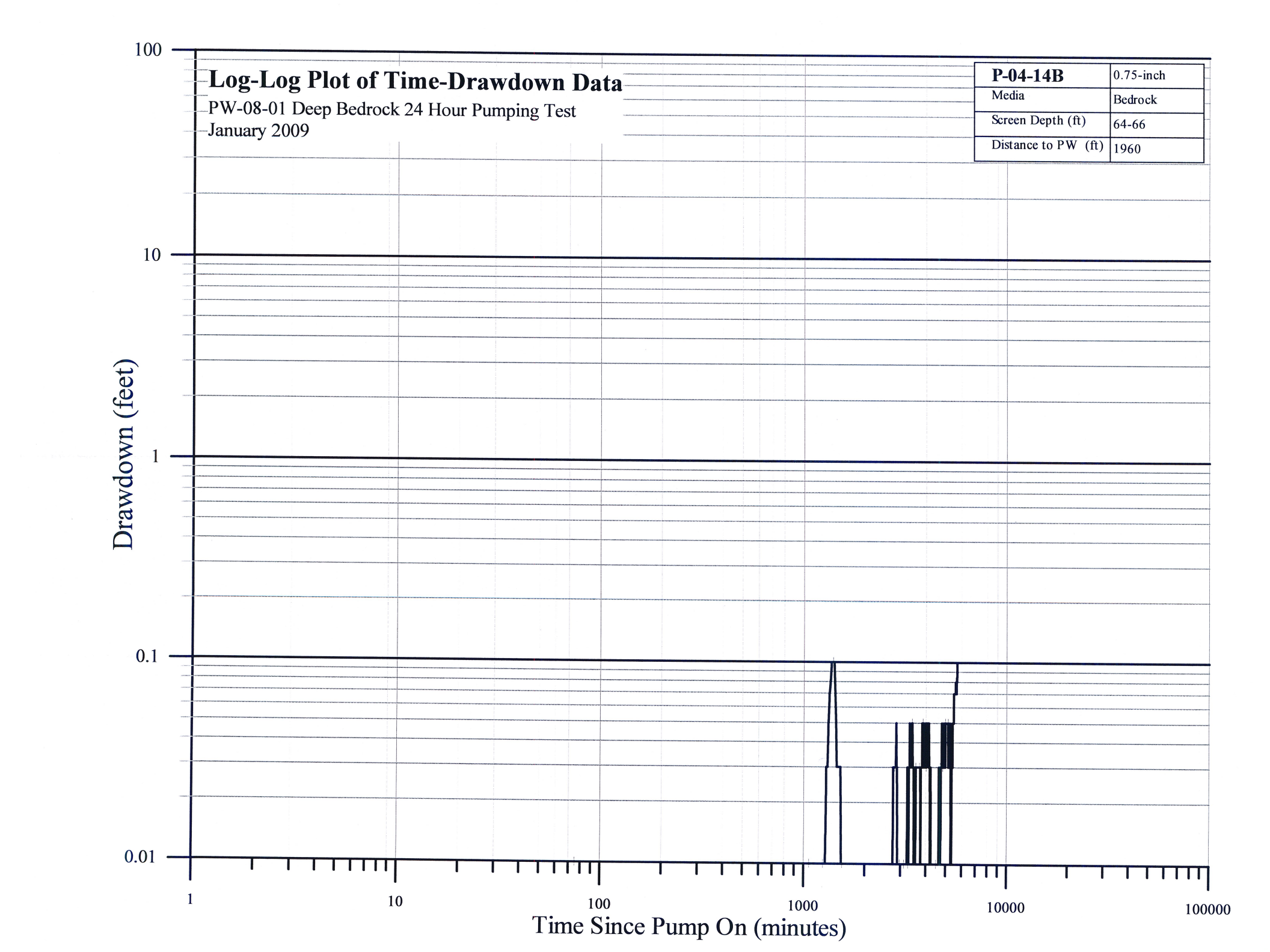

Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
P-04-13B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Distance to PW (ft)
882
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

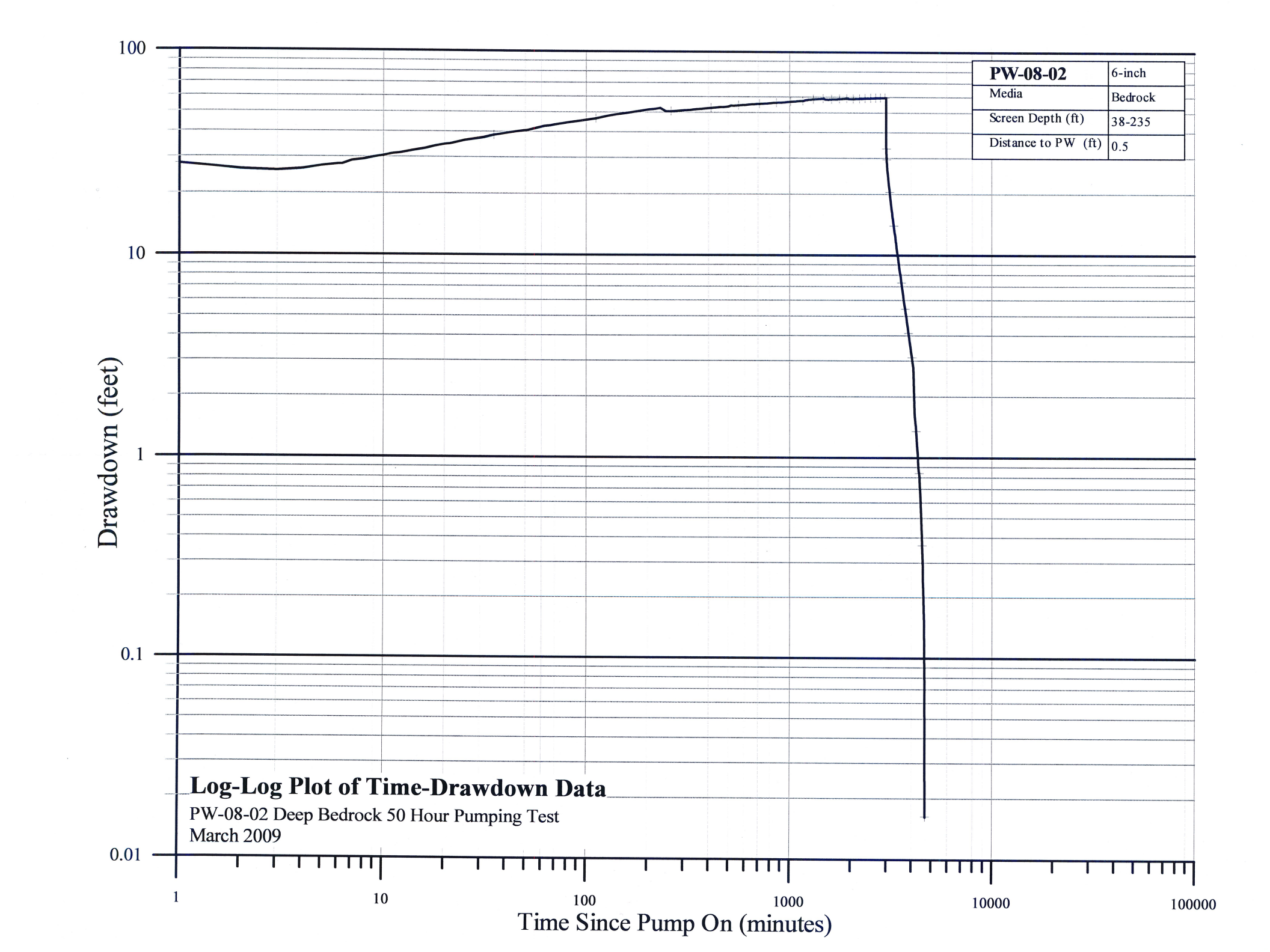
Log-Log Plot of Time-Drawdown Data

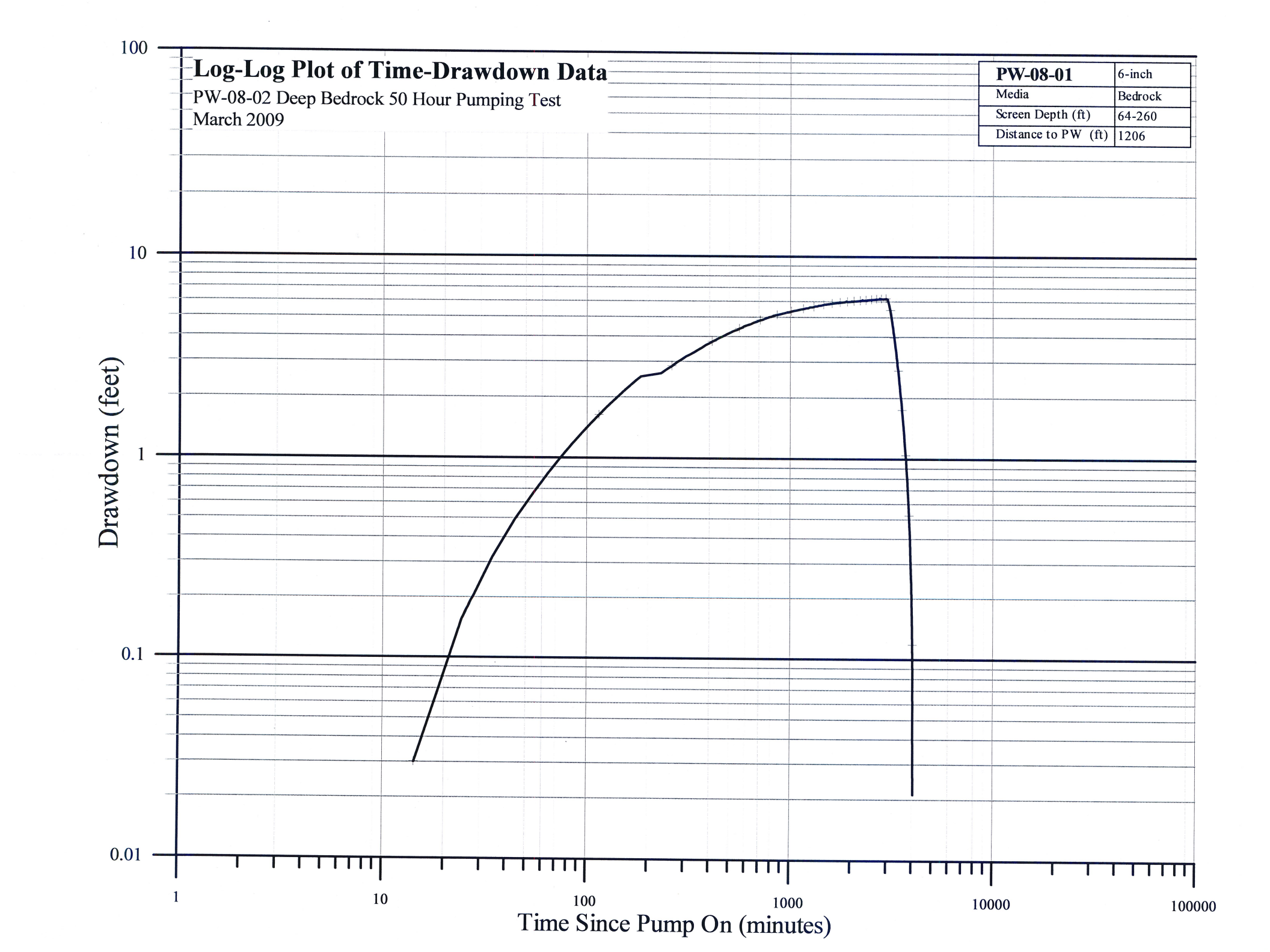
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009

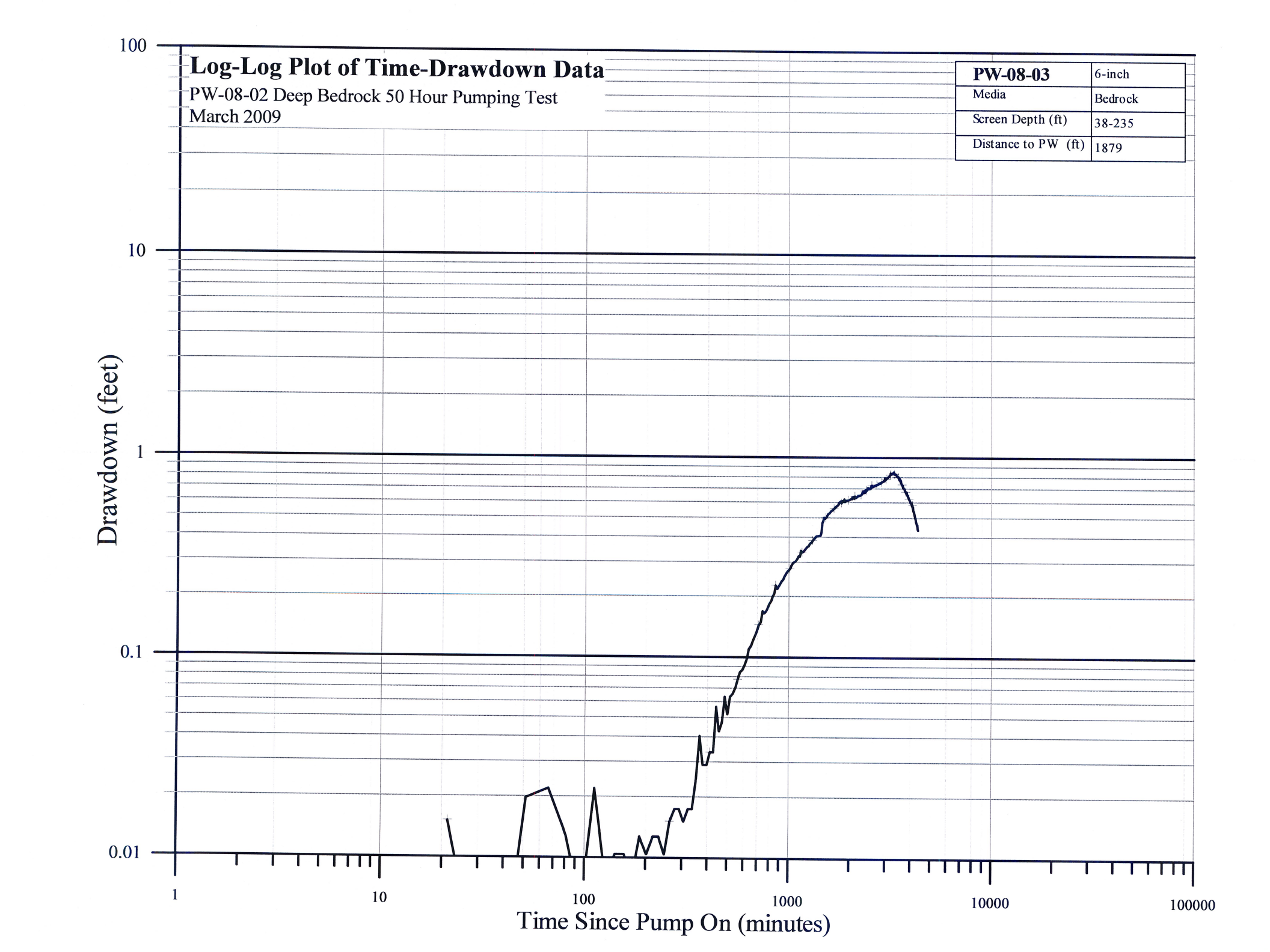
P-04-14A	0.75-inch
Media	Bedrock
Screen Depth (ft)	57-59
Distance to PW (ft)	1960

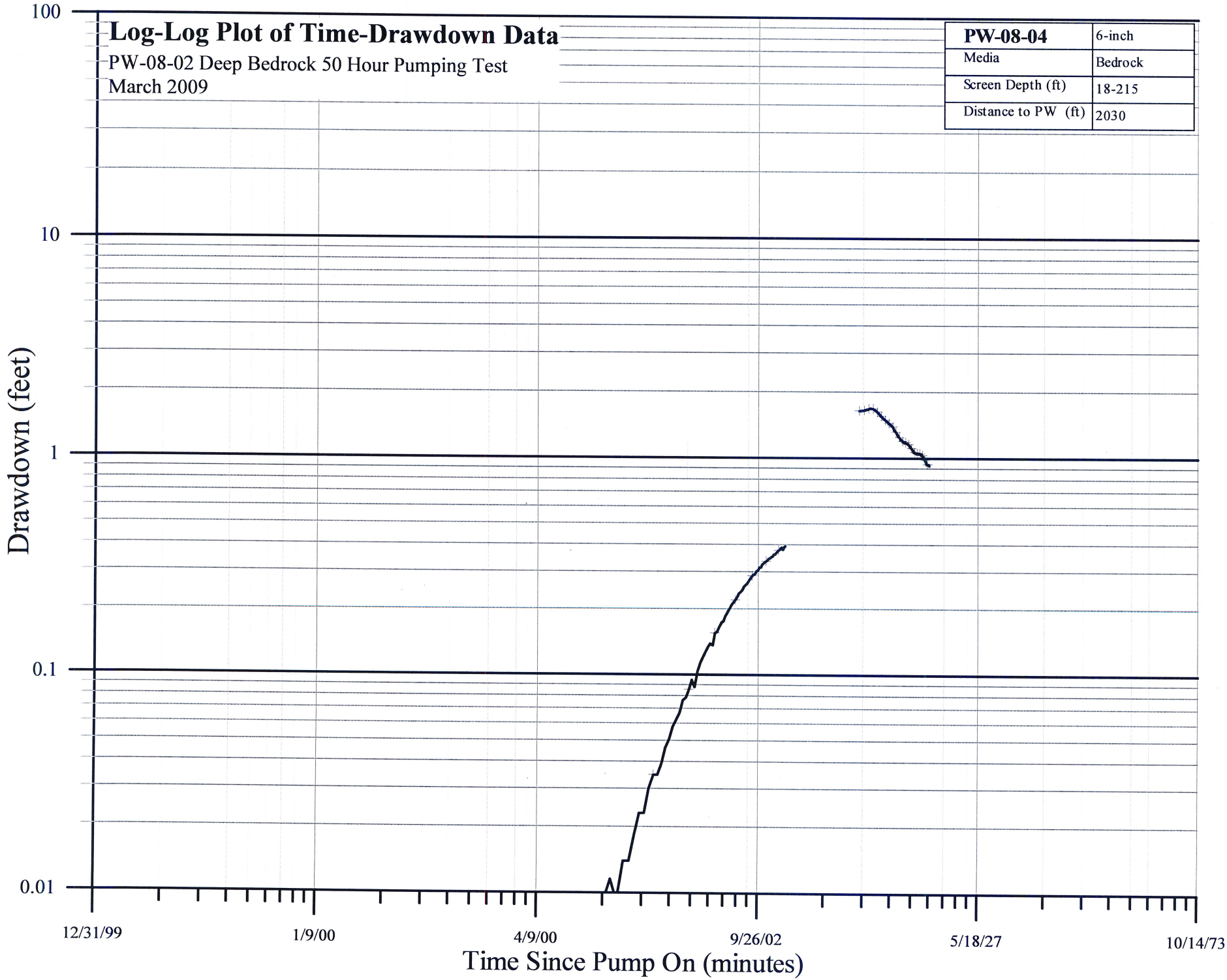


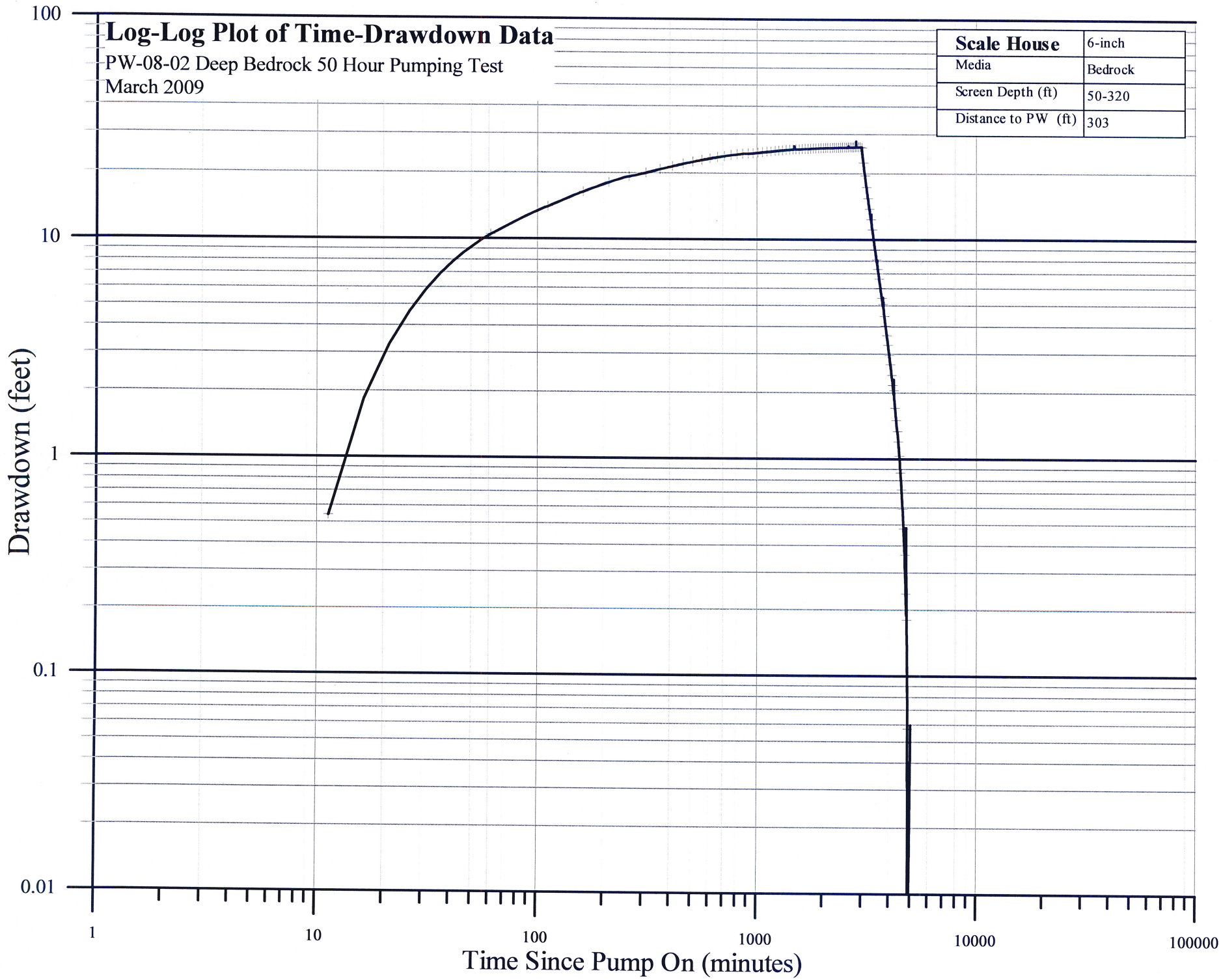

Log-Log Plot of Time-Drawdown Data
PW-08-01 Deep Bedrock 24 Hour Pumping Test
January 2009
P-04-14B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Distance to PW (ft)
1960
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

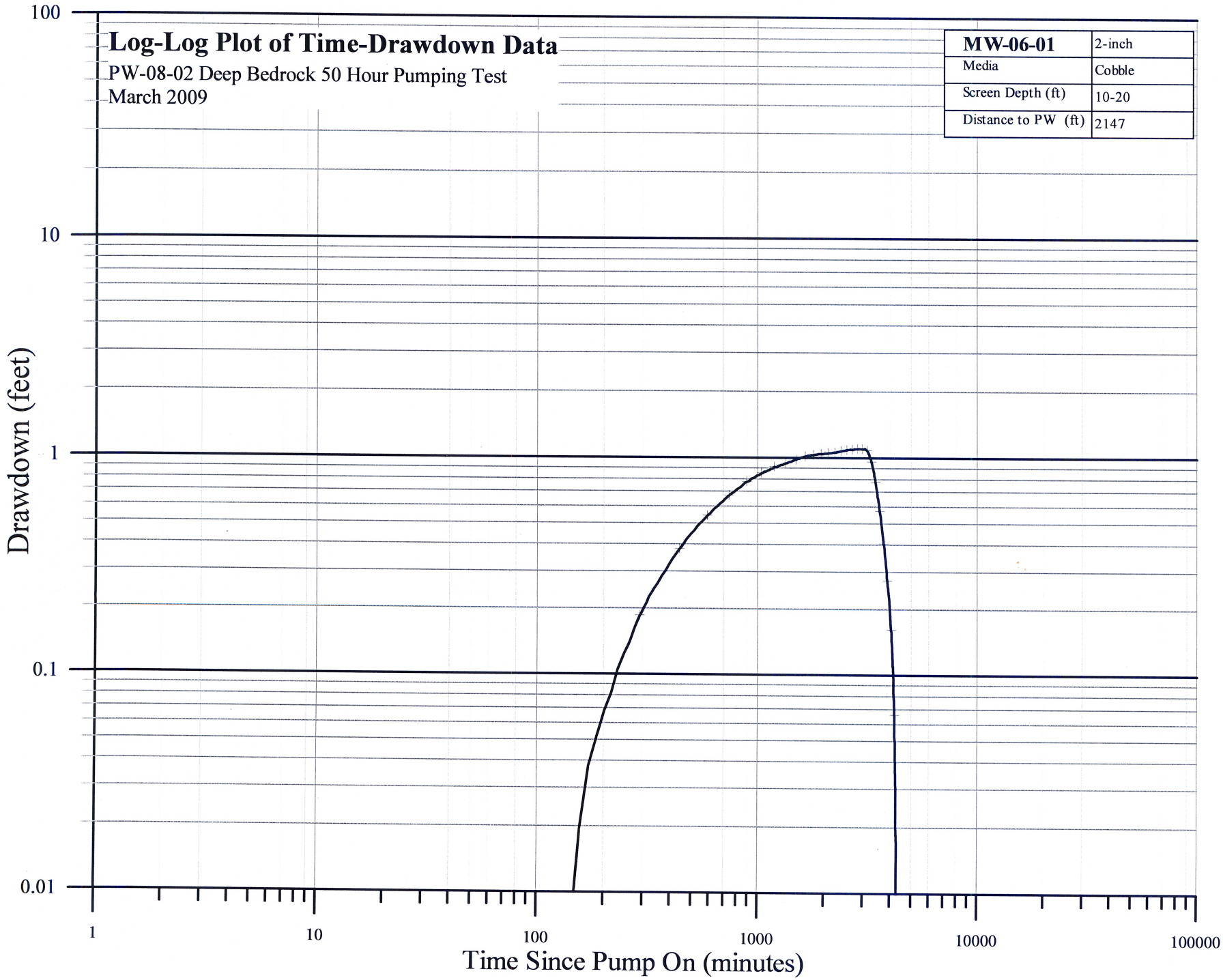

PW-08-02
6-inch
Media
Bedrock
Screen Depth (ft)
38-235
Distance to PW (ft)
0.5
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)
Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009

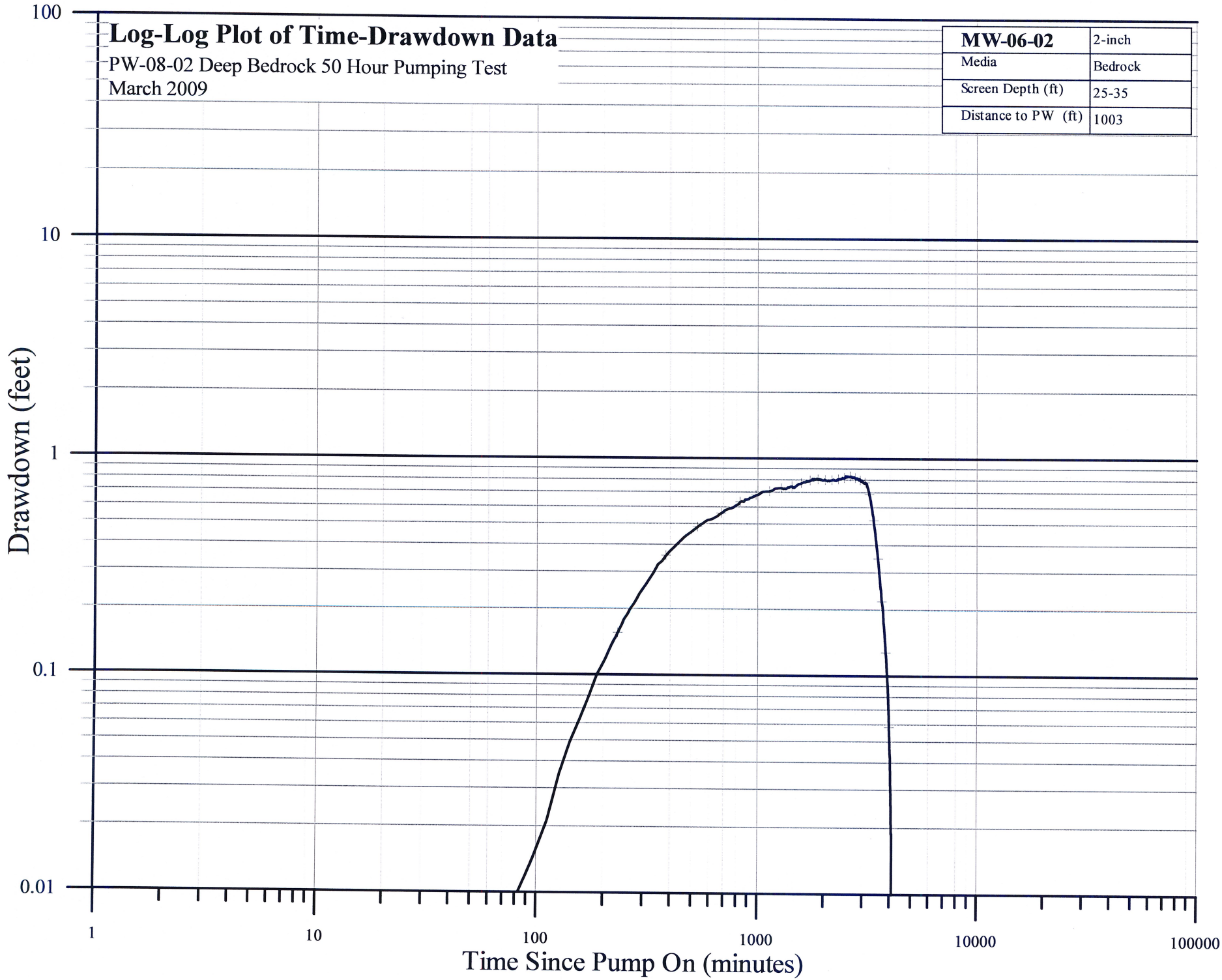

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
PW-08-01 | 6-inch
Media | Bedrock
Screen Depth (ft) | 64-260
Distance to PW (ft) | 1206
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
PW-08-03 | 6-inch
Media | Bedrock
Screen Depth (ft) | 38-235
Distance to PW (ft) | 1879
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

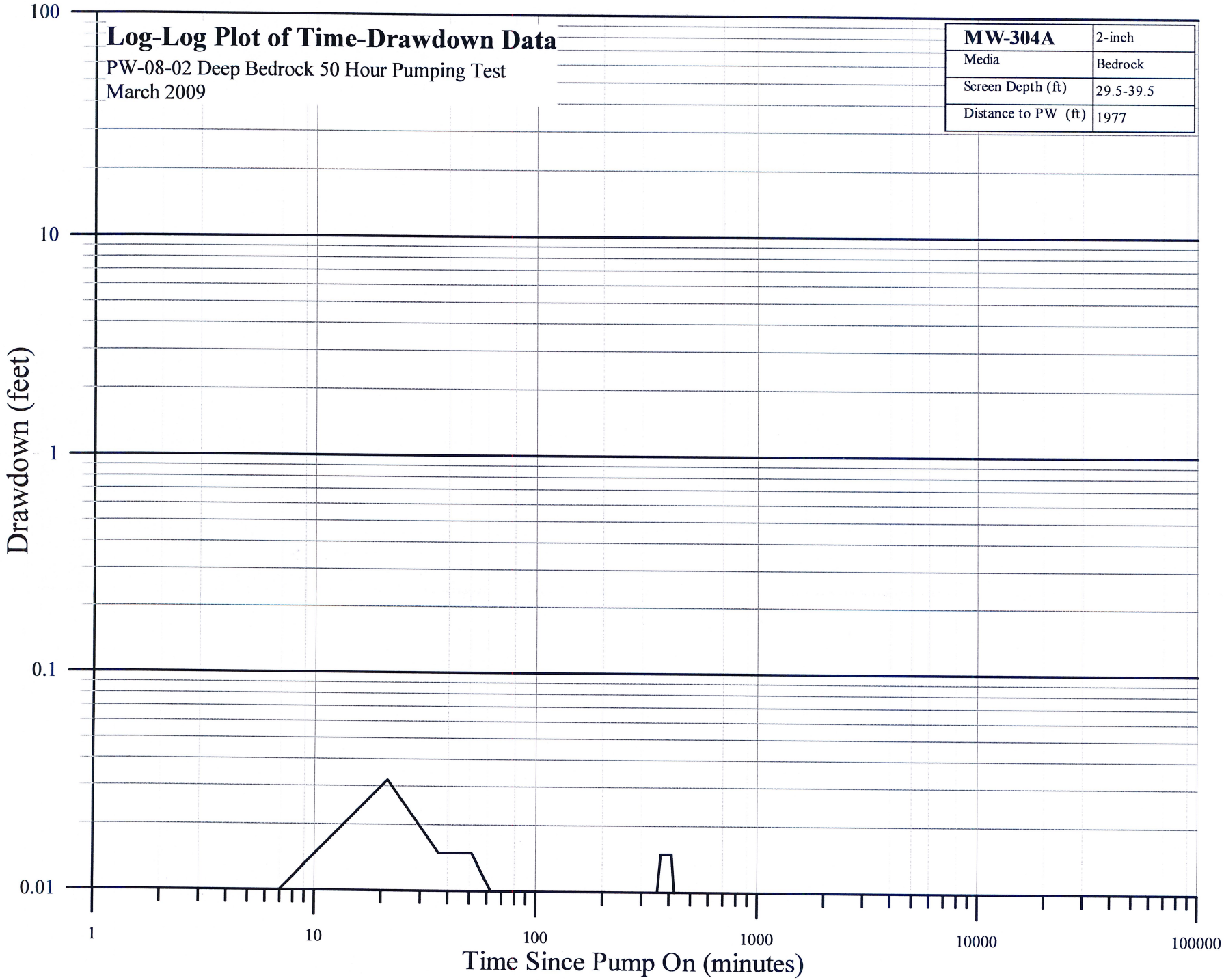

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
PW-08-04 | 6-inch
Media | Bedrock
Screen Depth (ft) | 18-215
Distance to PW (ft) | 2030
100
10
1
0.1
0.01
Drawdown (feet)
12/31/99
1/9/00
4/9/00
9/26/02
5/18/27
10/14/73
Time Since Pump On (minutes)

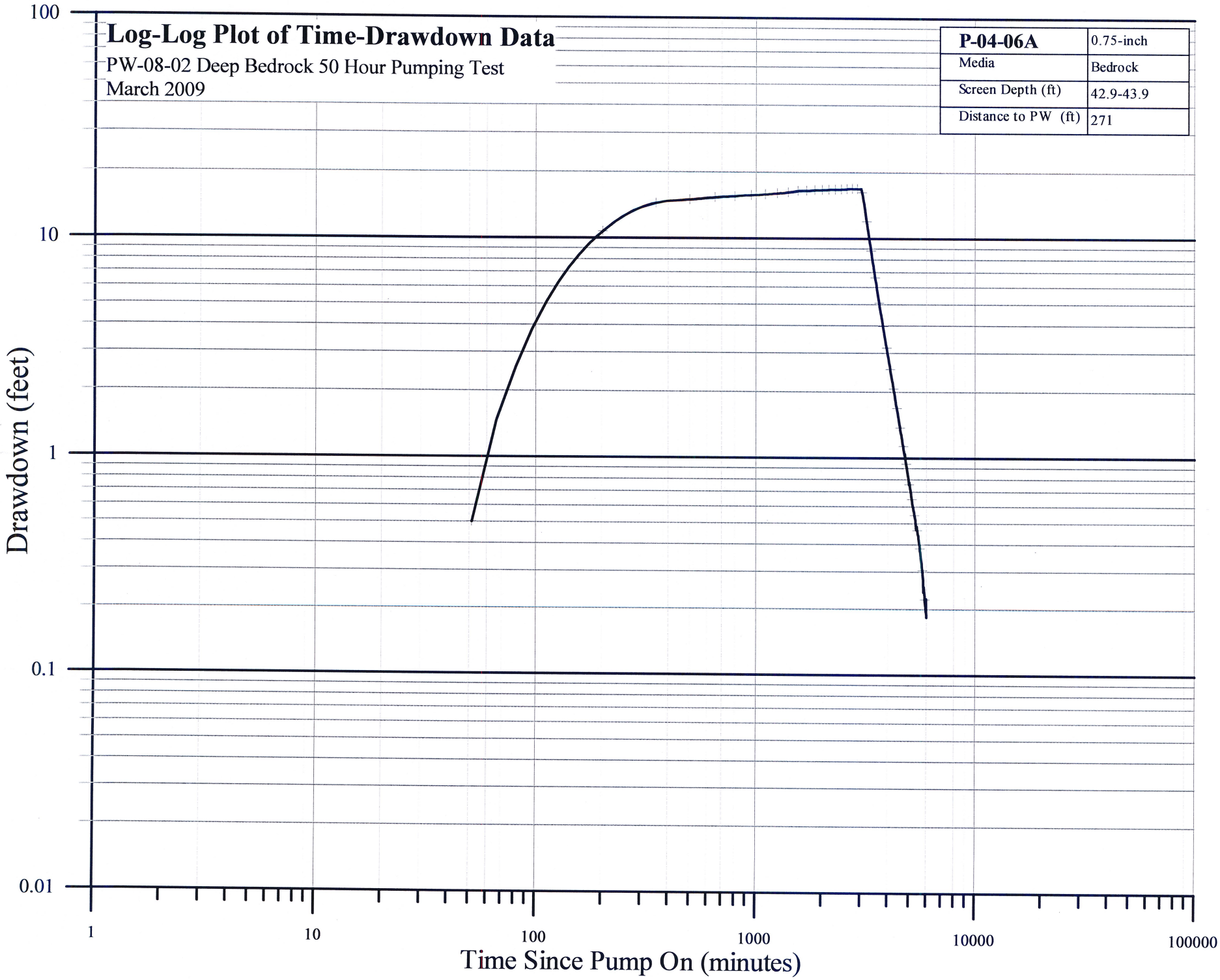

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
Scale House 6-inch
Media Bedrock
Screen Depth (ft) 50-320
Distance to PW (ft) 303
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

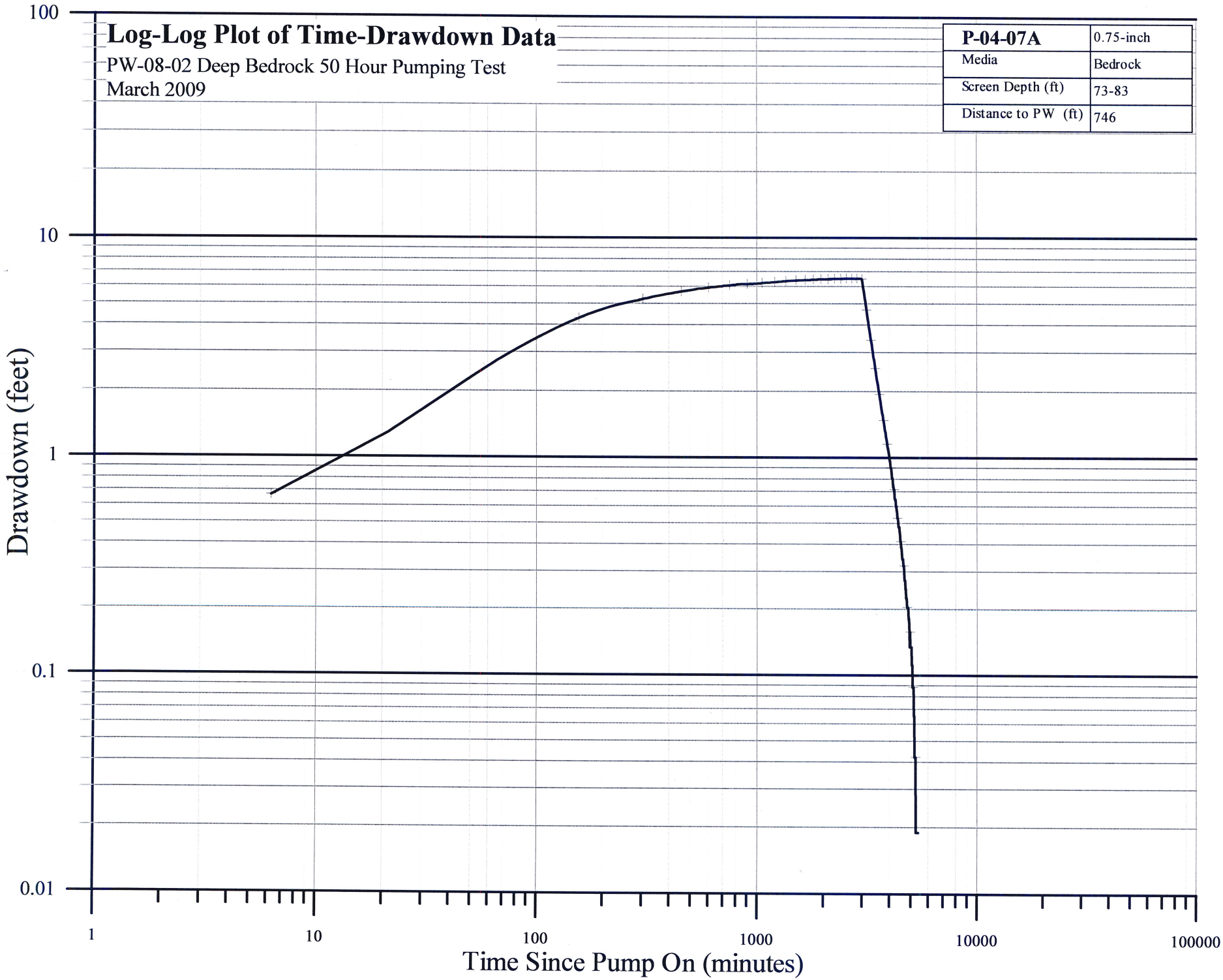

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
MW-06-01 | 2-inch
Media | Cobble
Screen Depth (ft) | 10-20
Distance to PW (ft) | 2147
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

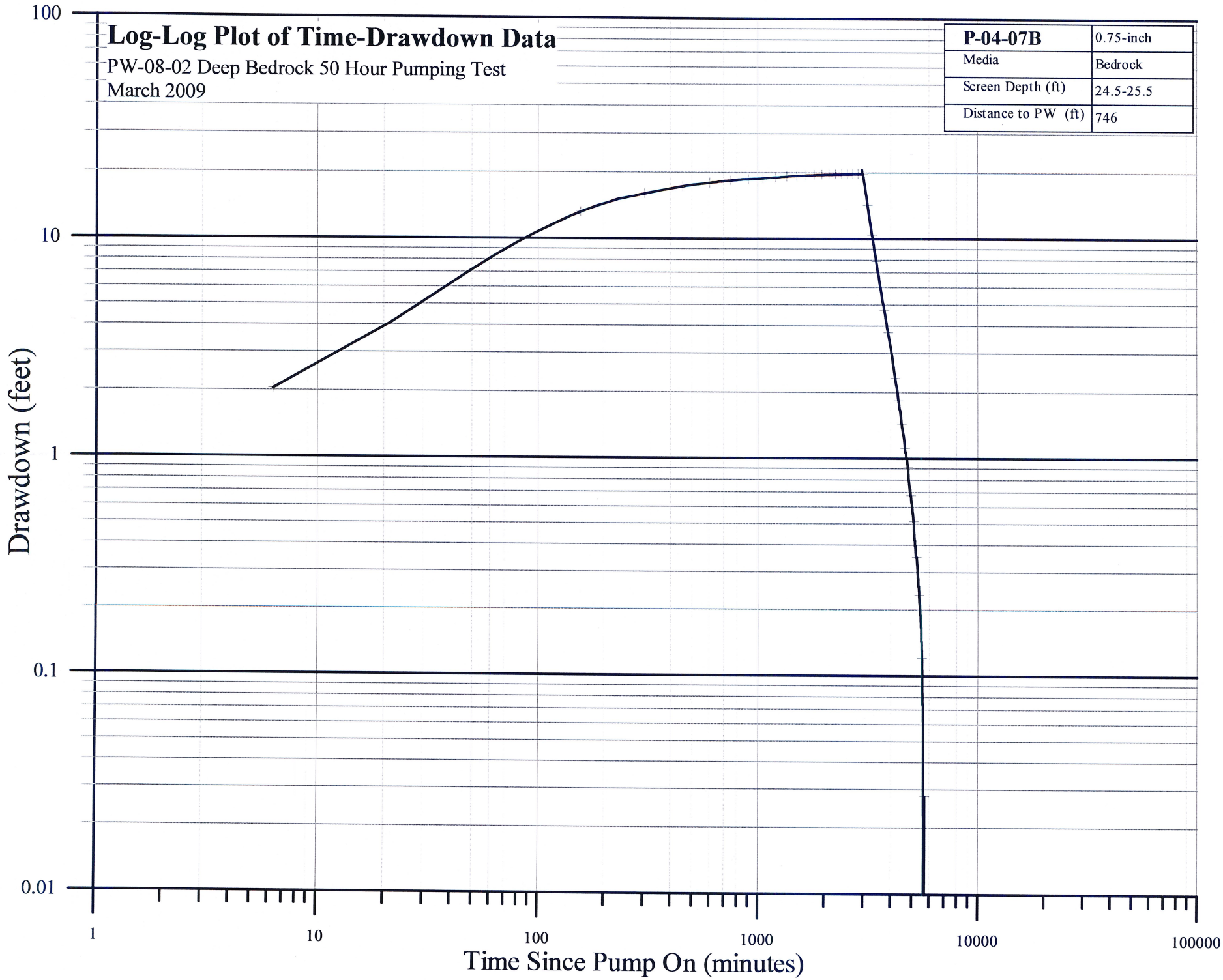

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
MW-06-02
2-inch
Media
Bedrock
Screen Depth (ft)
25-35
Distance to PW (ft)
1003
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

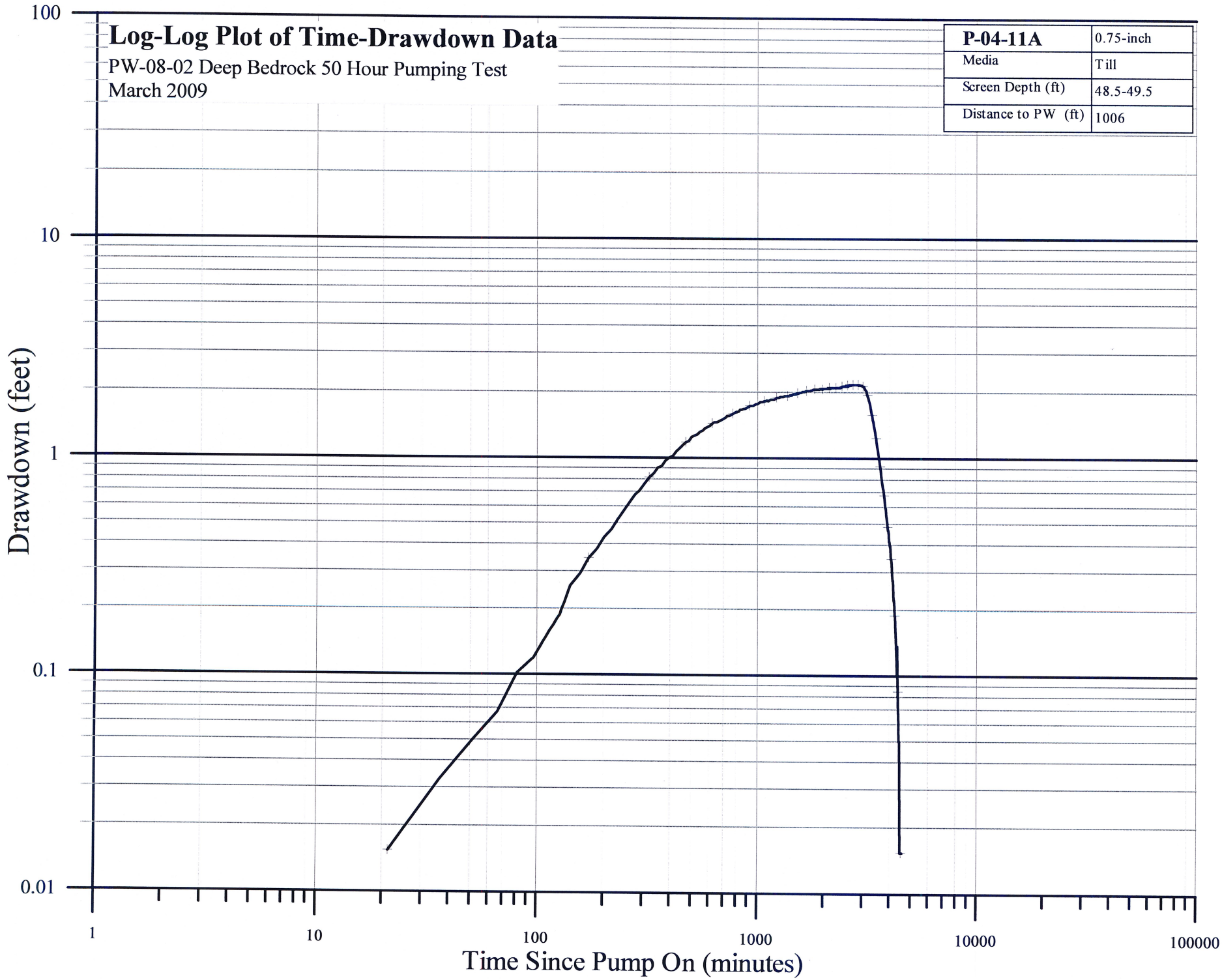

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
MW-223A
2-inch
Media
Bedrock
Screen Depth (ft)
28-33
Distance to PW (ft)
1122
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

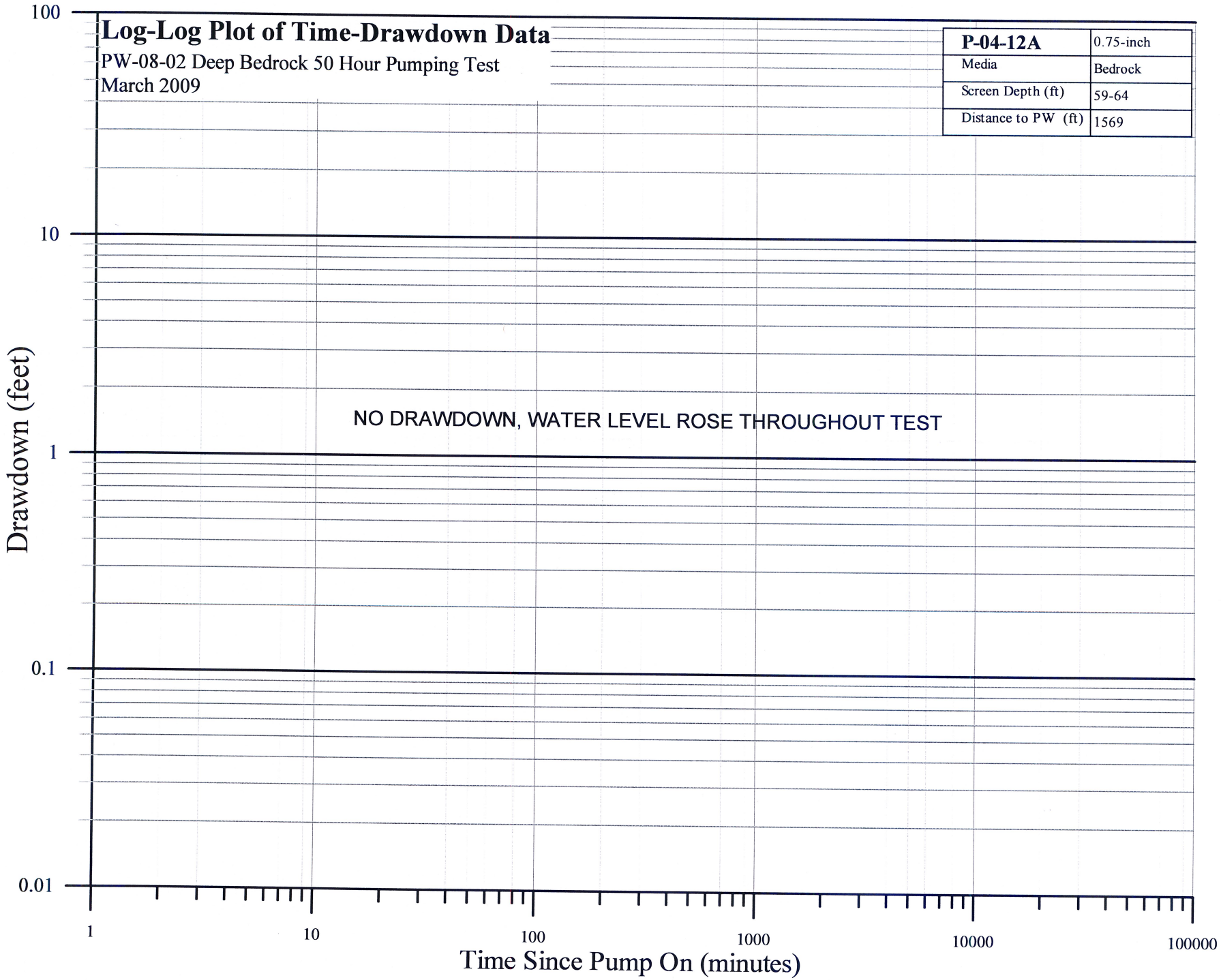

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
MW-304A
2-inch
Media
Bedrock
Screen Depth (ft)
29.5-39.5
Distance to PW (ft)
1977
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

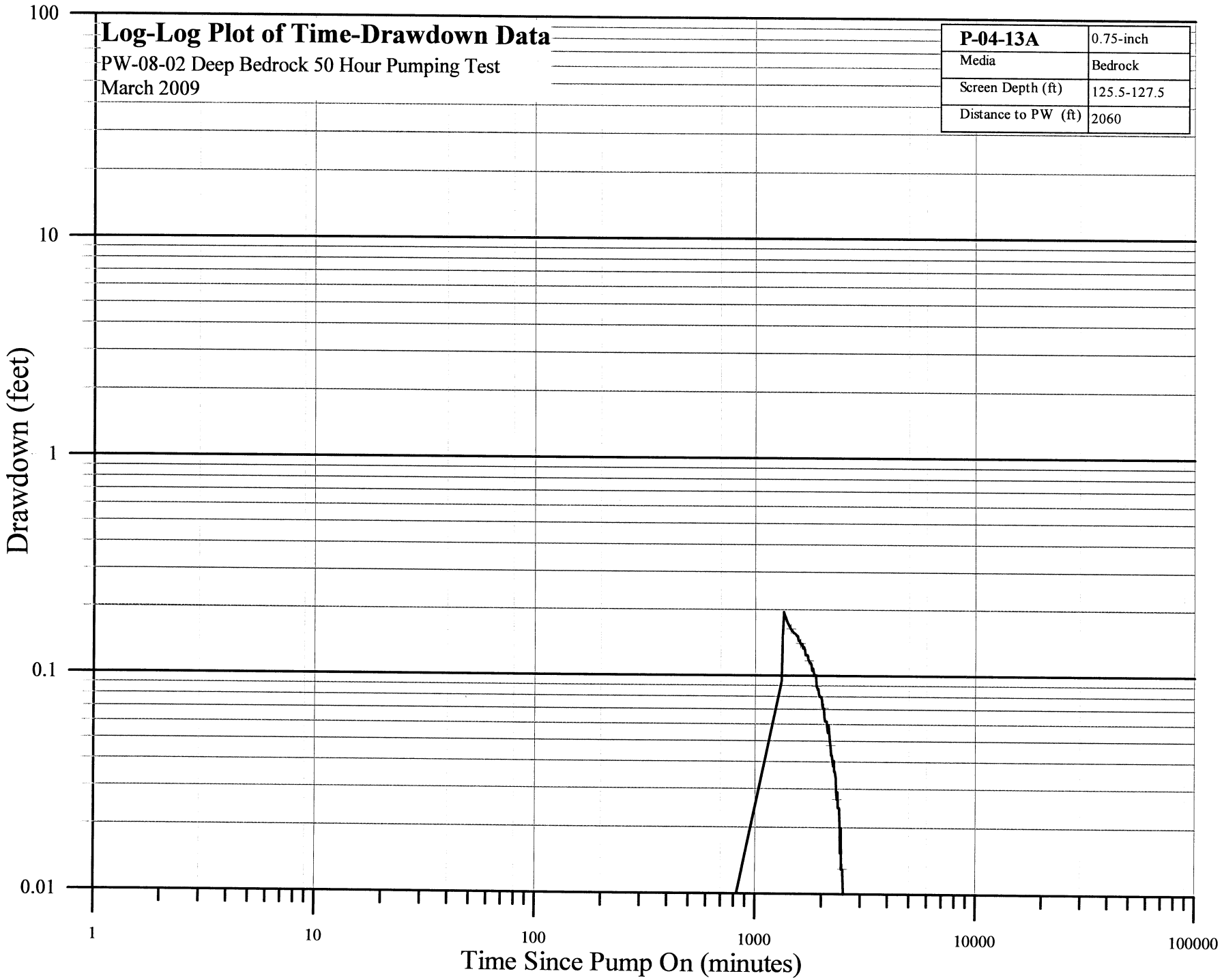

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-06A
0.75-inch
Media
Bedrock
Screen Depth (ft)
42.9-43.9
Distance to PW (ft)
271
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-07A
0.75-inch
Media
Bedrock
Screen Depth (ft)
73-83
Distance to PW (ft)
746
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-07B
0.75-inch
Media
Bedrock
Screen Depth (ft)
24.5-25.5
Distance to PW (ft)
746
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-11A
0.75-inch
Media
Till
Screen Depth (ft)
48.5-49.5
Distance to PW (ft)
1006
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

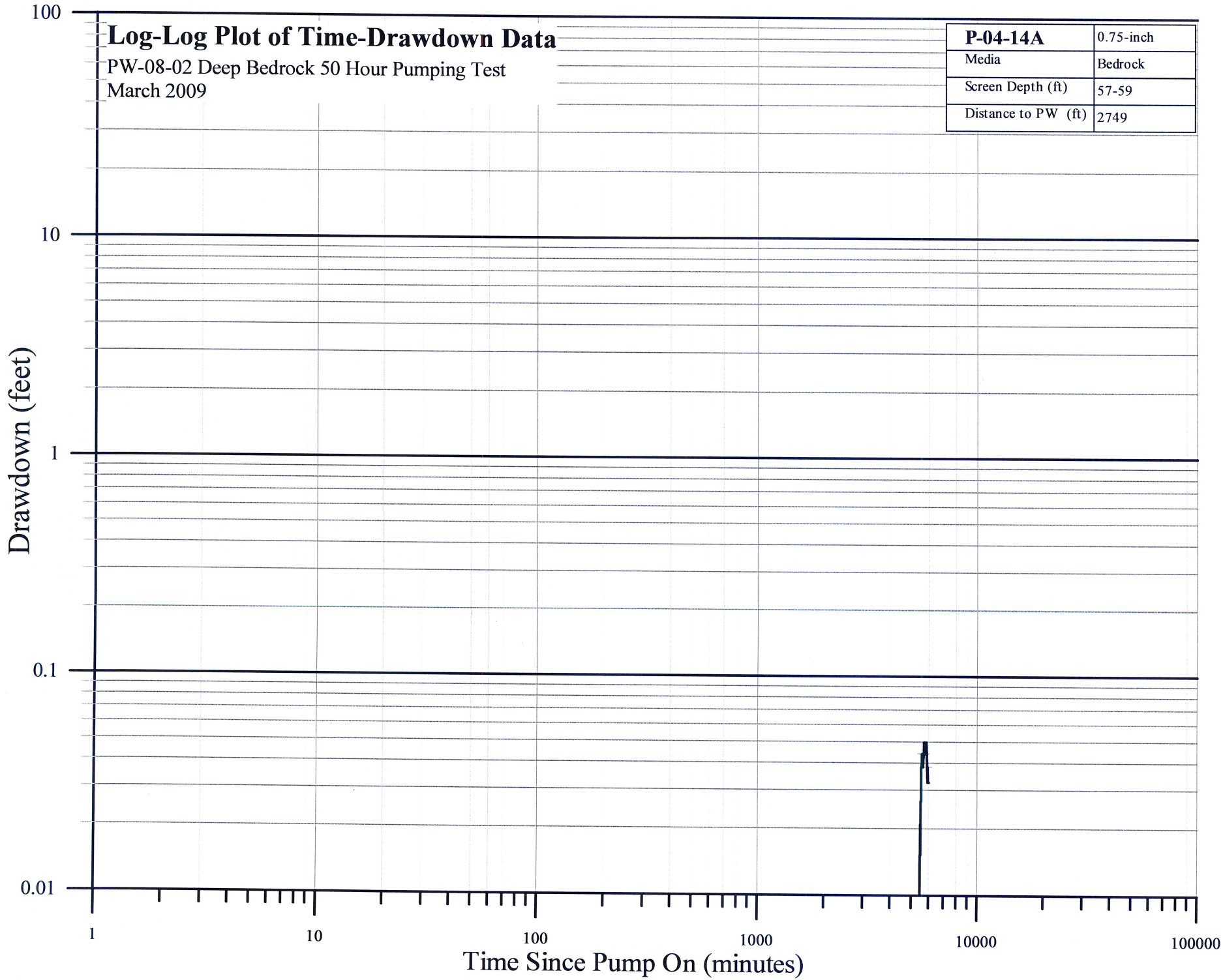

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-12A
0.75-inch
Media
Bedrock
Screen Depth (ft)
59-64
Distance to PW (ft)
1569
NO DRAWDOWN, WATER LEVEL ROSE THROUGHOUT TEST
Drawdown (feet)
100
10
1
0.1
0.01
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

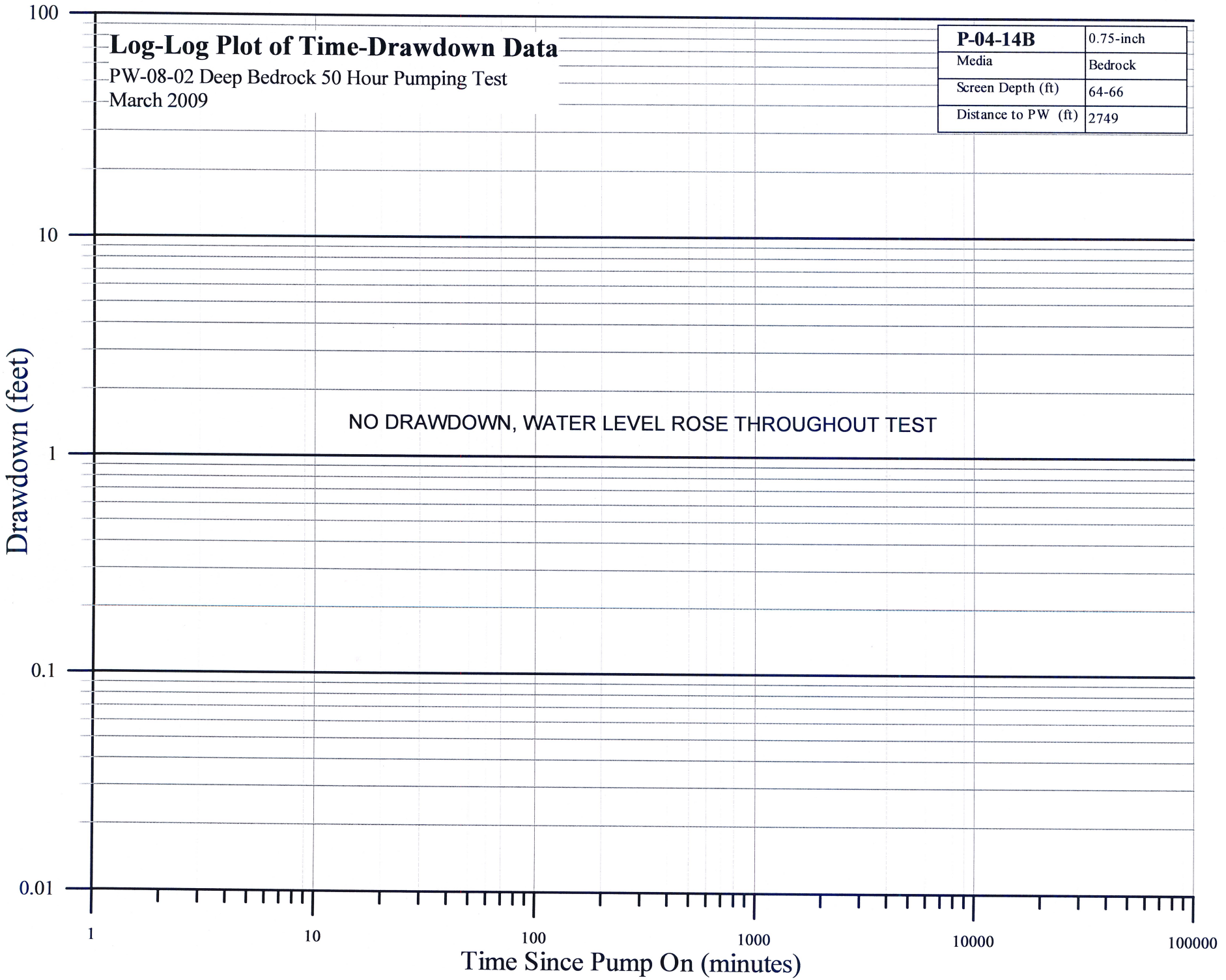

Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-13A
0.75-inch
Media
Bedrock
Screen Depth (ft)
125.5-127.5
Distance to PW (ft)
2060
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

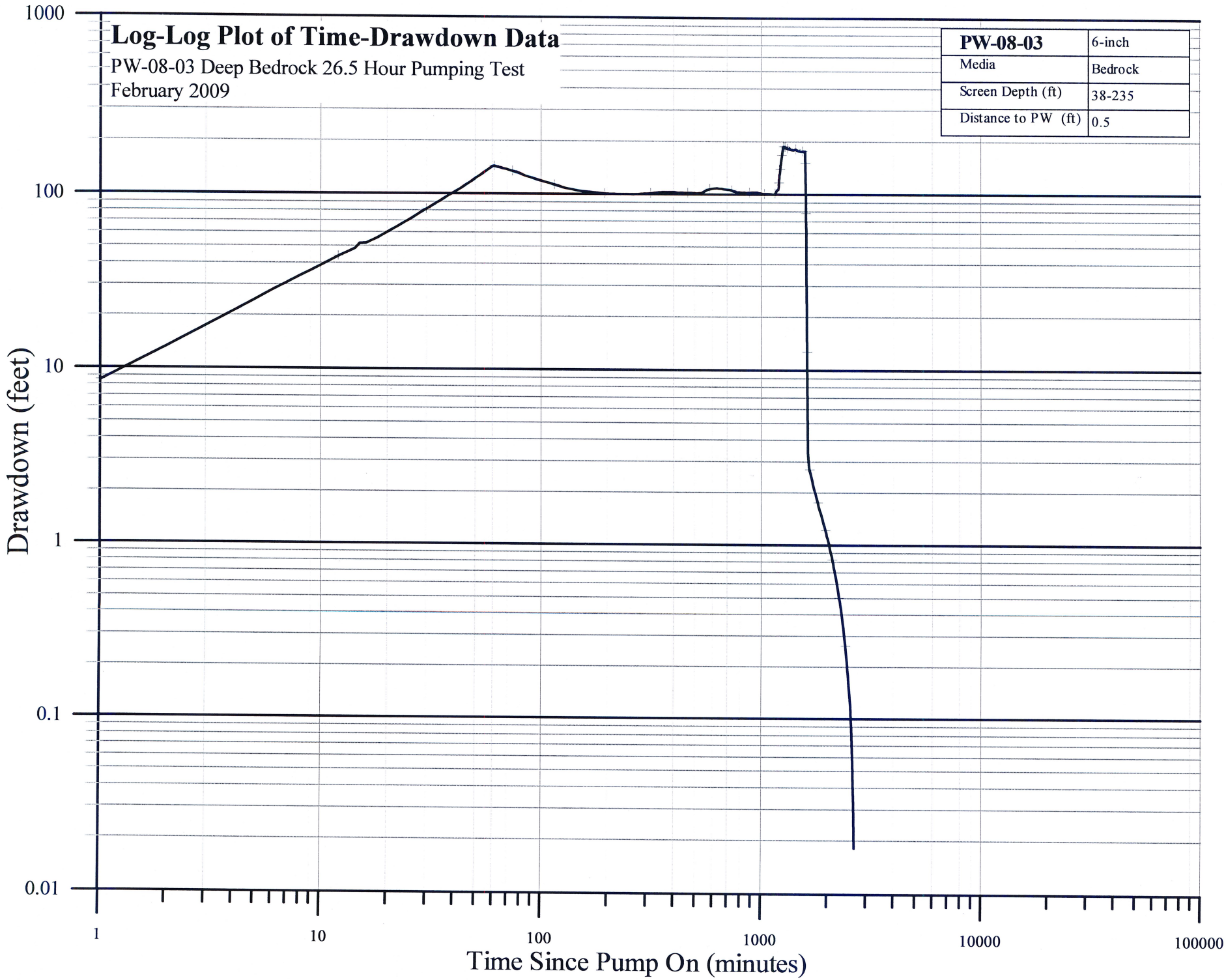
Log-Log Plot of Time-Drawdown Data

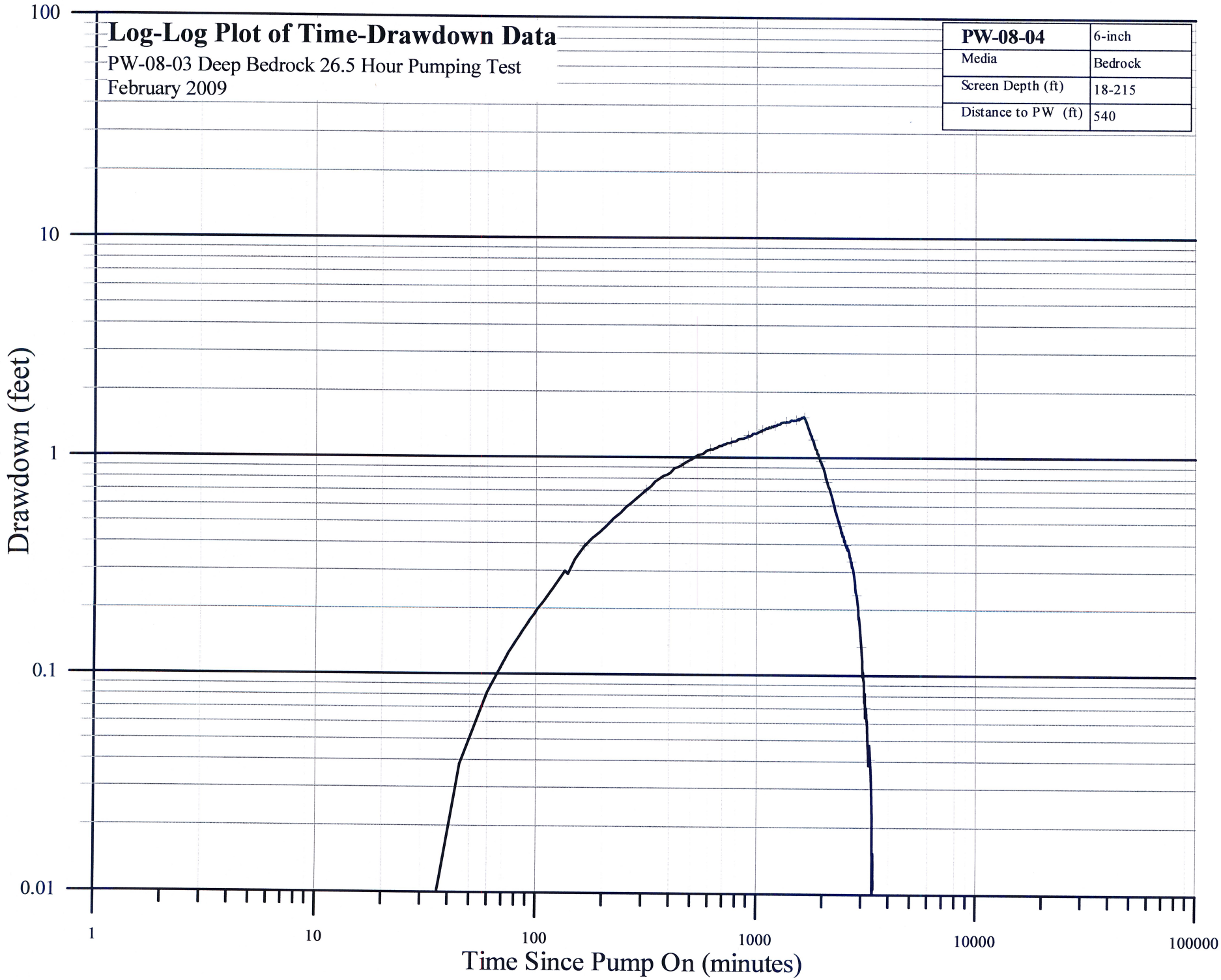
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009

P-04-14A	0.75-inch
Media	Bedrock
Screen Depth (ft)	57-59
Distance to PW (ft)	2749




Log-Log Plot of Time-Drawdown Data
PW-08-02 Deep Bedrock 50 Hour Pumping Test
March 2009
P-04-14B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Distance to PW (ft)
2749
NO DRAWDOWN, WATER LEVEL ROSE THROUGHOUT TEST
Drawdown (feet)
100
10
1
0.1
0.01
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

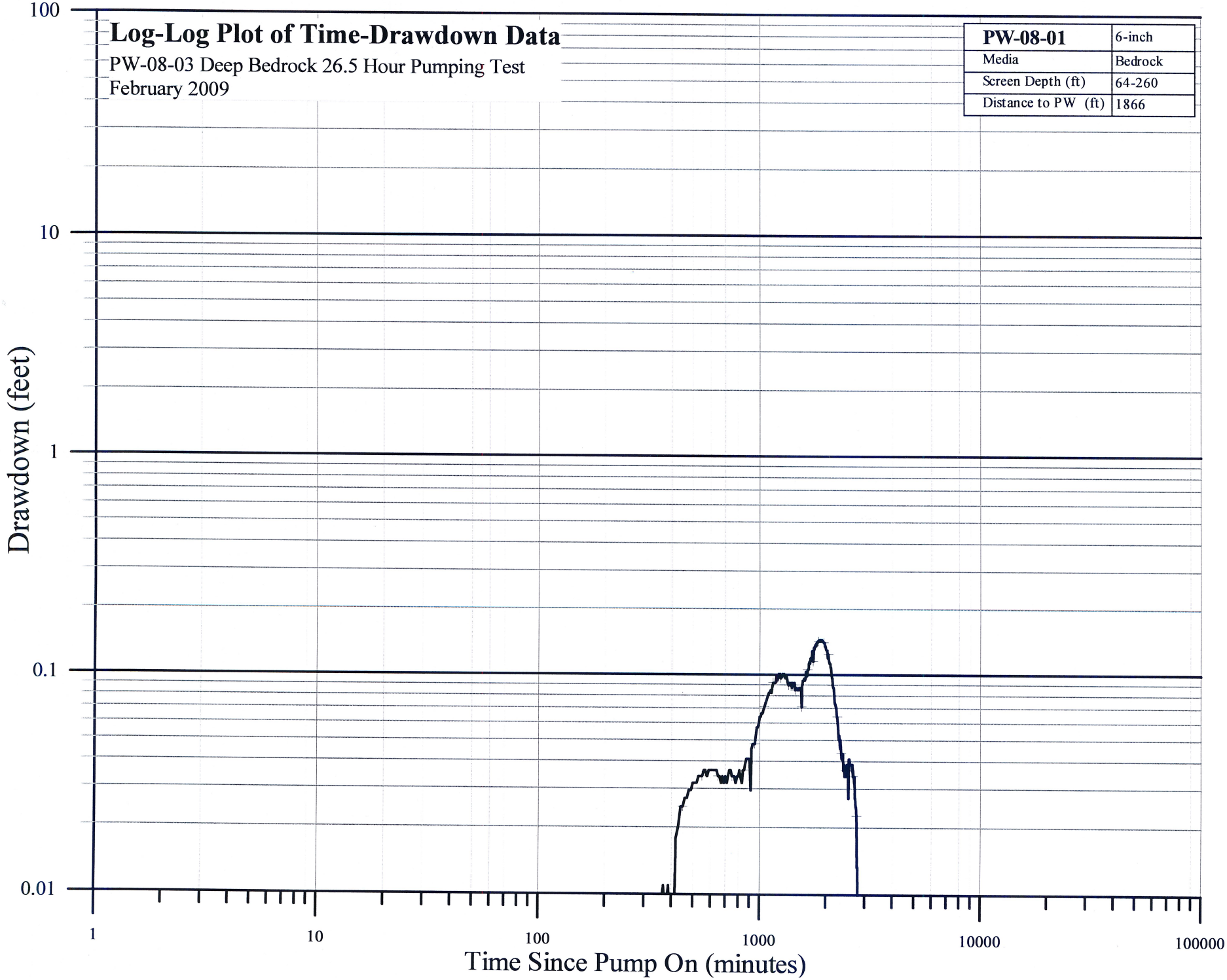

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
PW-08-03 | 6-inch
Media | Bedrock
Screen Depth (ft) | 38-235
Distance to PW (ft) | 0.5
1000
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
PW-08-04 | 6-inch
Media | Bedrock
Screen Depth (ft) | 18-215
Distance to PW (ft) | 540
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

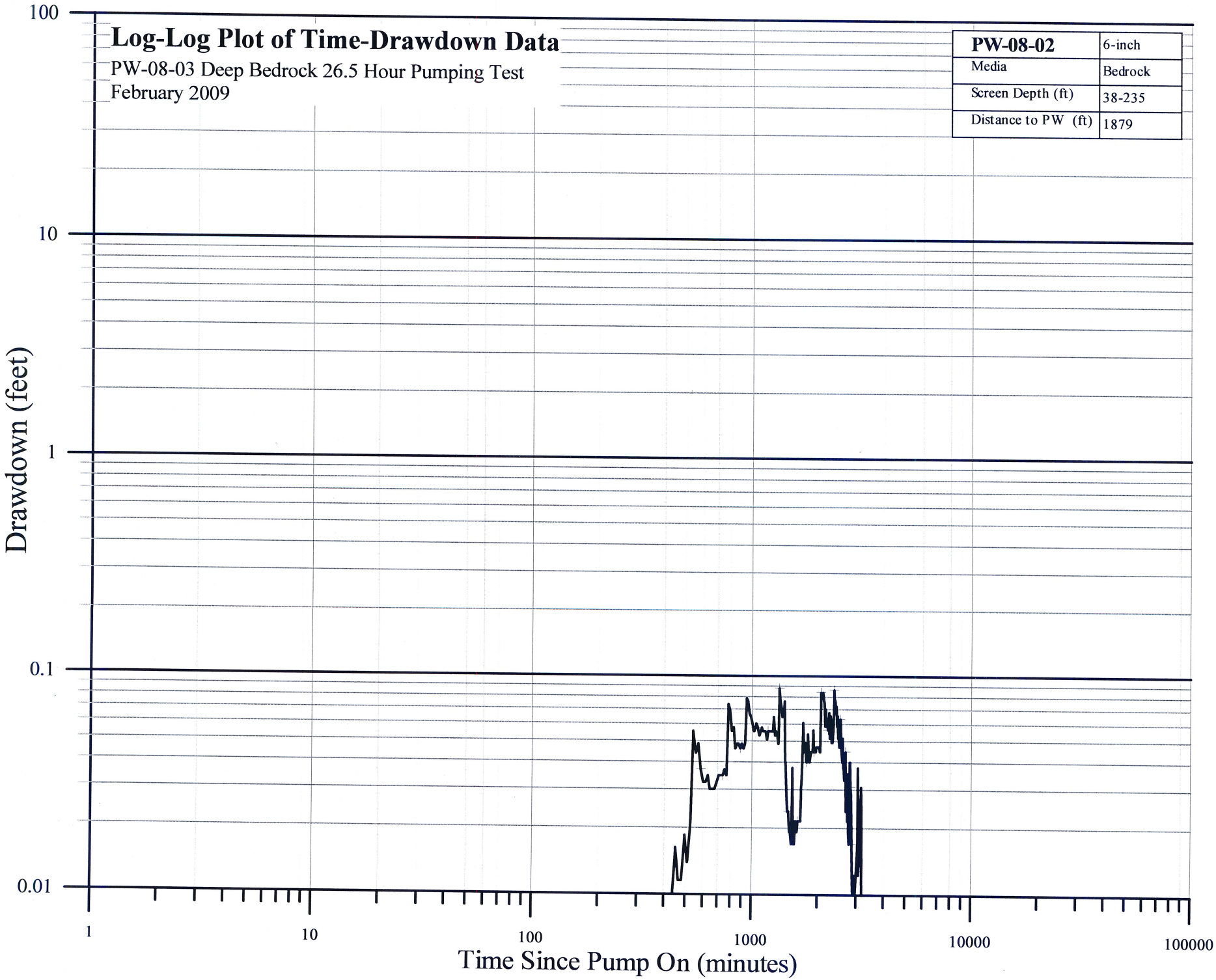
PW-08-01	6-inch
Media	Bedrock
Screen Depth (ft)	64-260
Distance to PW (ft)	1866

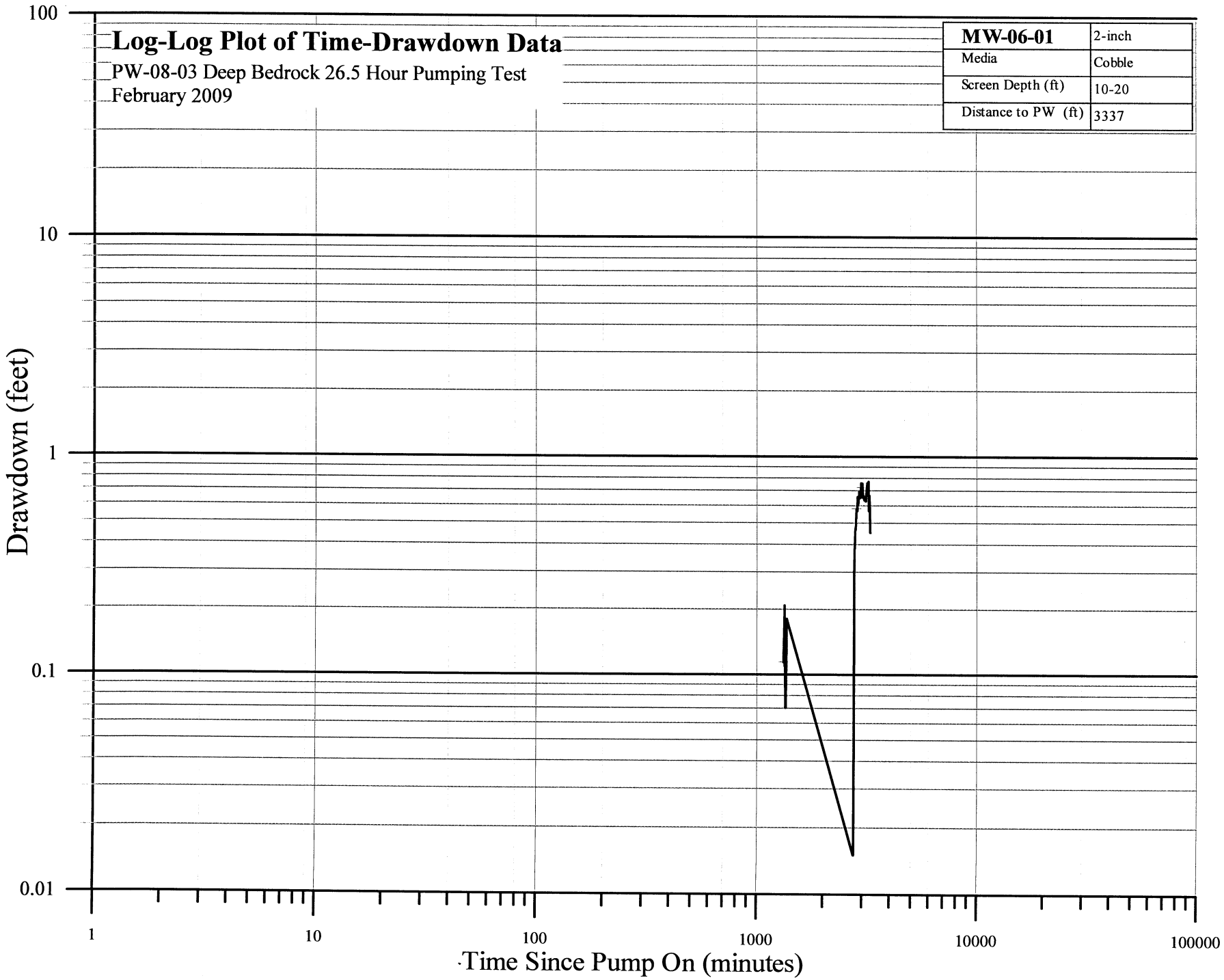


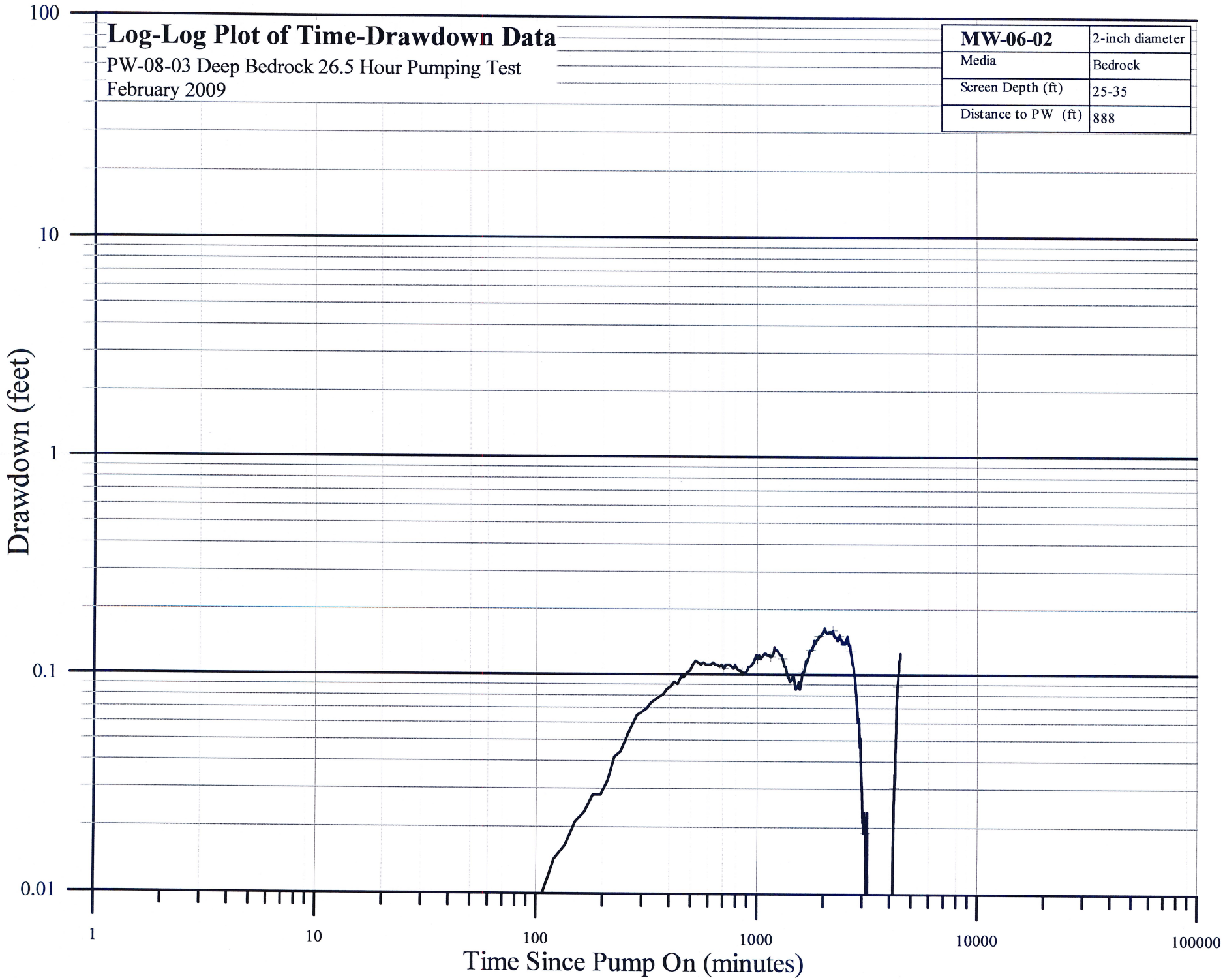
Log-Log Plot of Time-Drawdown Data

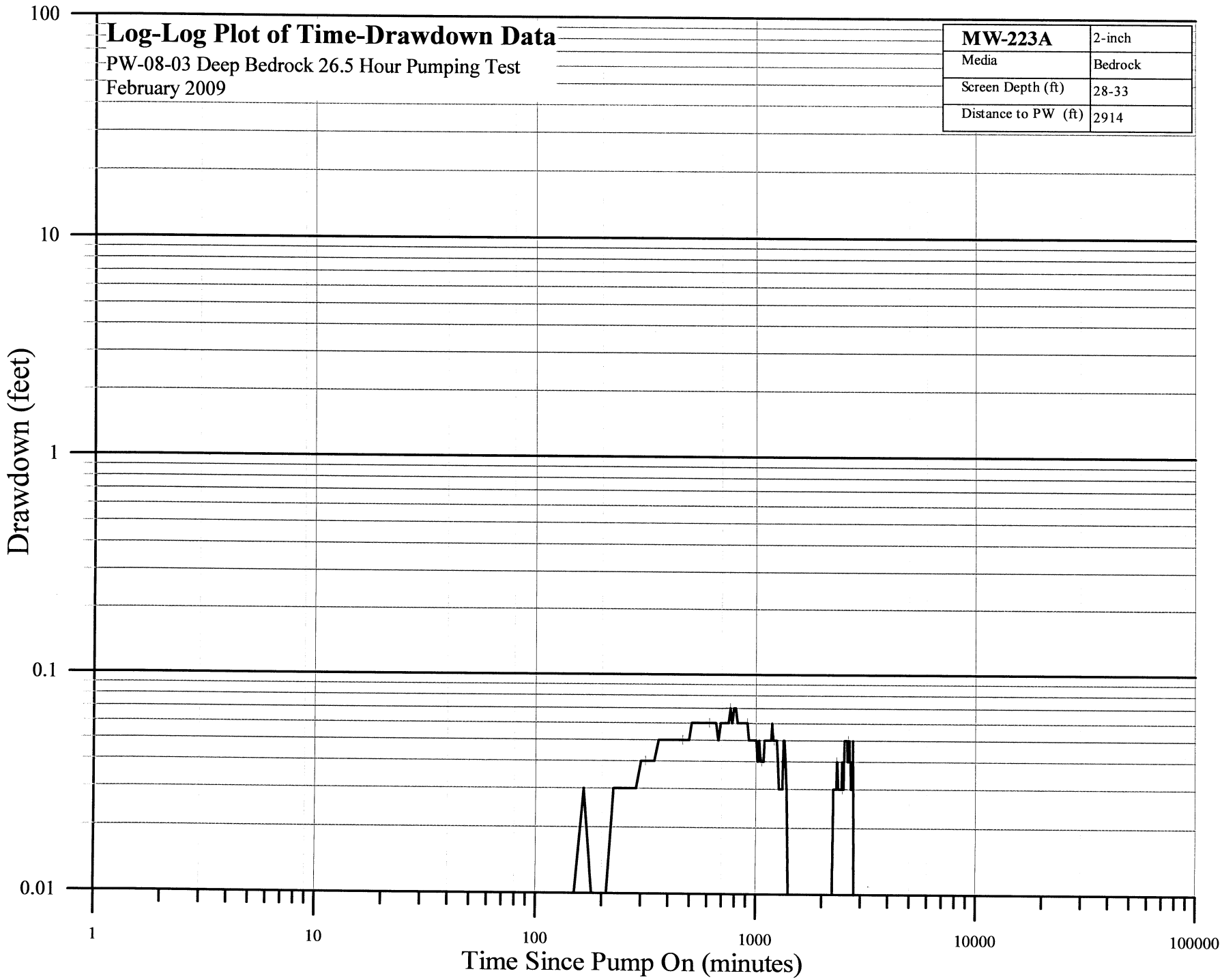
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

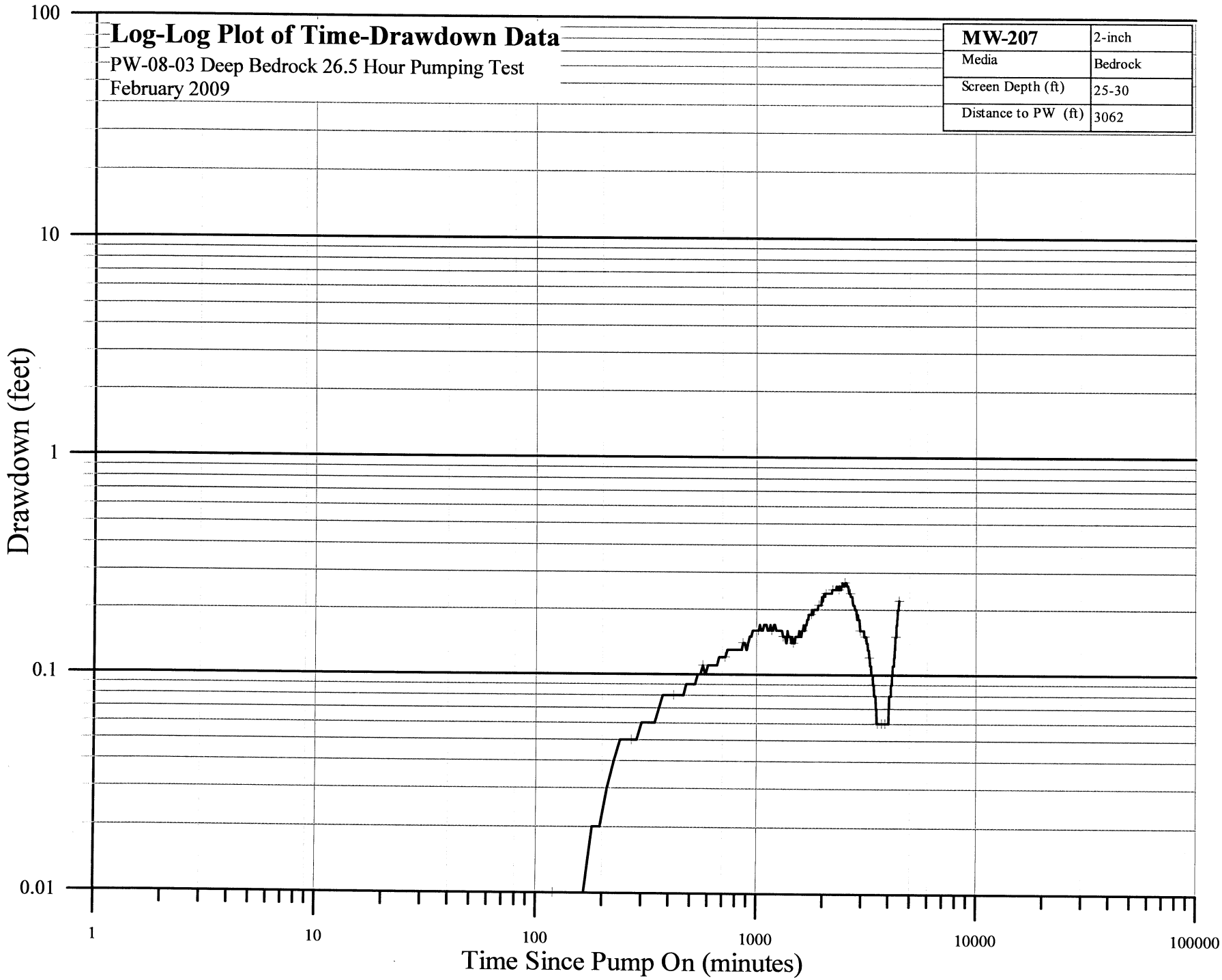
PW-08-02	6-inch
Media	Bedrock
Screen Depth (ft)	38-235
Distance to PW (ft)	1879

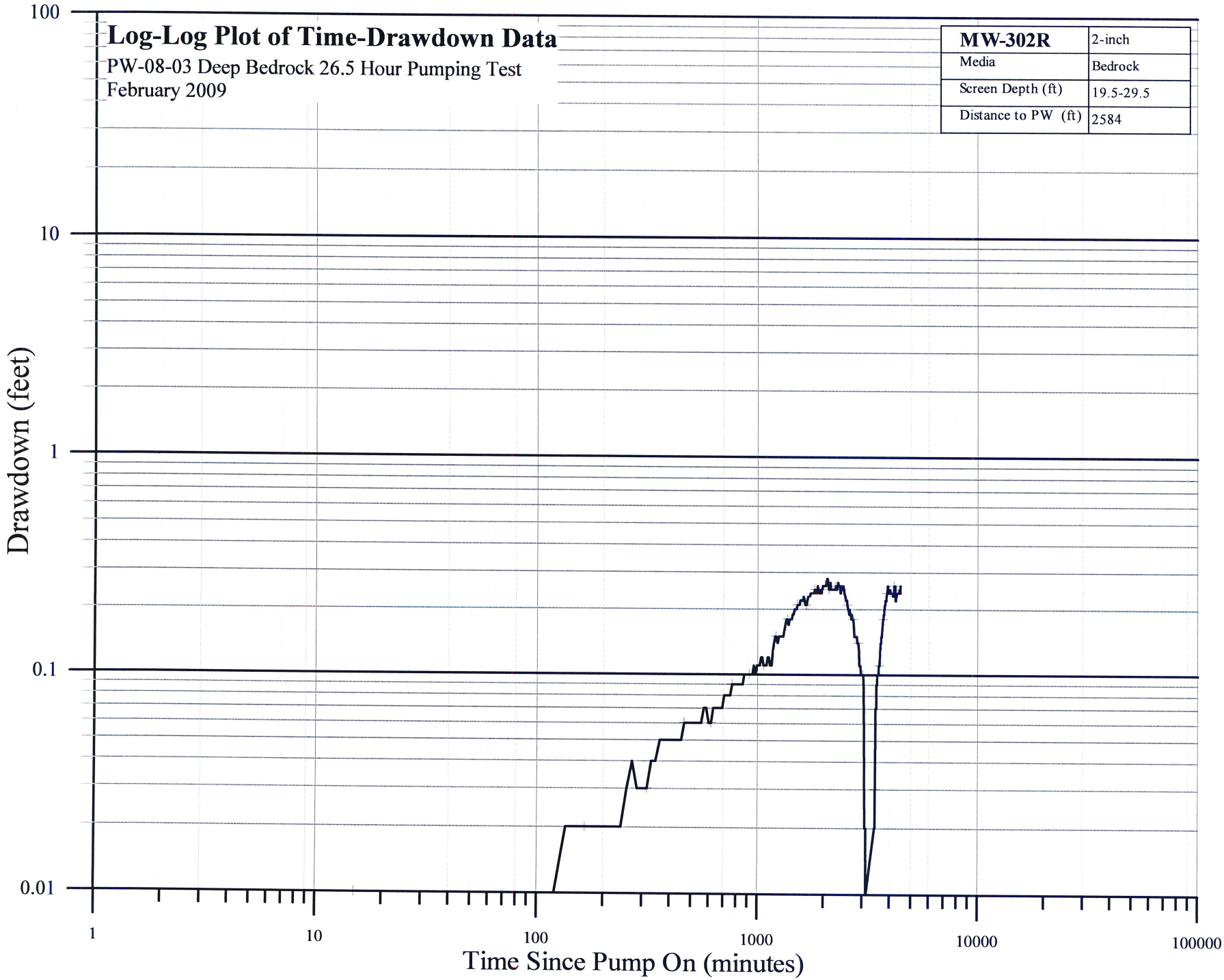


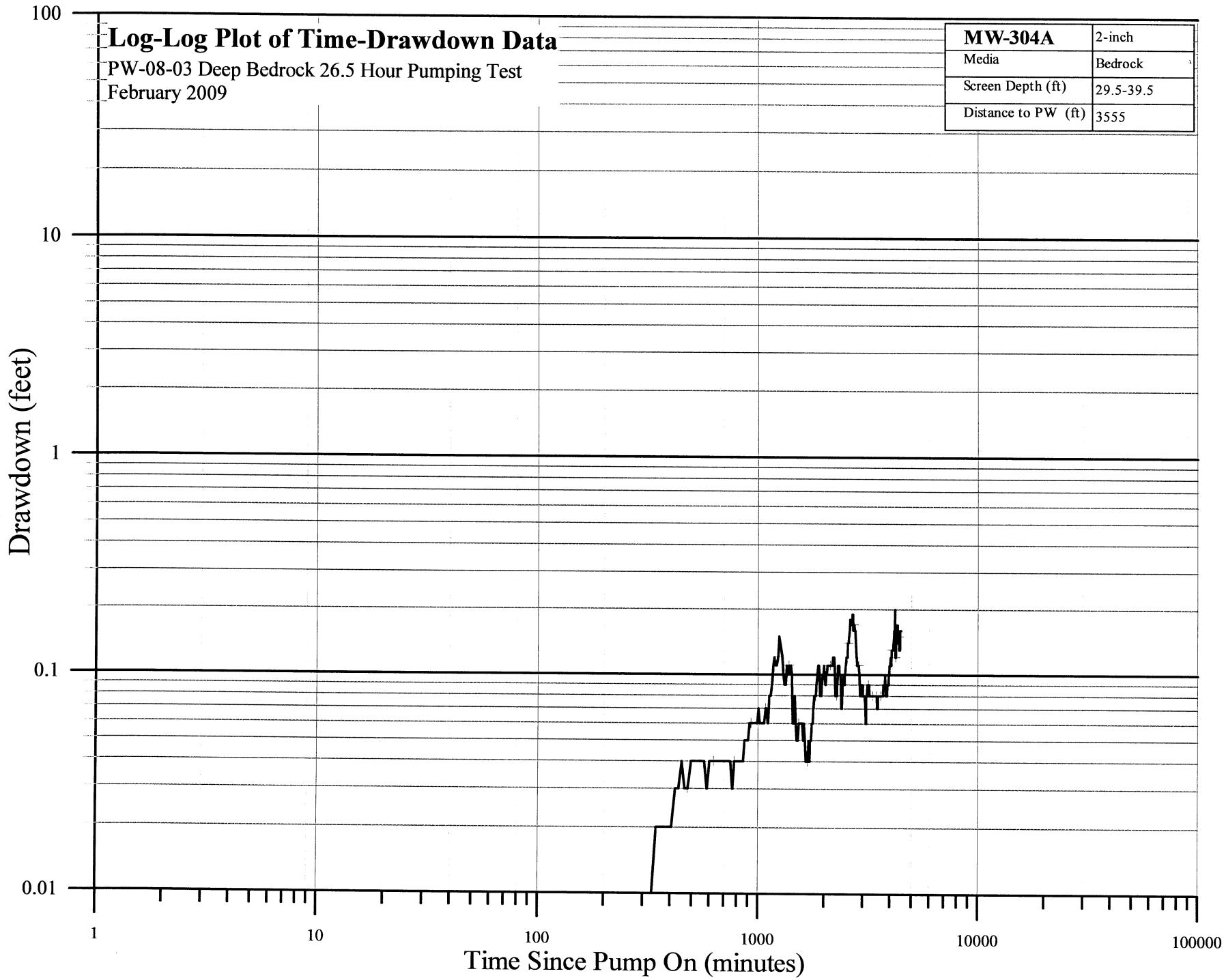

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-06-01 2-inch
Media Cobble
Screen Depth (ft) 10-20
Distance to PW (ft) 3337
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

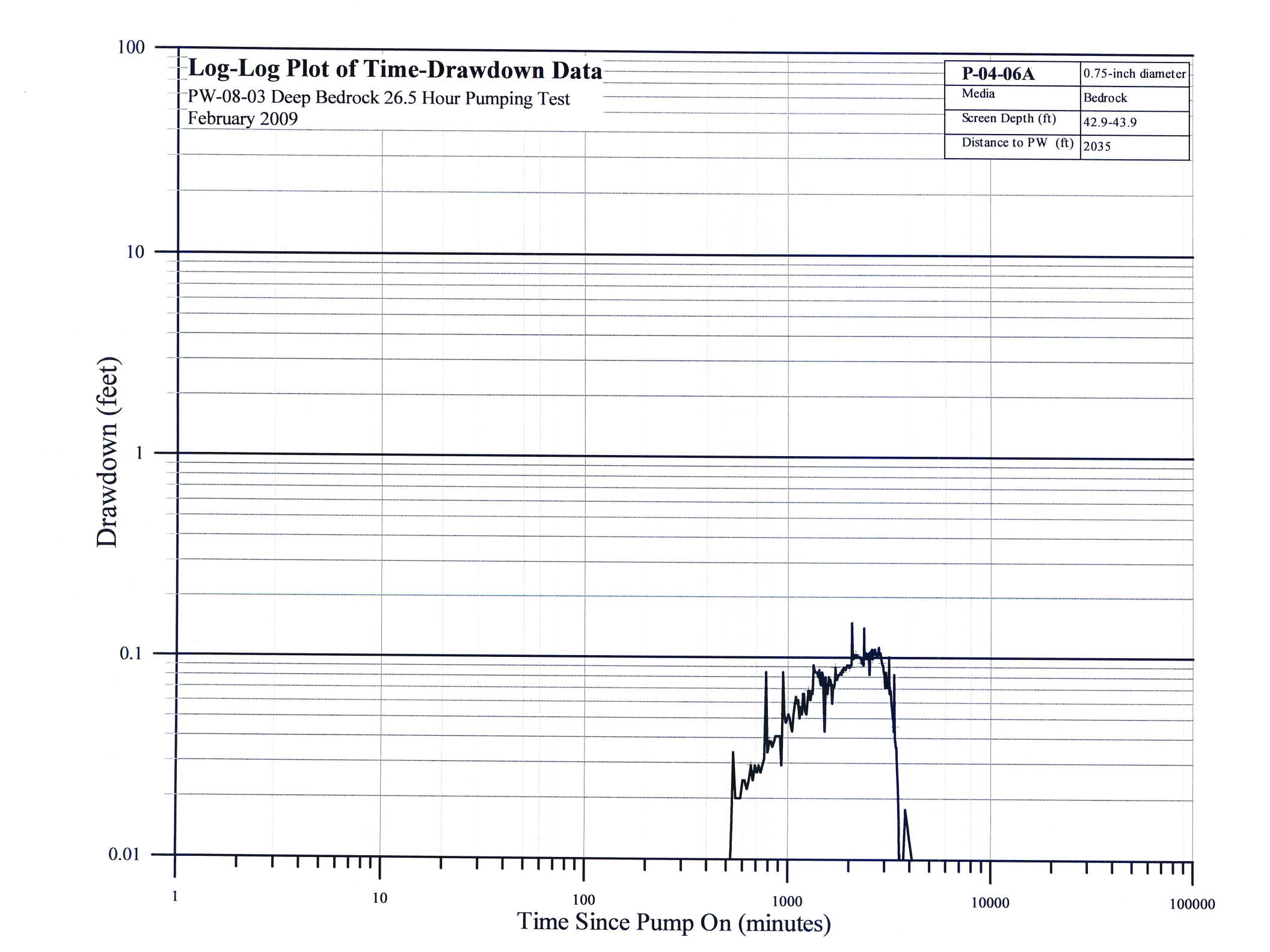

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-06-02
2-inch diameter
Media
Bedrock
Screen Depth (ft)
25-35
Distance to PW (ft)
888
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-223A
2-inch
Media
Bedrock
Screen Depth (ft)
28-33
Distance to PW (ft)
2914
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-207 | 2-inch
Media | Bedrock
Screen Depth (ft) | 25-30
Distance to PW (ft) | 3062
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-302R
2-inch
Media
Bedrock
Screen Depth (ft)
19.5-29.5
Distance to PW (ft)
2584
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

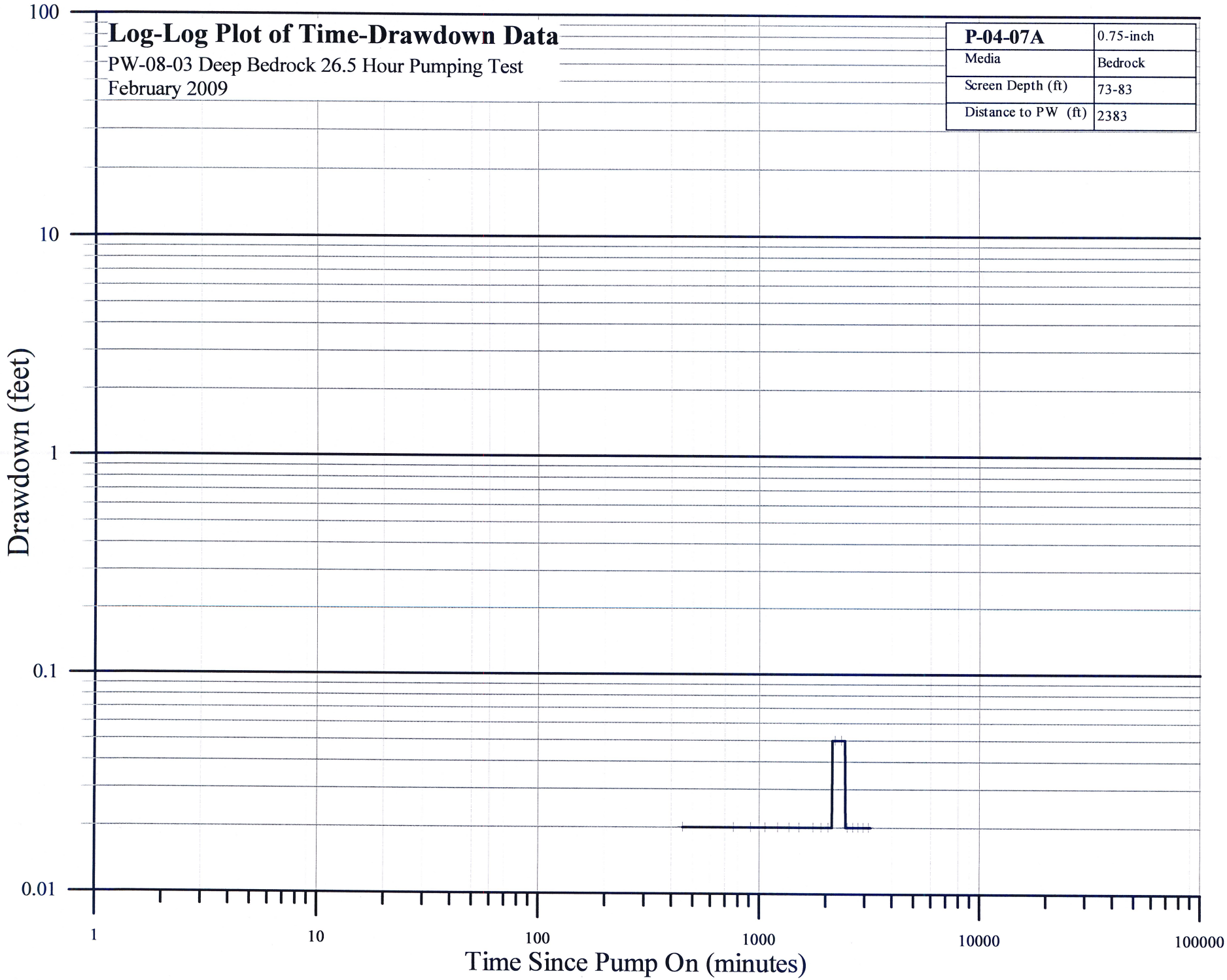

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-304A
2-inch
Media
Bedrock
Screen Depth (ft)
29.5-39.5
Distance to PW (ft)
3555
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-06A
0.75-inch diameter
Media
Bedrock
Screen Depth (ft)
42.9-43.9
Distance to PW (ft)
2035
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

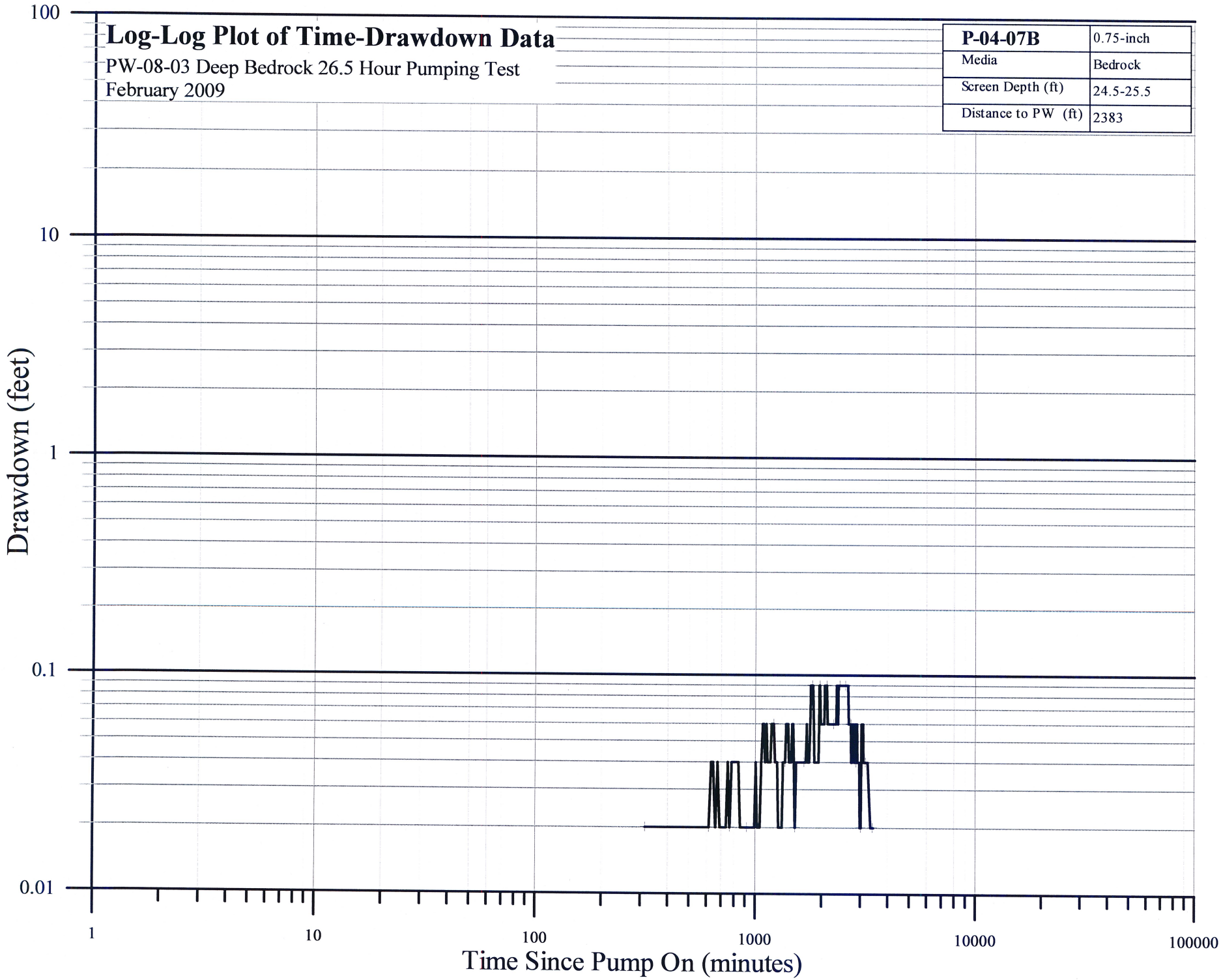
P-04-07A	0.75-inch
Media	Bedrock
Screen Depth (ft)	73-83
Distance to PW (ft)	2383



Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

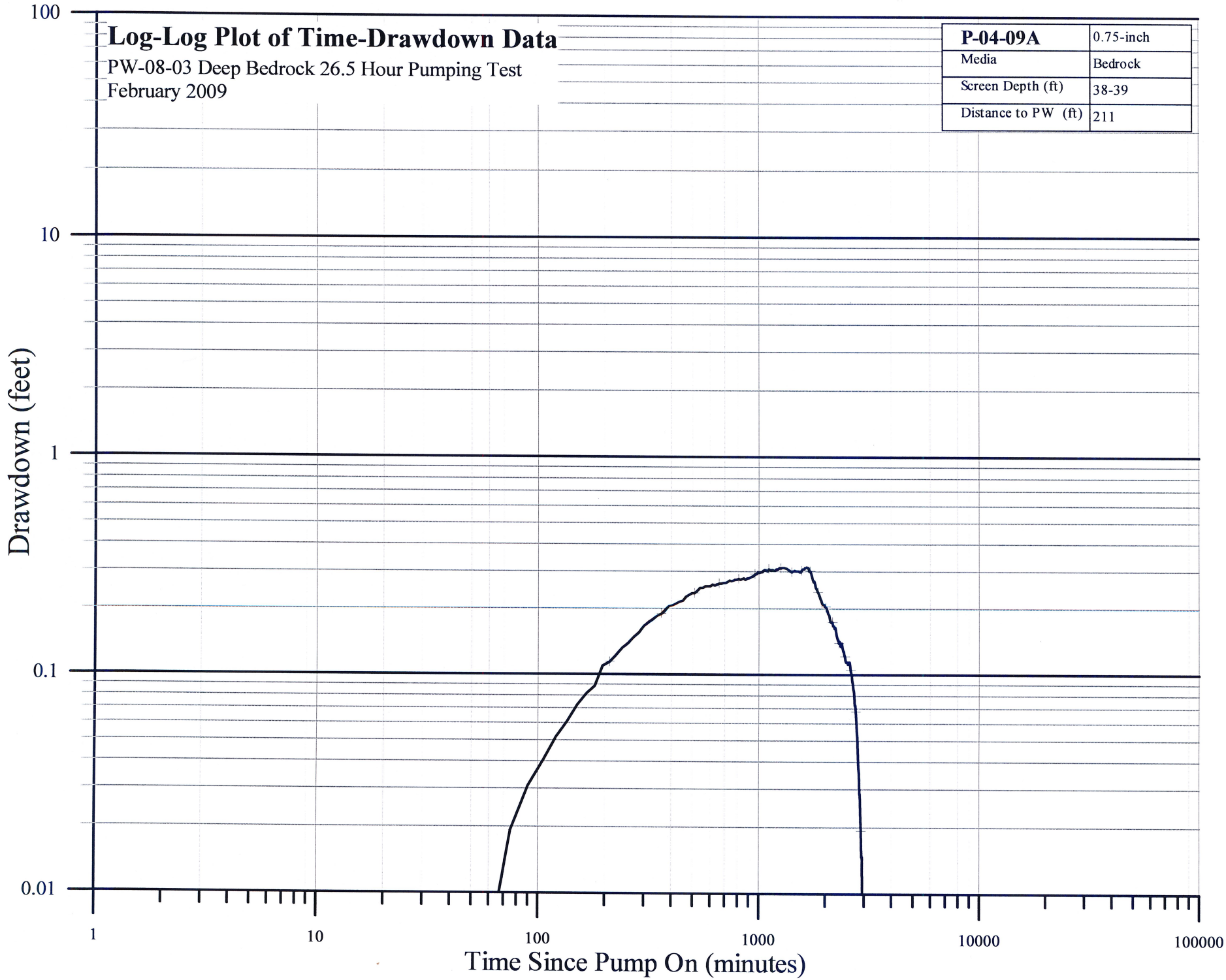
P-04-07B	0.75-inch
Media	Bedrock
Screen Depth (ft)	24.5-25.5
Distance to PW (ft)	2383



Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

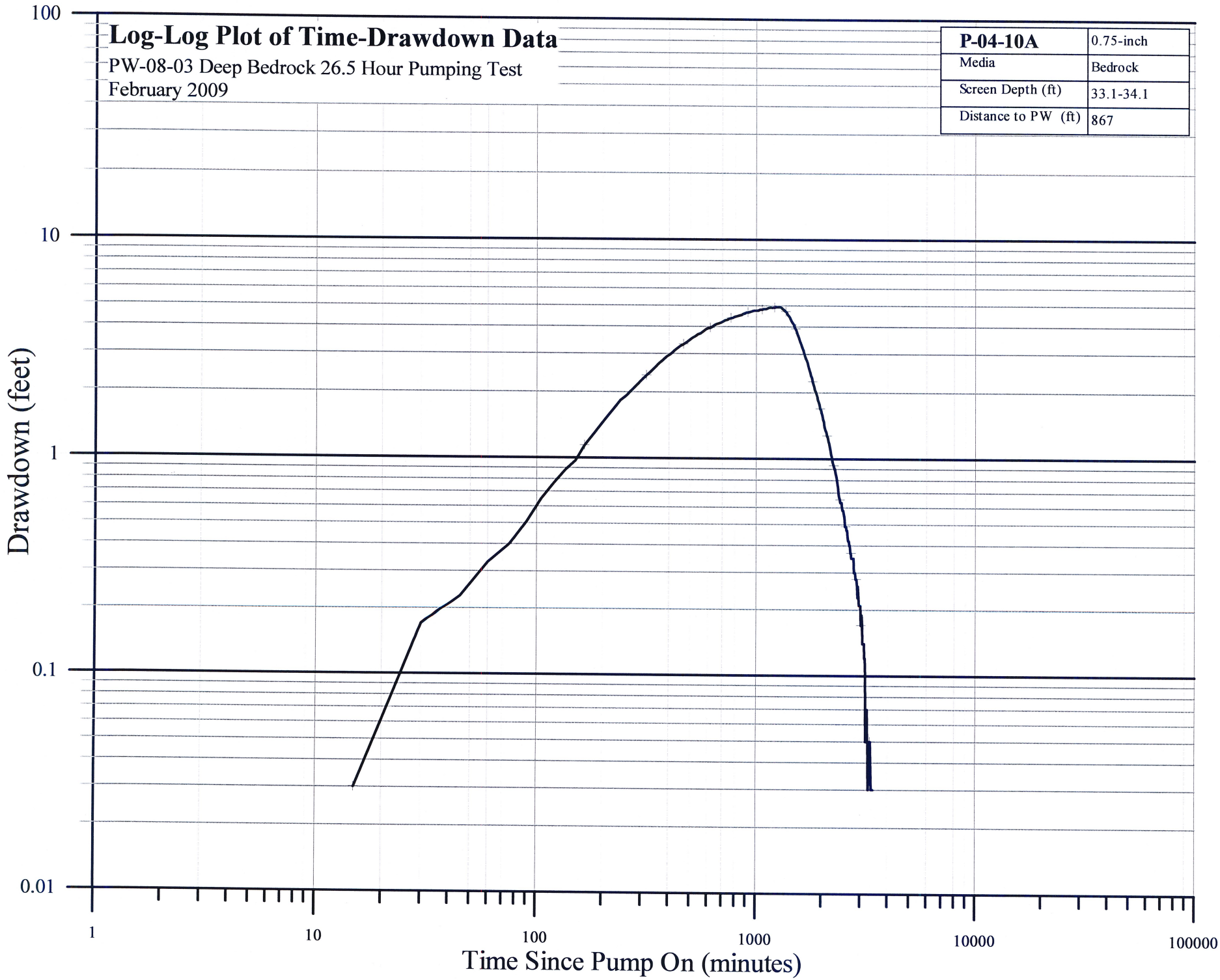
P-04-09A	0.75-inch
Media	Bedrock
Screen Depth (ft)	38-39
Distance to PW (ft)	211



Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

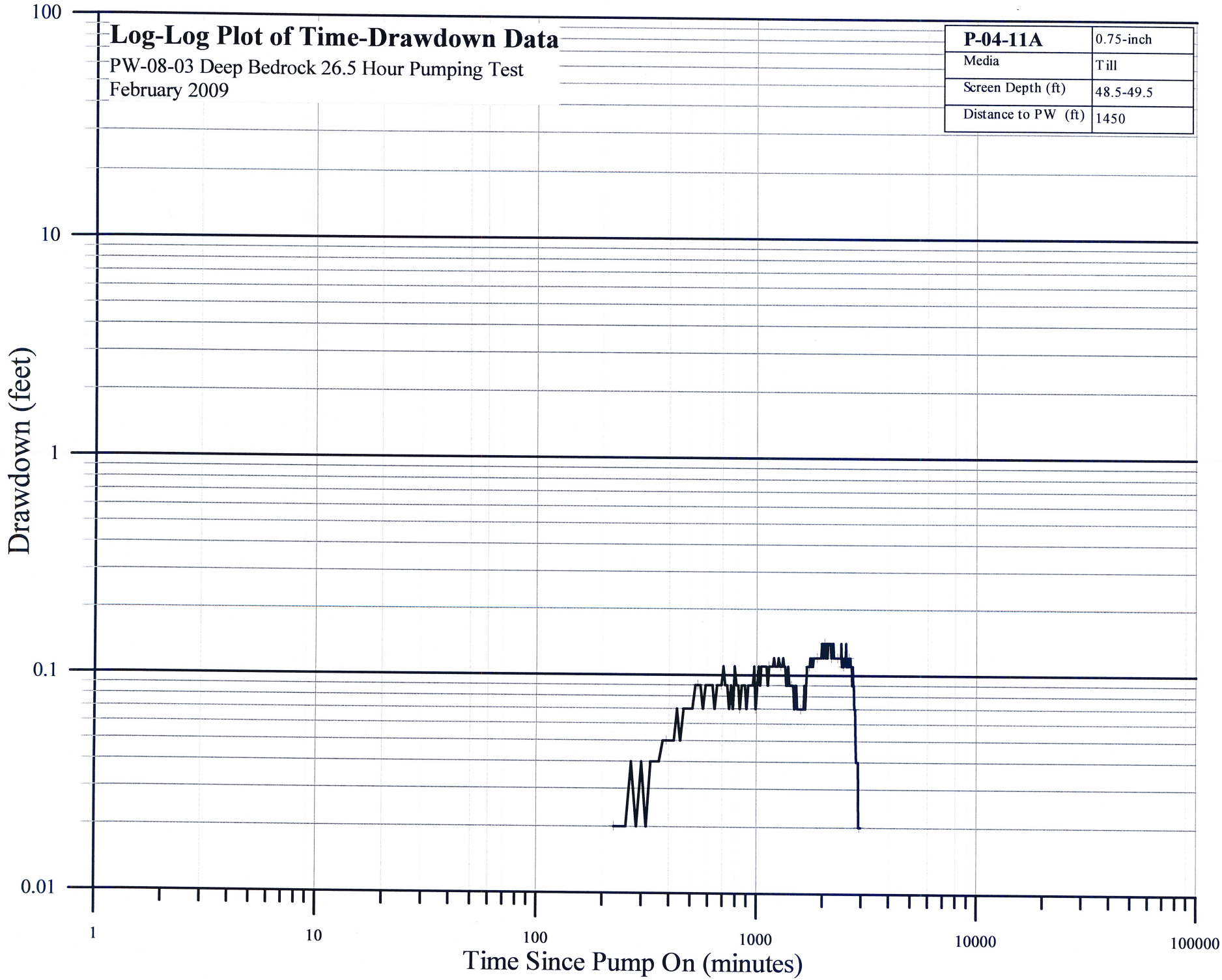
P-04-10A	0.75-inch
Media	Bedrock
Screen Depth (ft)	33.1-34.1
Distance to PW (ft)	867

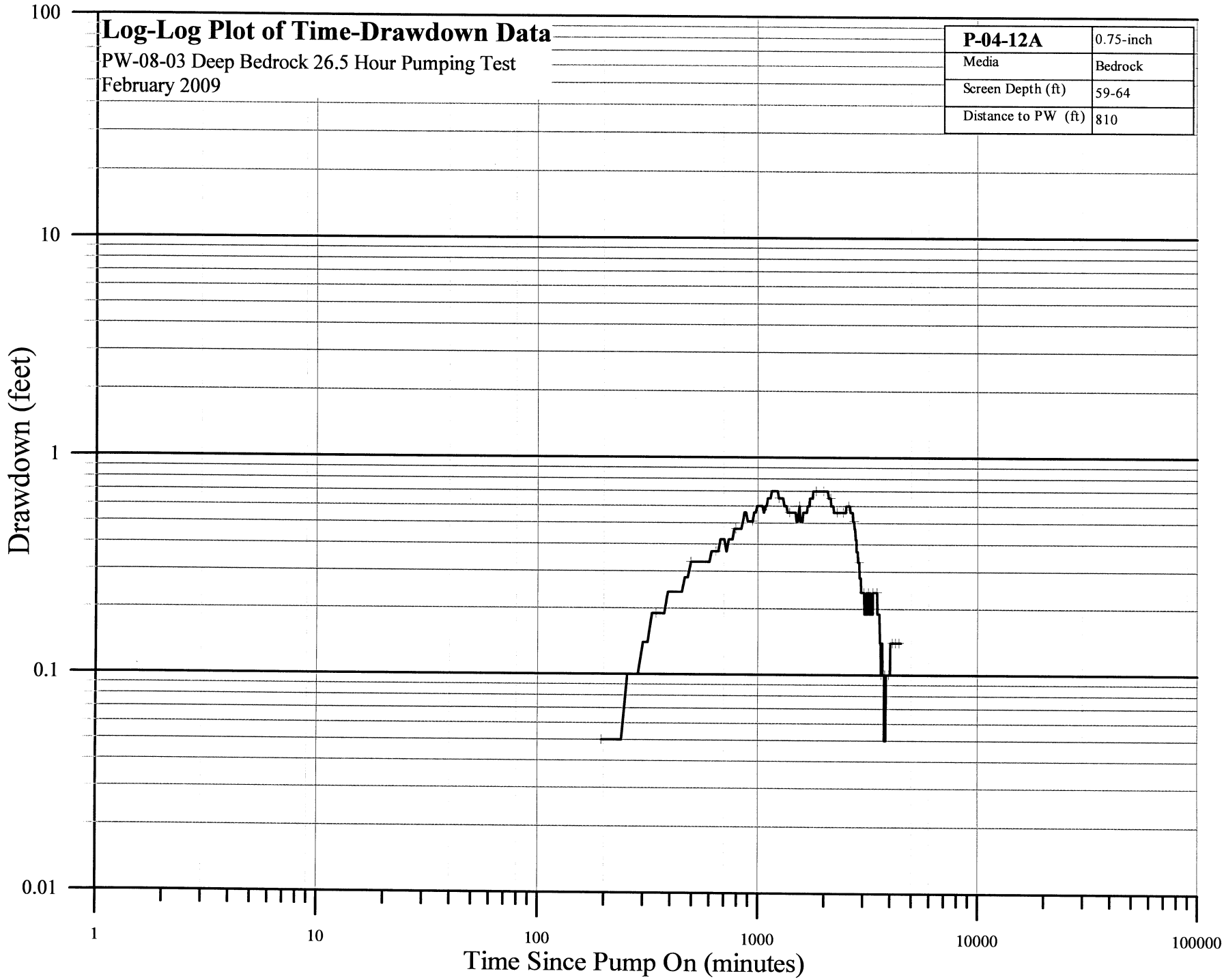


Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-11A	0.75-inch
Media	Till
Screen Depth (ft)	48.5-49.5
Distance to PW (ft)	1450

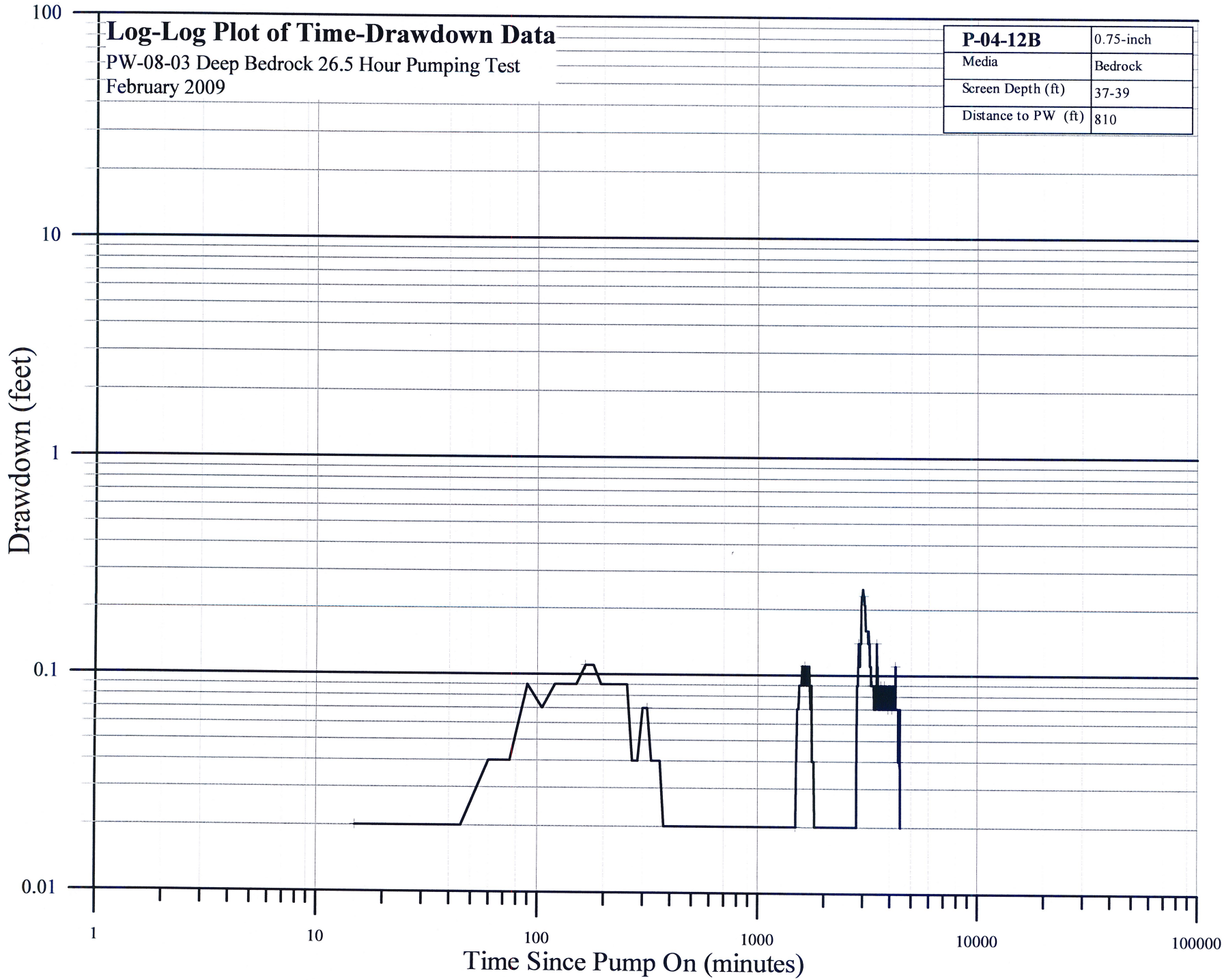


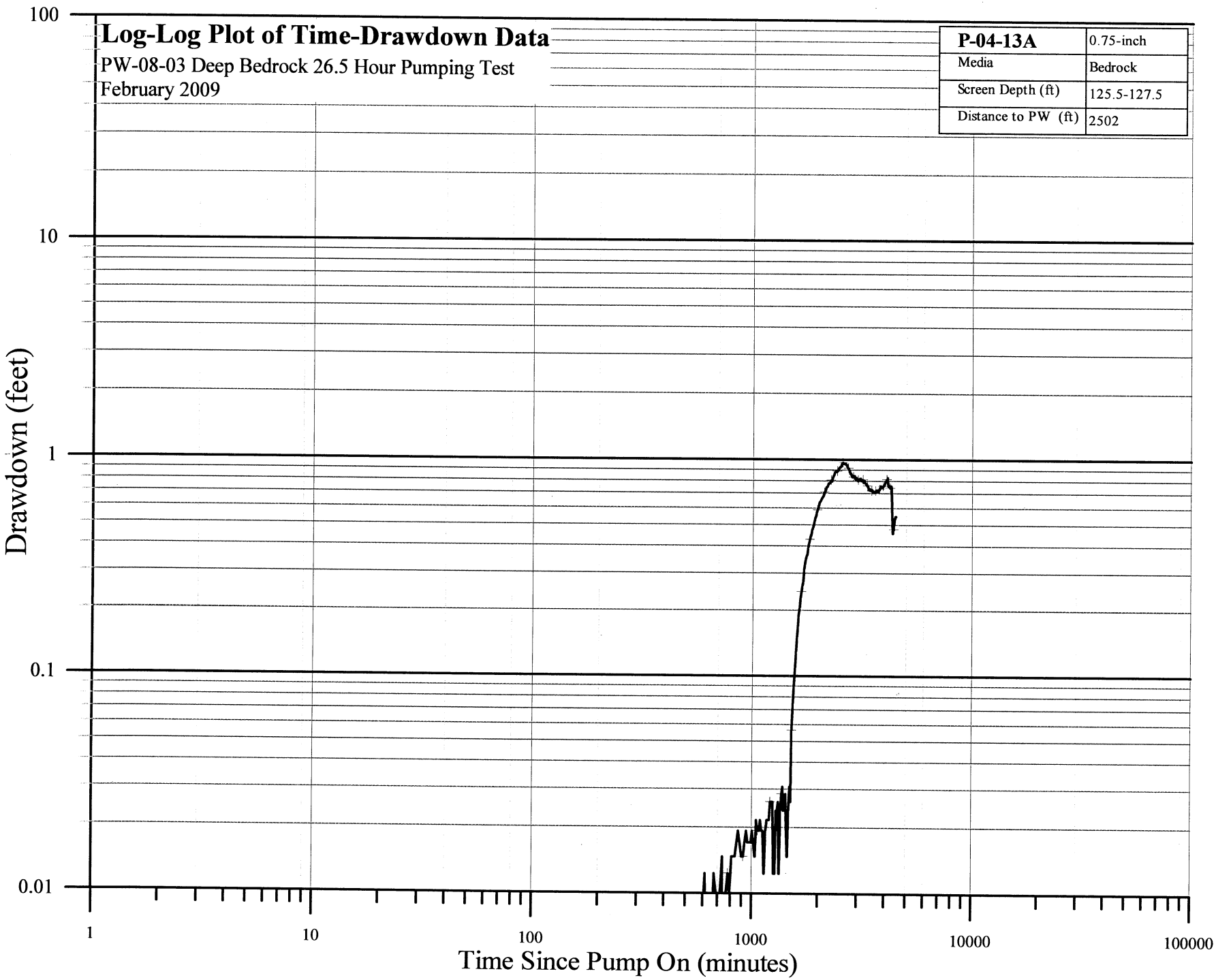

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-12A
0.75-inch
Media
Bedrock
Screen Depth (ft)
59-64
Distance to PW (ft)
810
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-12B	0.75-inch
Media	Bedrock
Screen Depth (ft)	37-39
Distance to PW (ft)	810

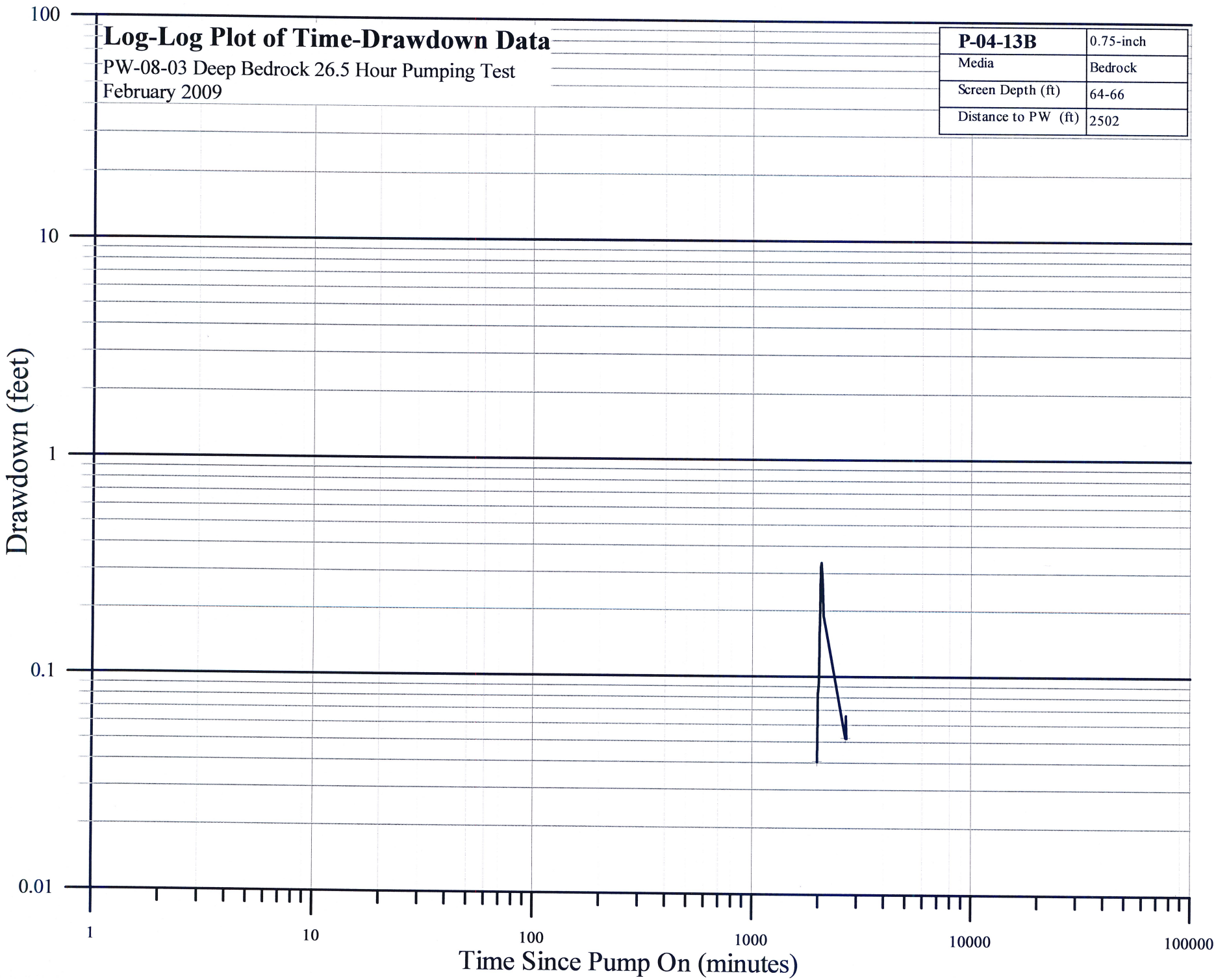



Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-13A
0.75-inch
Media
Bedrock
Screen Depth (ft)
125.5-127.5
Distance to PW (ft)
2502
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

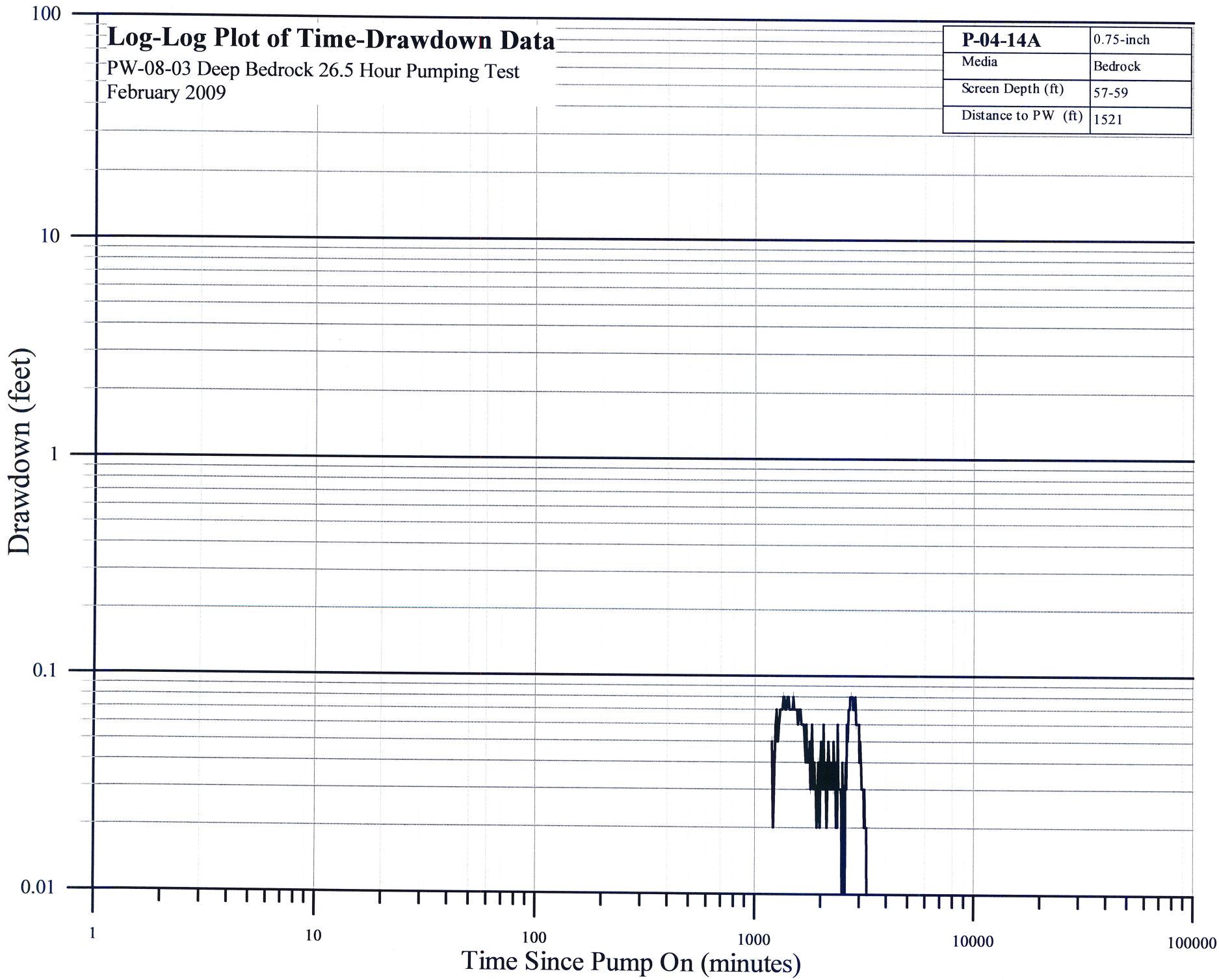
P-04-13B	0.75-inch
Media	Bedrock
Screen Depth (ft)	64-66
Distance to PW (ft)	2502

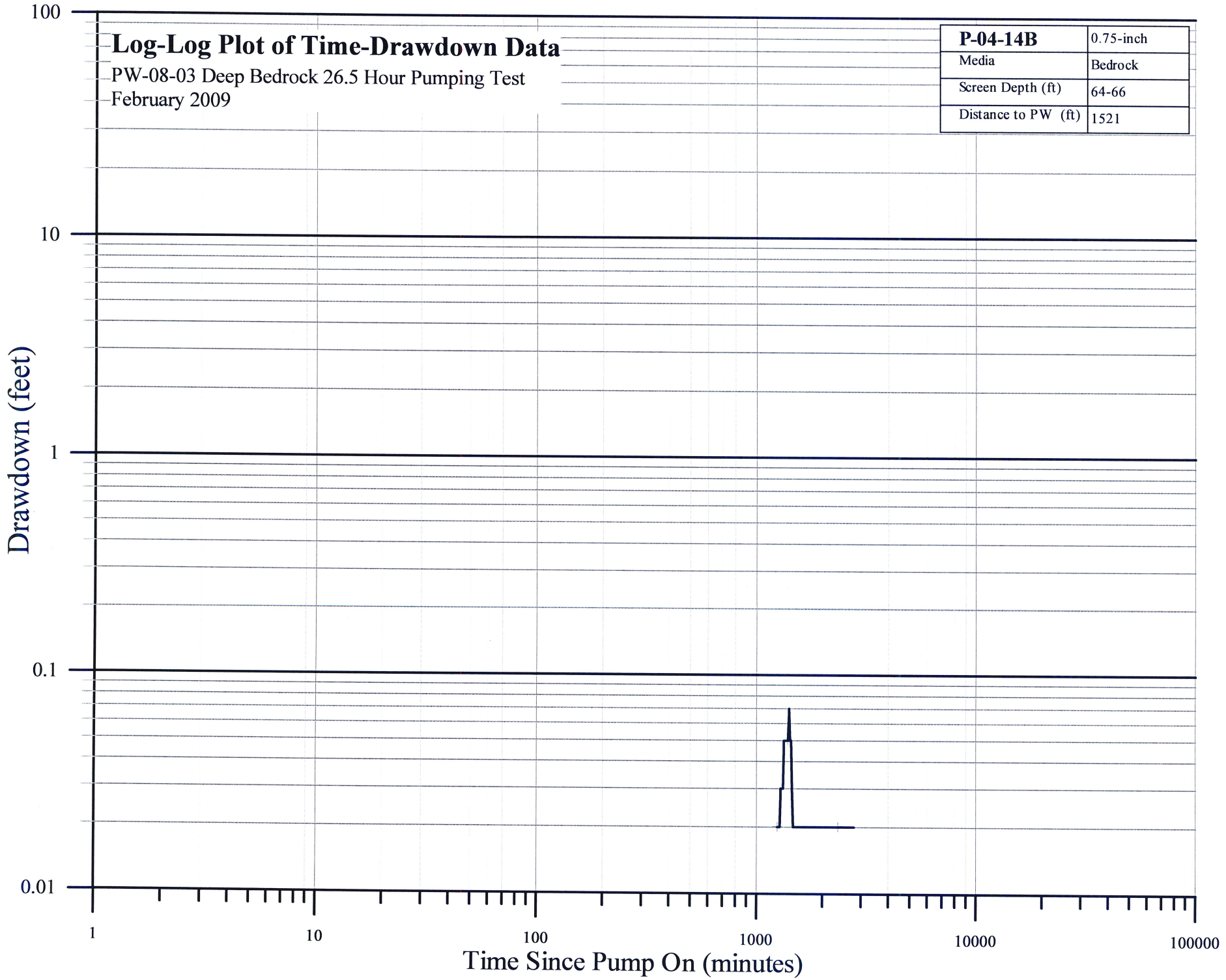


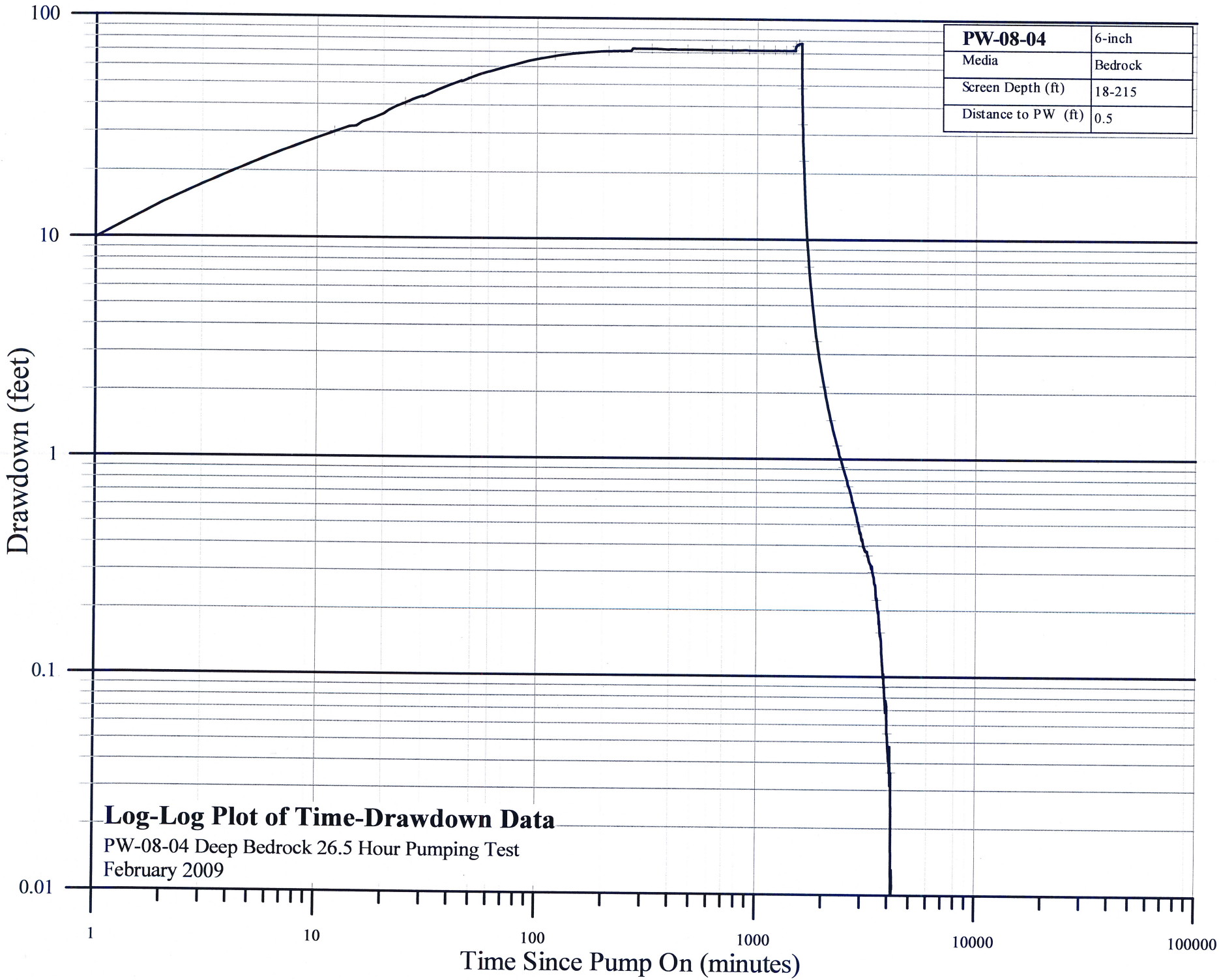
Log-Log Plot of Time-Drawdown Data

PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-14A	0.75-inch
Media	Bedrock
Screen Depth (ft)	57-59
Distance to PW (ft)	1521



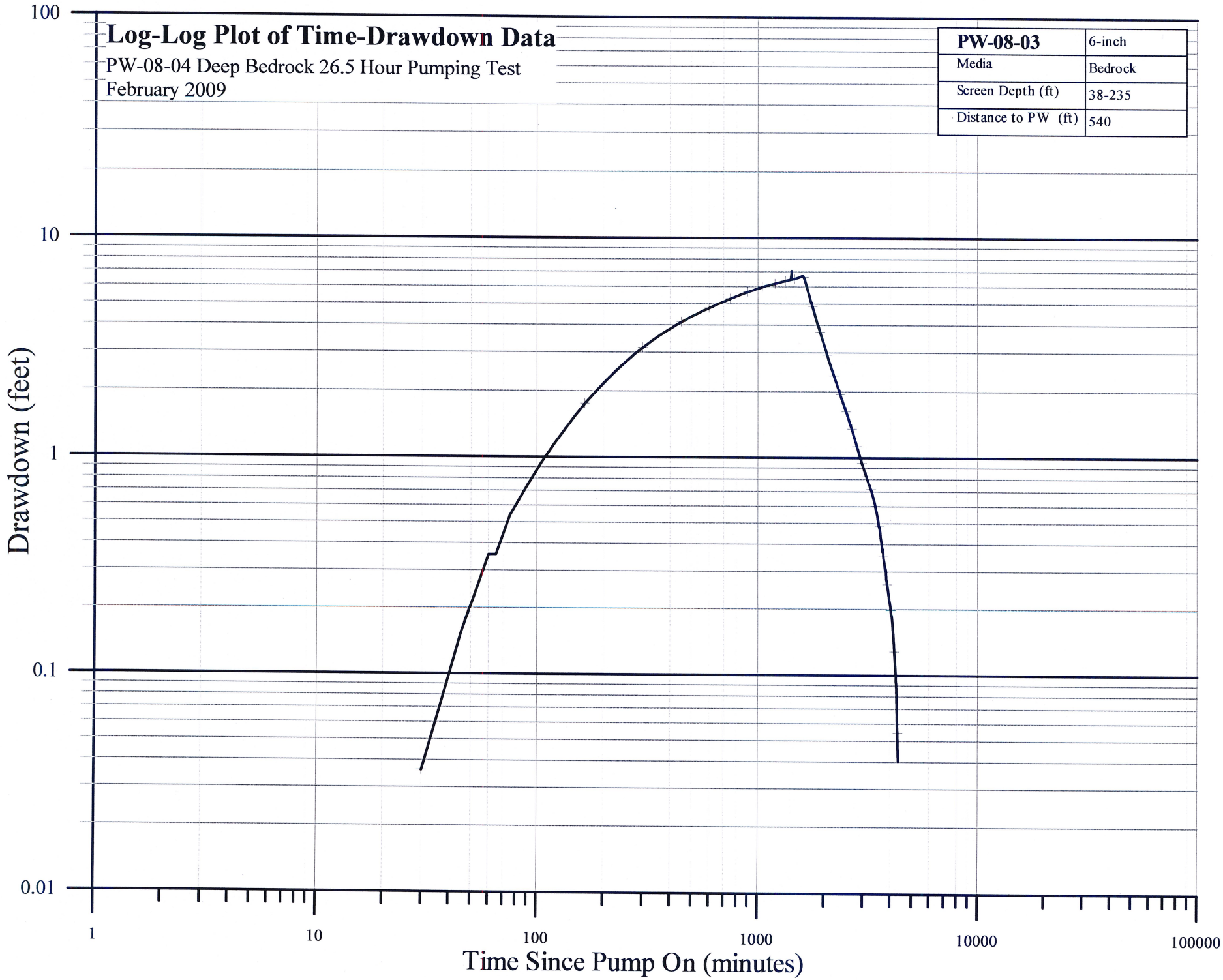

Log-Log Plot of Time-Drawdown Data
PW-08-03 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-14B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Distance to PW (ft)
1521
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

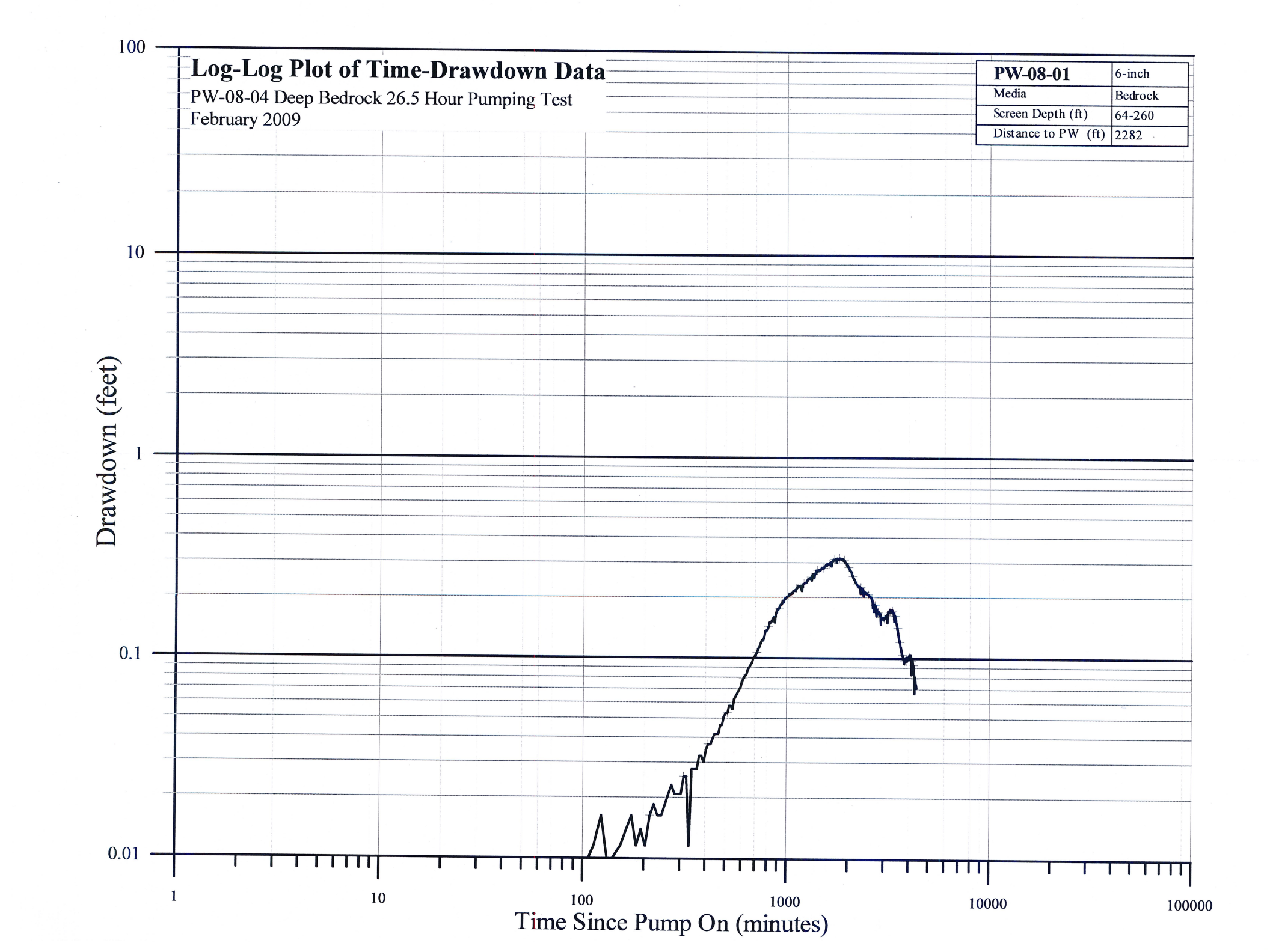

PW-08-04
6-inch
Media
Bedrock
Screen Depth (ft)
18-215
Distance to PW (ft)
0.5
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)
Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

PW-08-03	6-inch
Media	Bedrock
Screen Depth (ft)	38-235
Distance to PW (ft)	540

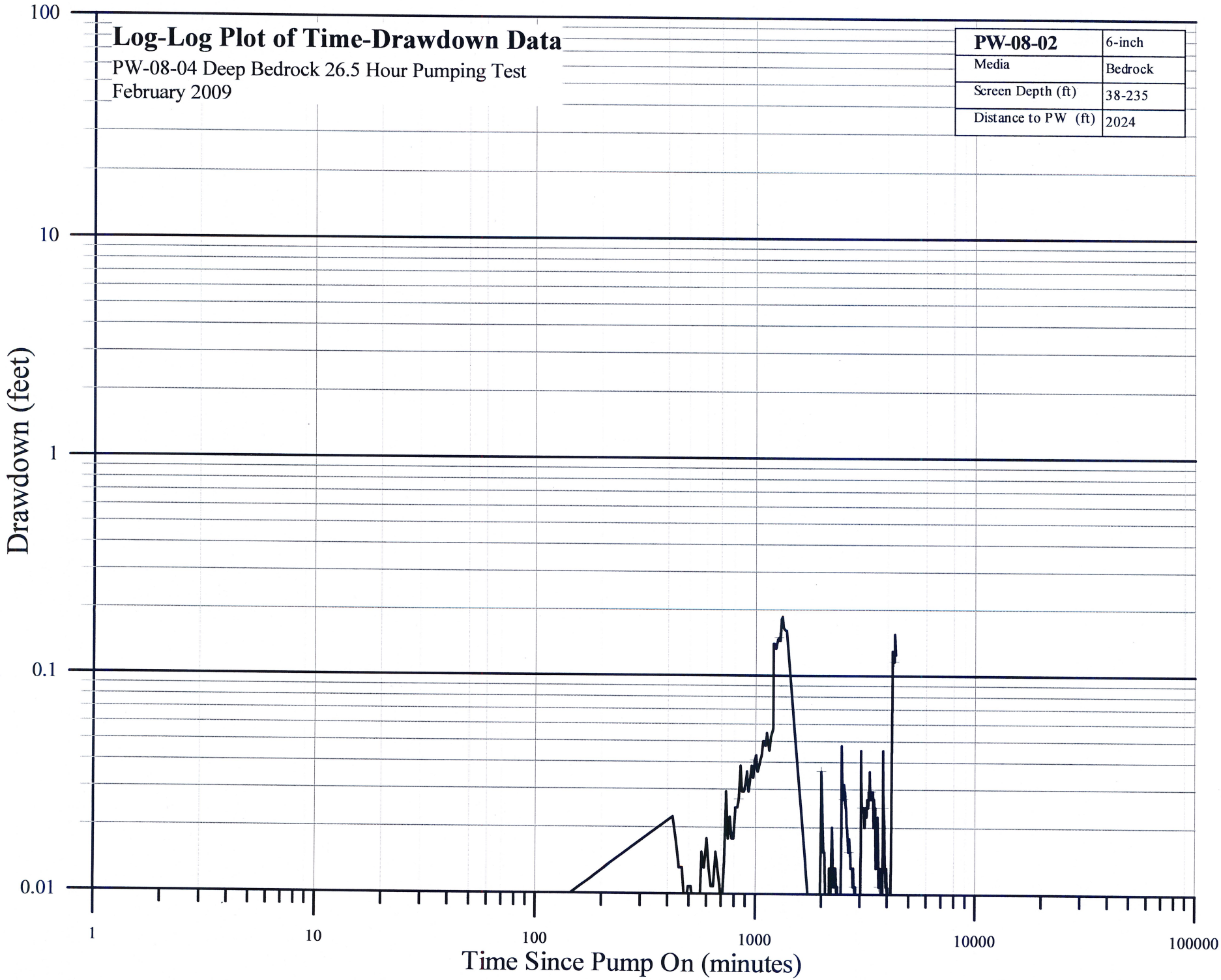


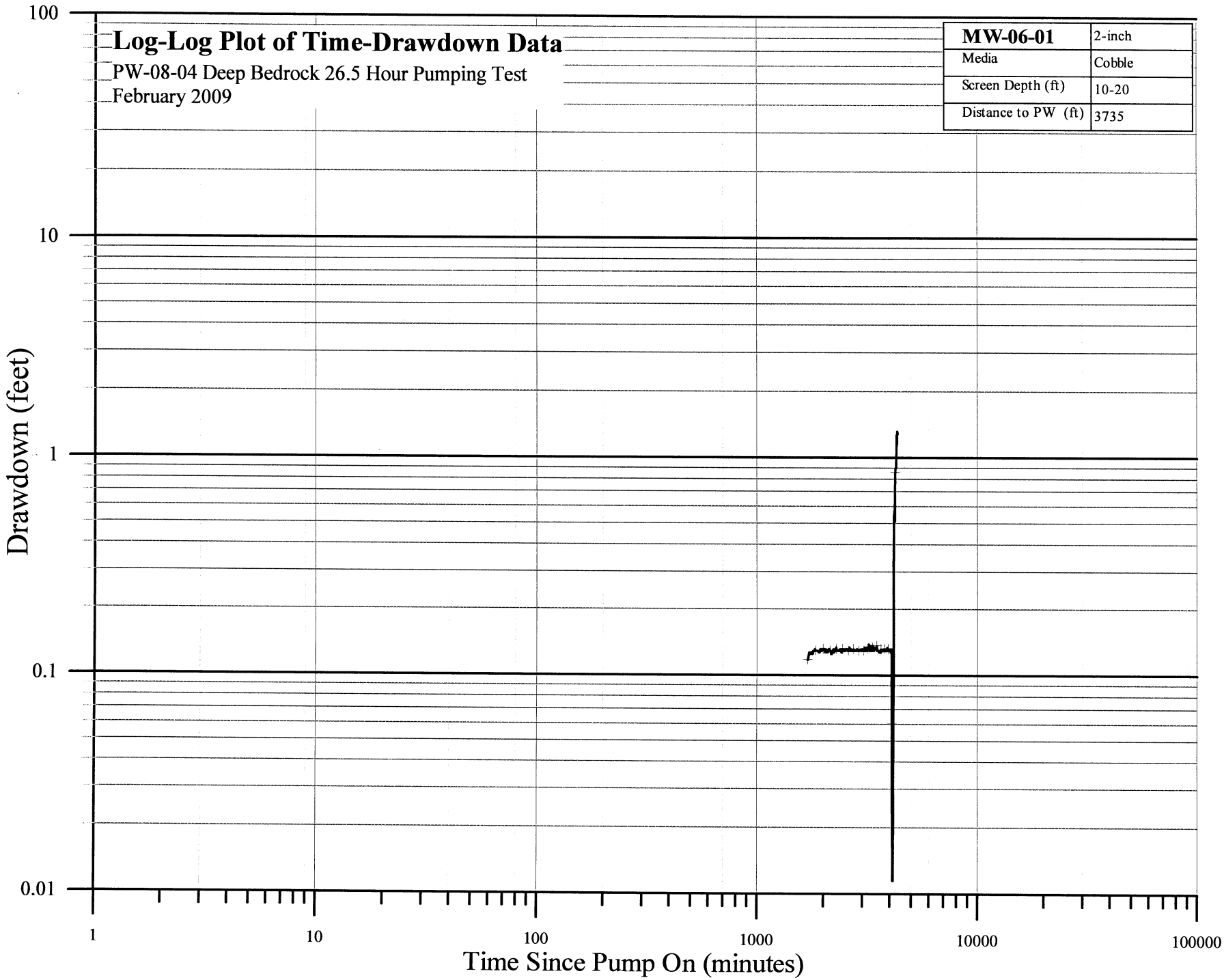

Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
PW-08-01 | 6-inch
Media | Bedrock
Screen Depth (ft) | 64-260
Distance to PW (ft) | 2282
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

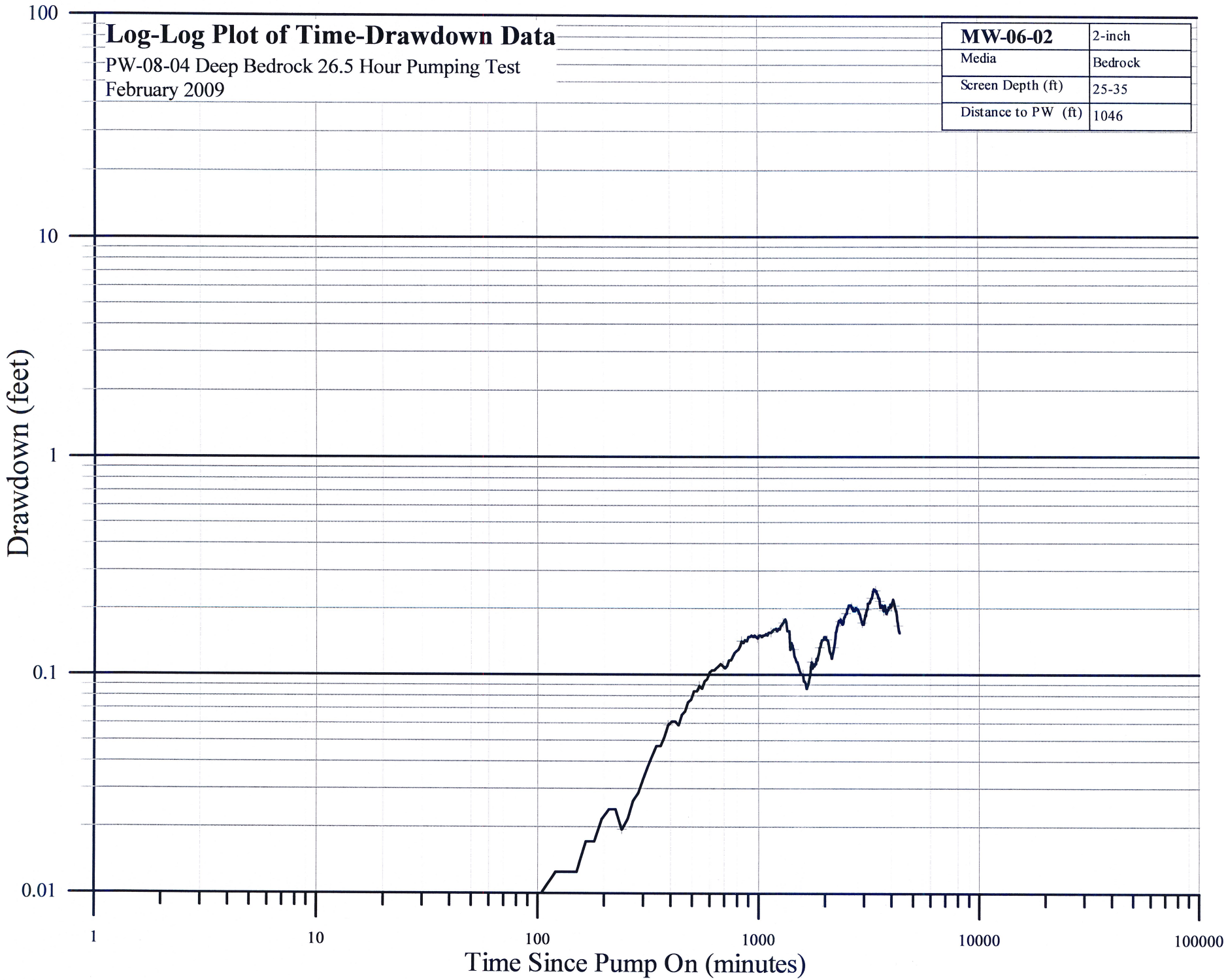
Log-Log Plot of Time-Drawdown Data

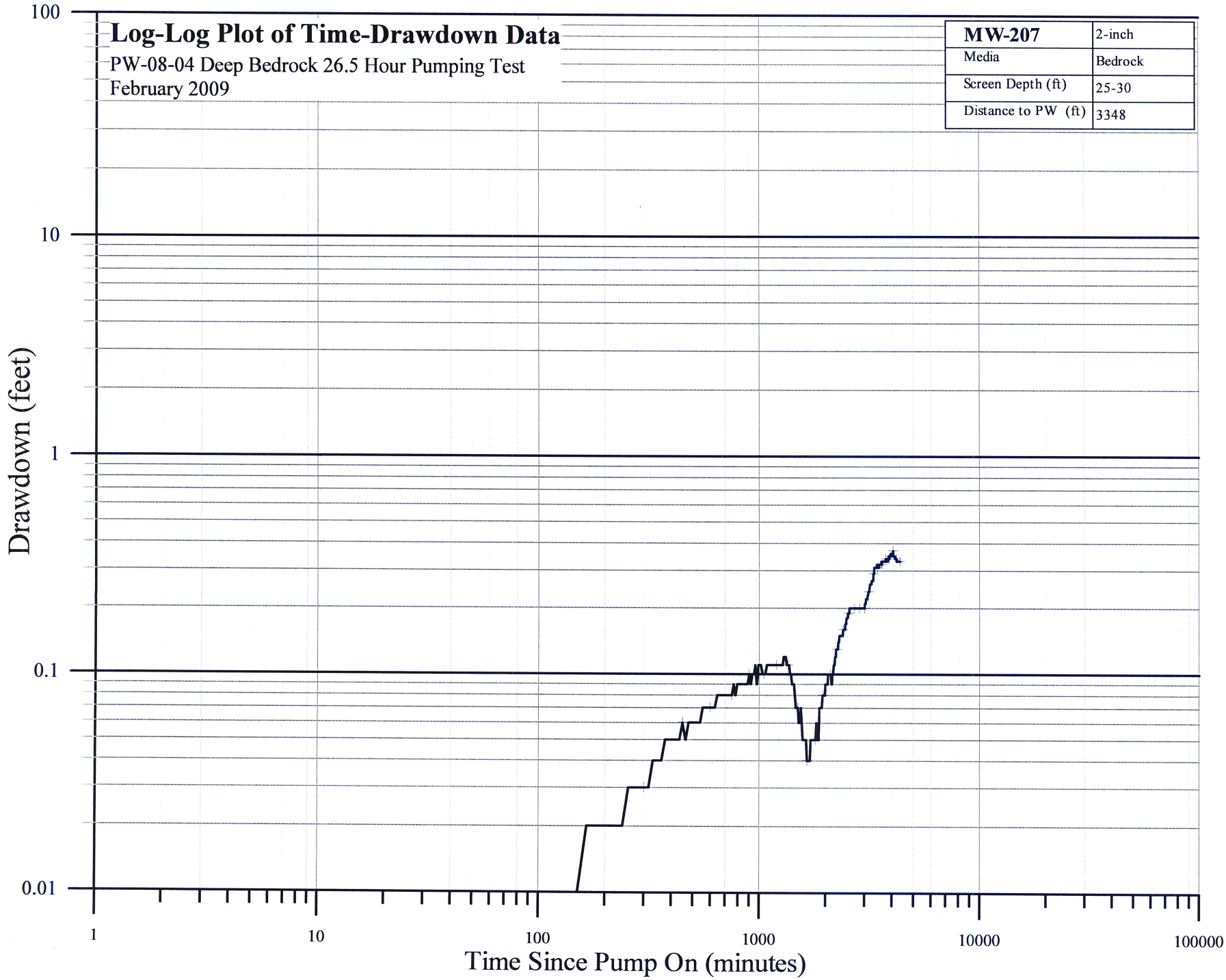
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

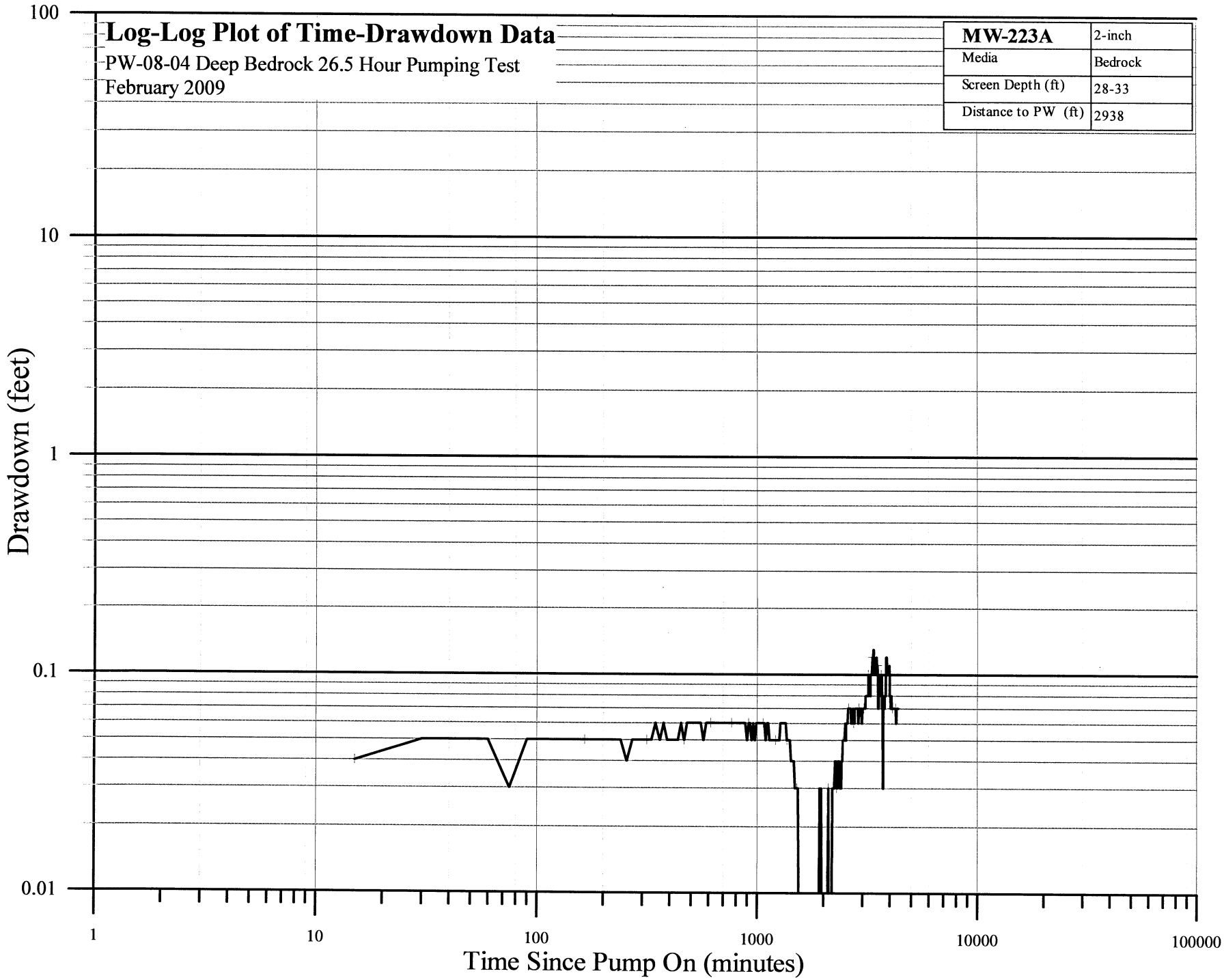
PW-08-02	6-inch
Media	Bedrock
Screen Depth (ft)	38-235
Distance to PW (ft)	2024




Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-06-01 | 2-inch
Media | Cobble
Screen Depth (ft) | 10-20
Distance to PW (ft) | 3735
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-06-02
2-inch
Media
Bedrock
Screen Depth (ft)
25-35
Distance to PW (ft)
1046
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

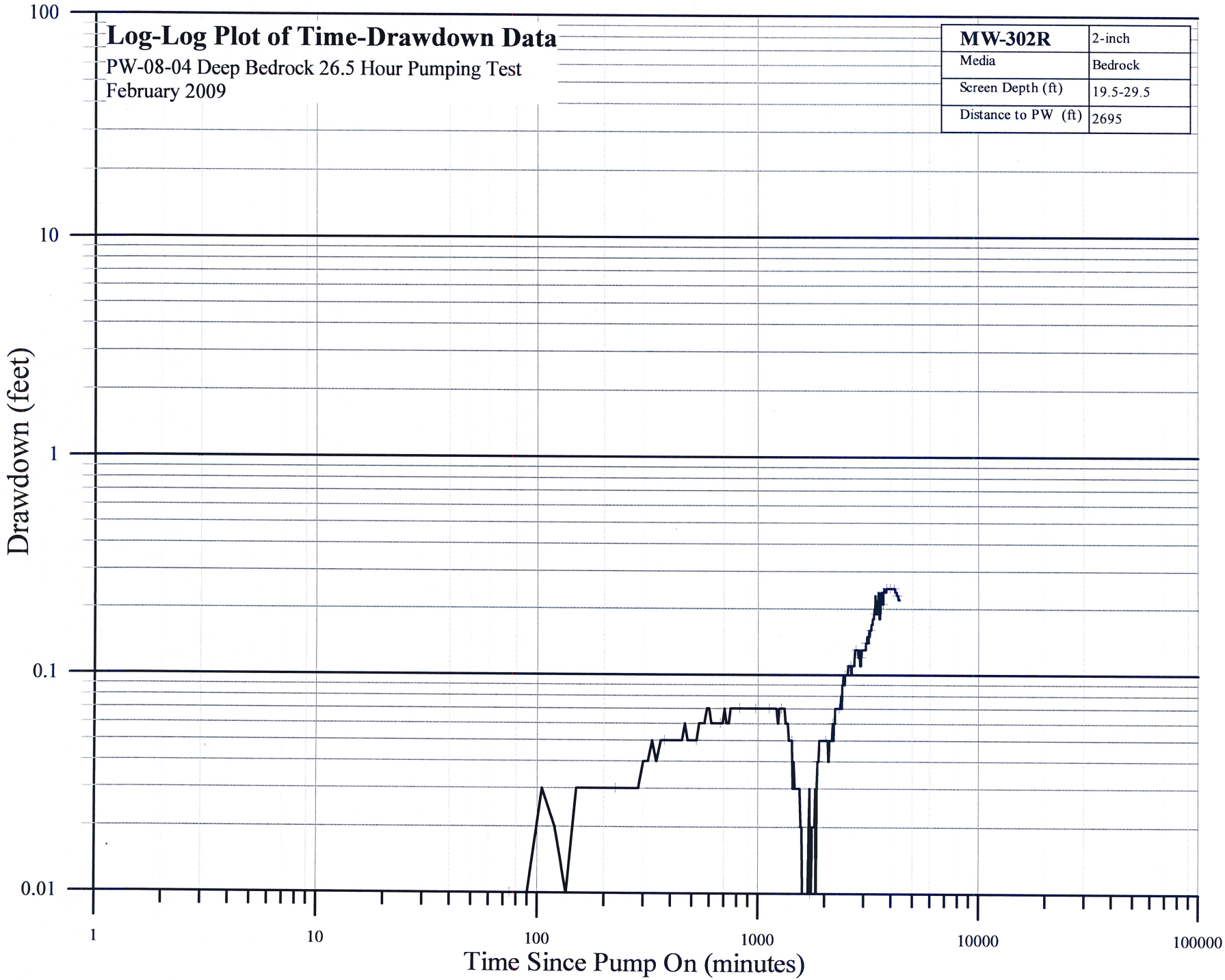

Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-207 | 2-inch
Media | Bedrock
Screen Depth (ft) | 25-30
Distance to PW (ft) | 3348
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

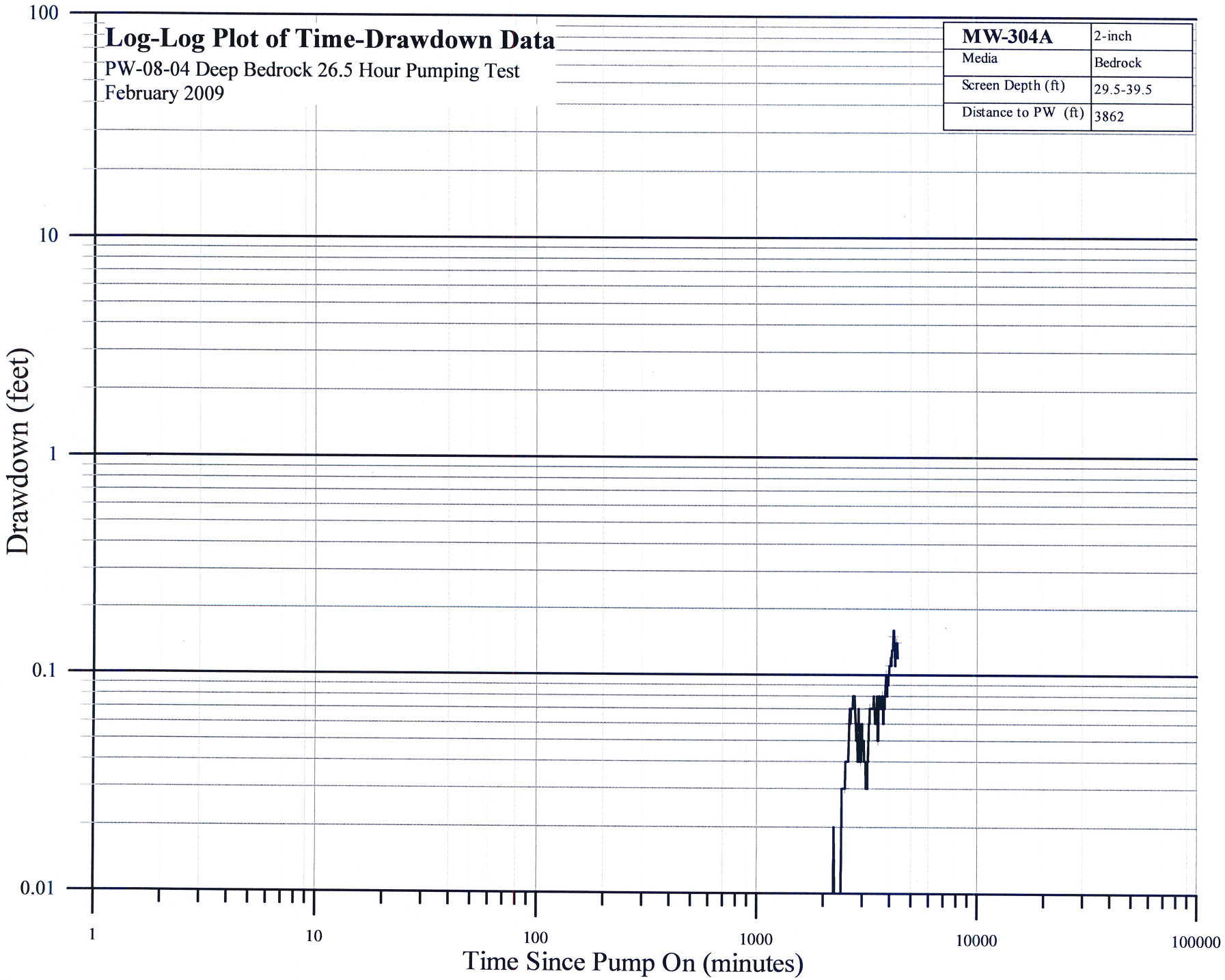

Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-223A
2-inch
Media
Bedrock
Screen Depth (ft)
28-33
Distance to PW (ft)
2938
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

MW-302R	2-inch
Media	Bedrock
Screen Depth (ft)	19.5-29.5
Distance to PW (ft)	2695

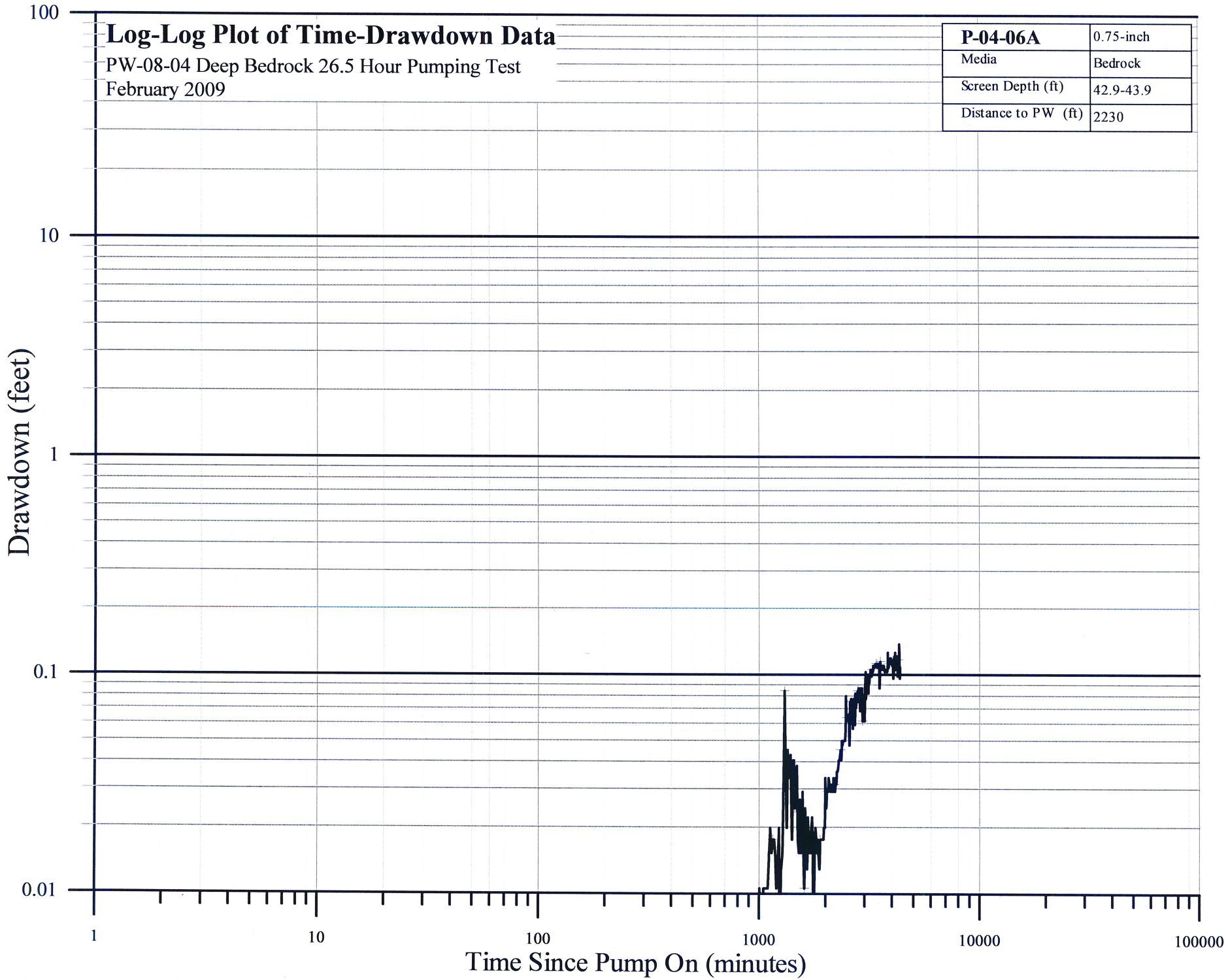



Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
MW-304A
2-inch
Media
Bedrock
Screen Depth (ft)
29.5-39.5
Distance to PW (ft)
3862
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

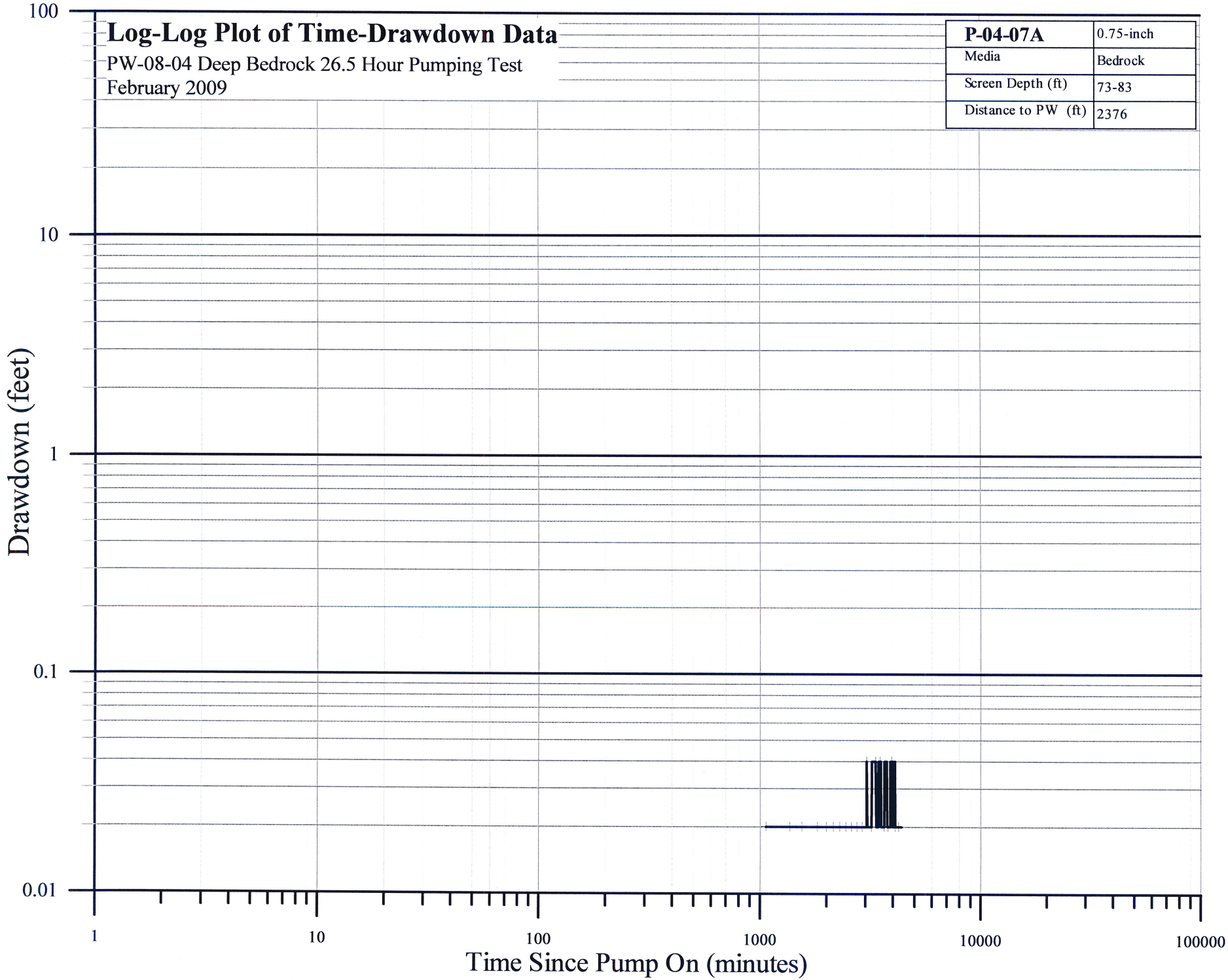
P-04-06A	0.75-inch
Media	Bedrock
Screen Depth (ft)	42.9-43.9
Distance to PW (ft)	2230

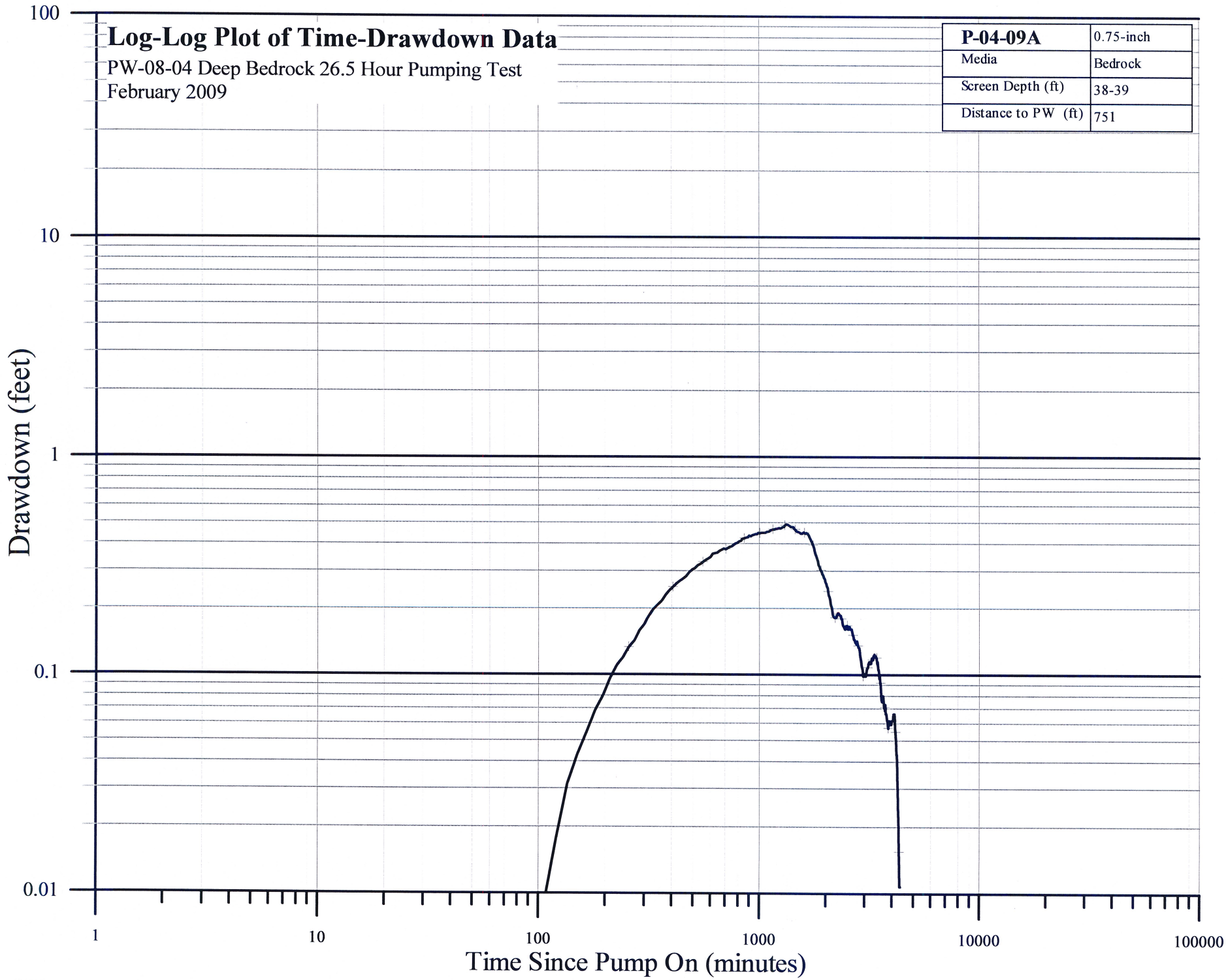


Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-07A	0.75-inch
Media	Bedrock
Screen Depth (ft)	73-83
Distance to PW (ft)	2376

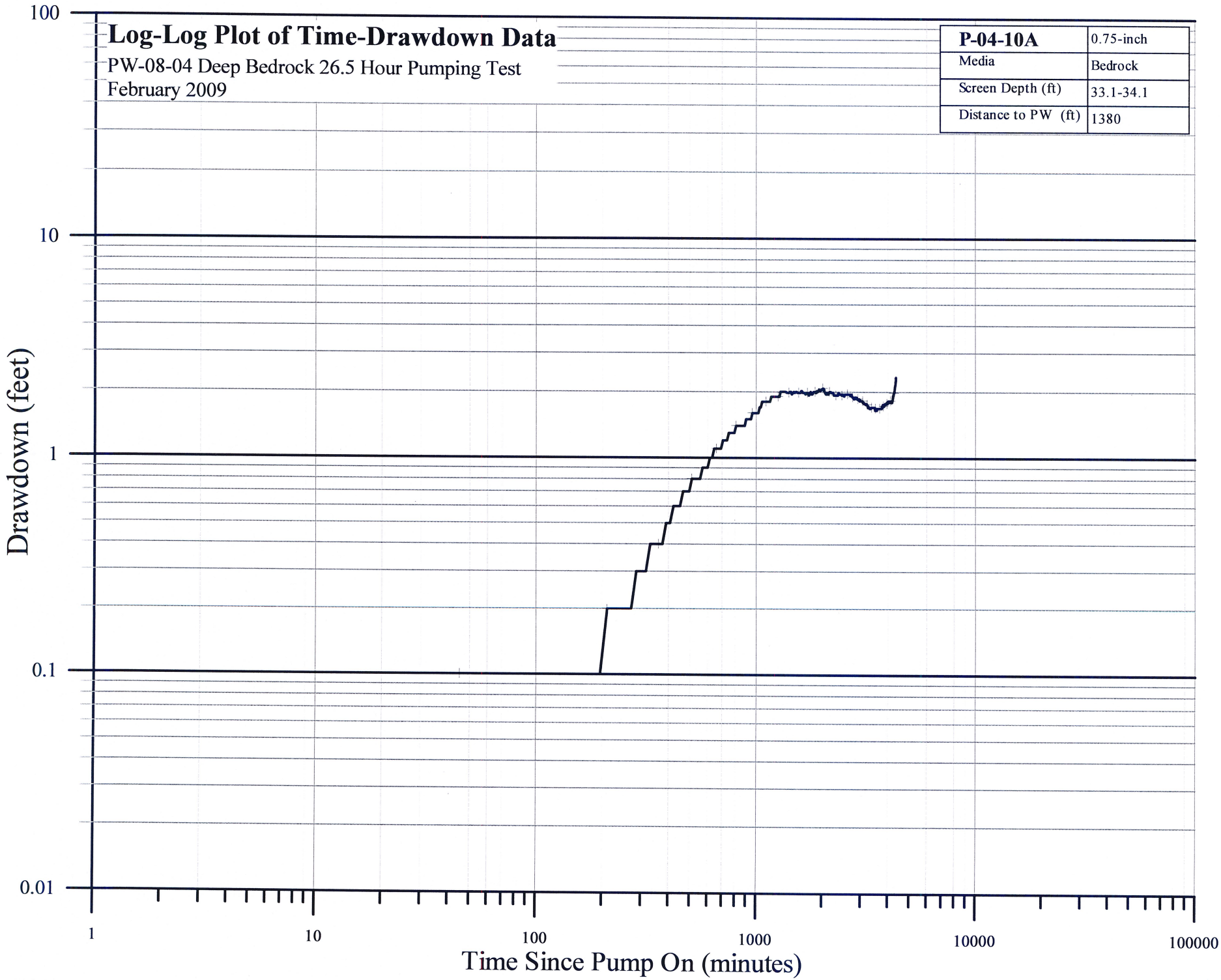



Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-09A
0.75-inch
Media
Bedrock
Screen Depth (ft)
38-39
Distance to PW (ft)
751
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

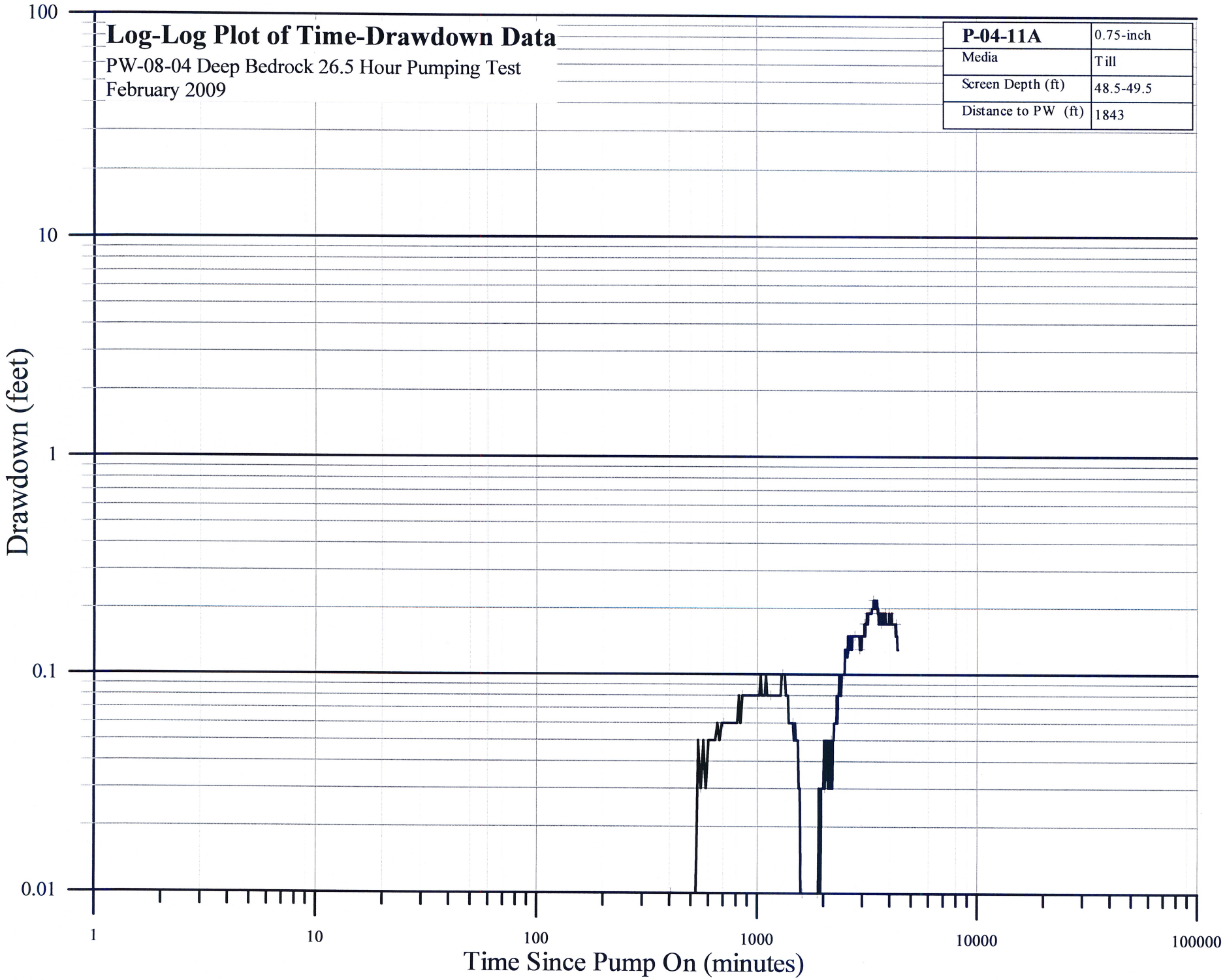
P-04-10A	0.75-inch
Media	Bedrock
Screen Depth (ft)	33.1-34.1
Distance to PW (ft)	1380

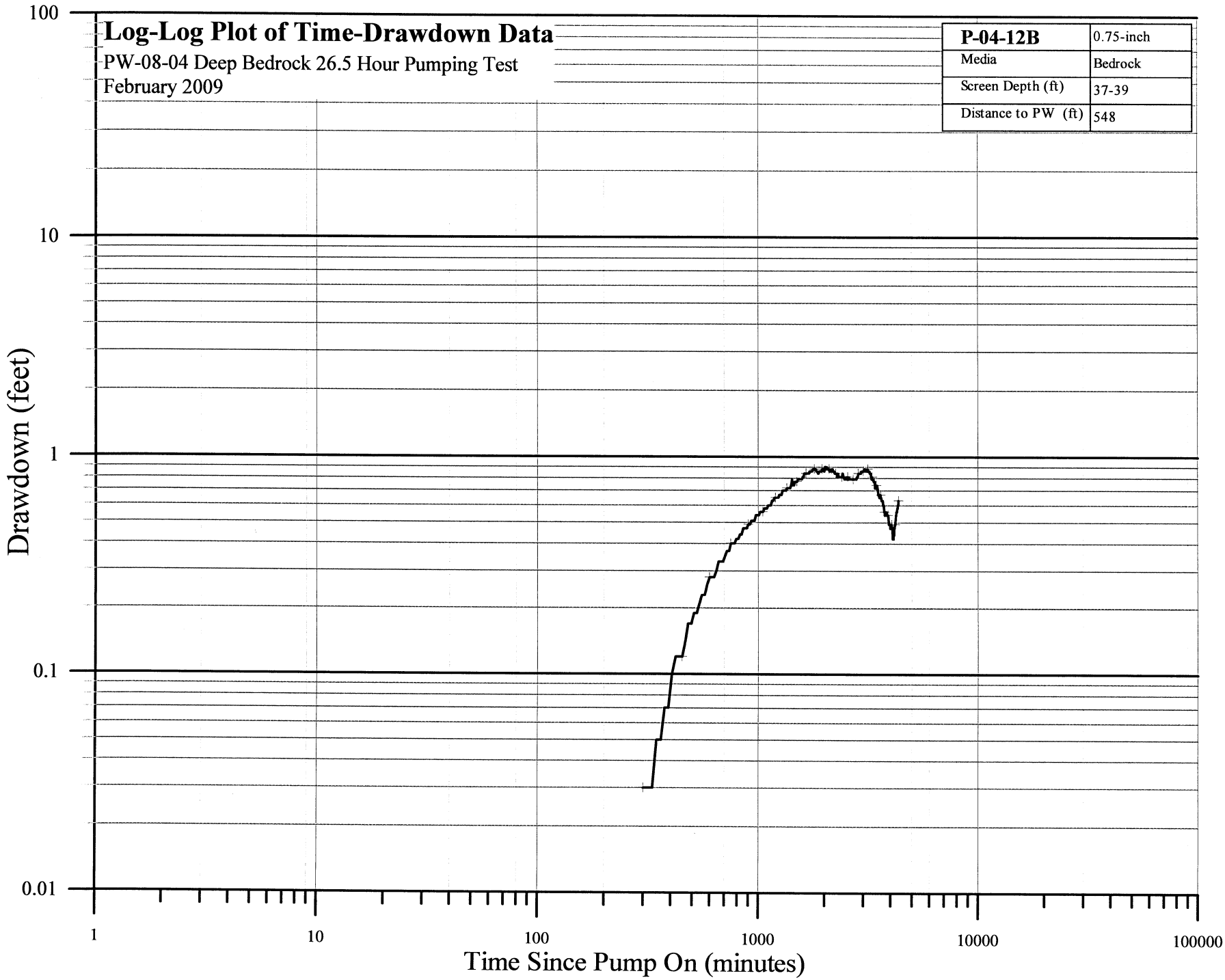


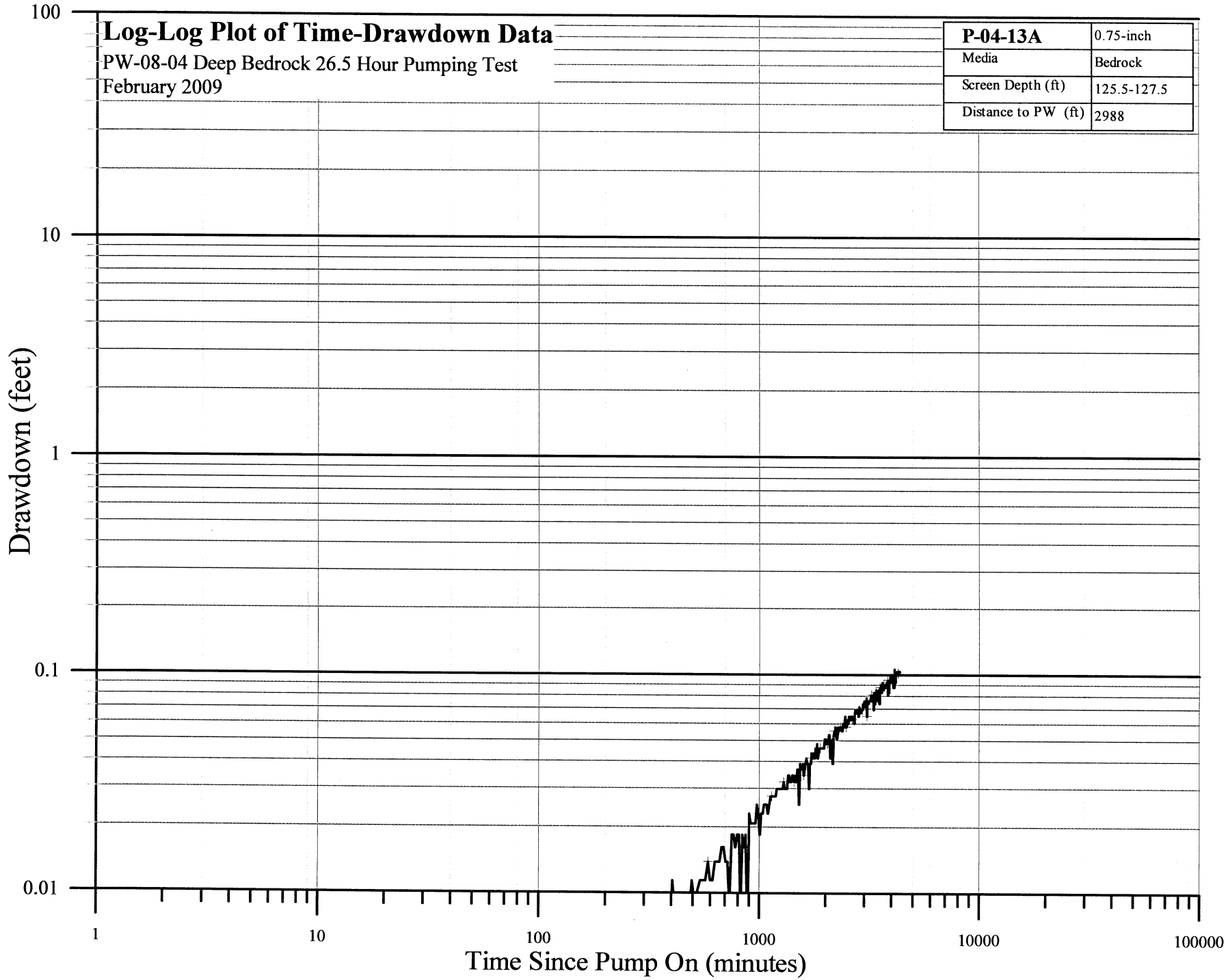
Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-11A	0.75-inch
Media	Till
Screen Depth (ft)	48.5-49.5
Distance to PW (ft)	1843



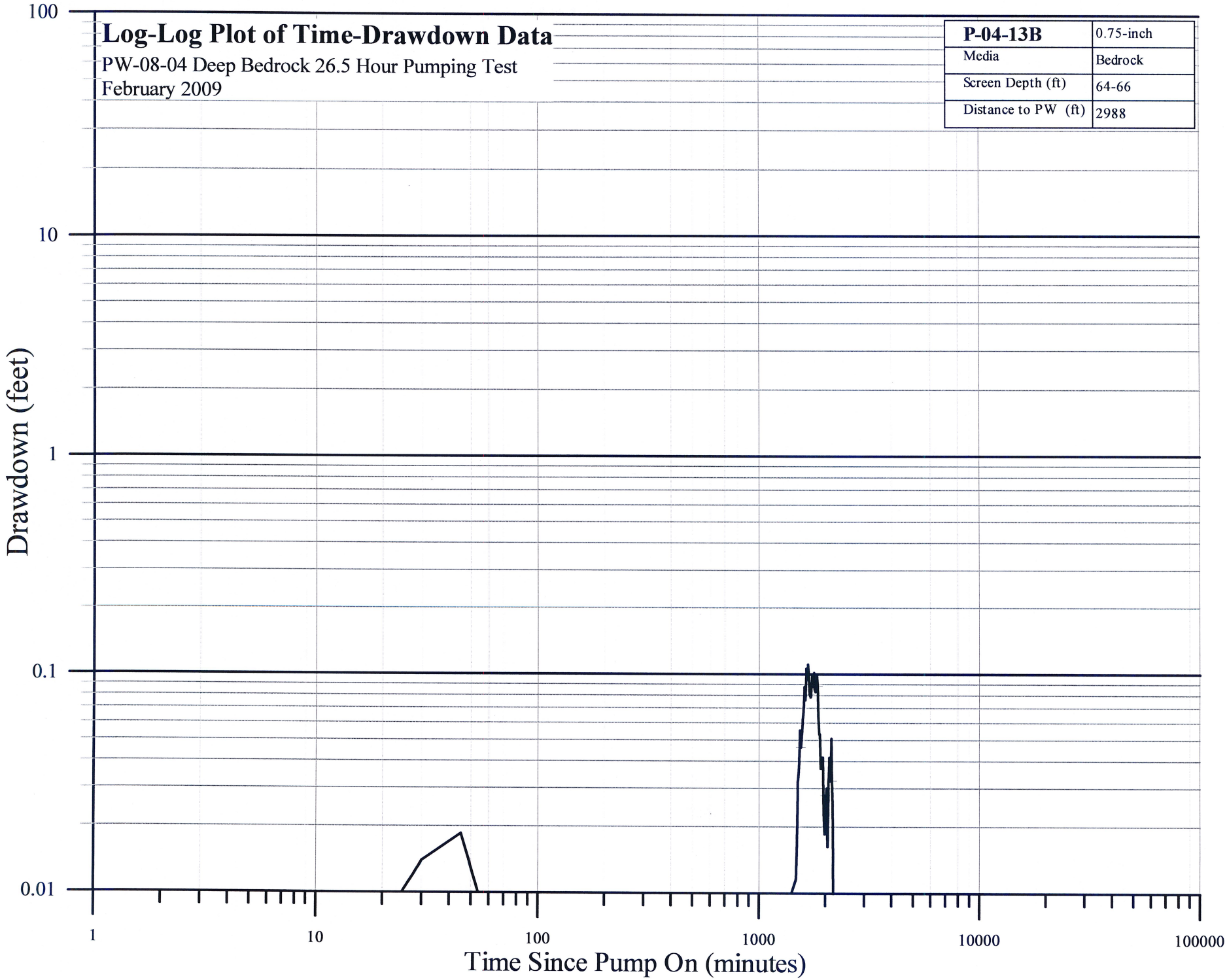

Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-12B
0.75-inch
Media
Bedrock
Screen Depth (ft)
37-39
Distance to PW (ft)
548
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-13A
0.75-inch
Media
Bedrock
Screen Depth (ft)
125.5-127.5
Distance to PW (ft)
2988
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

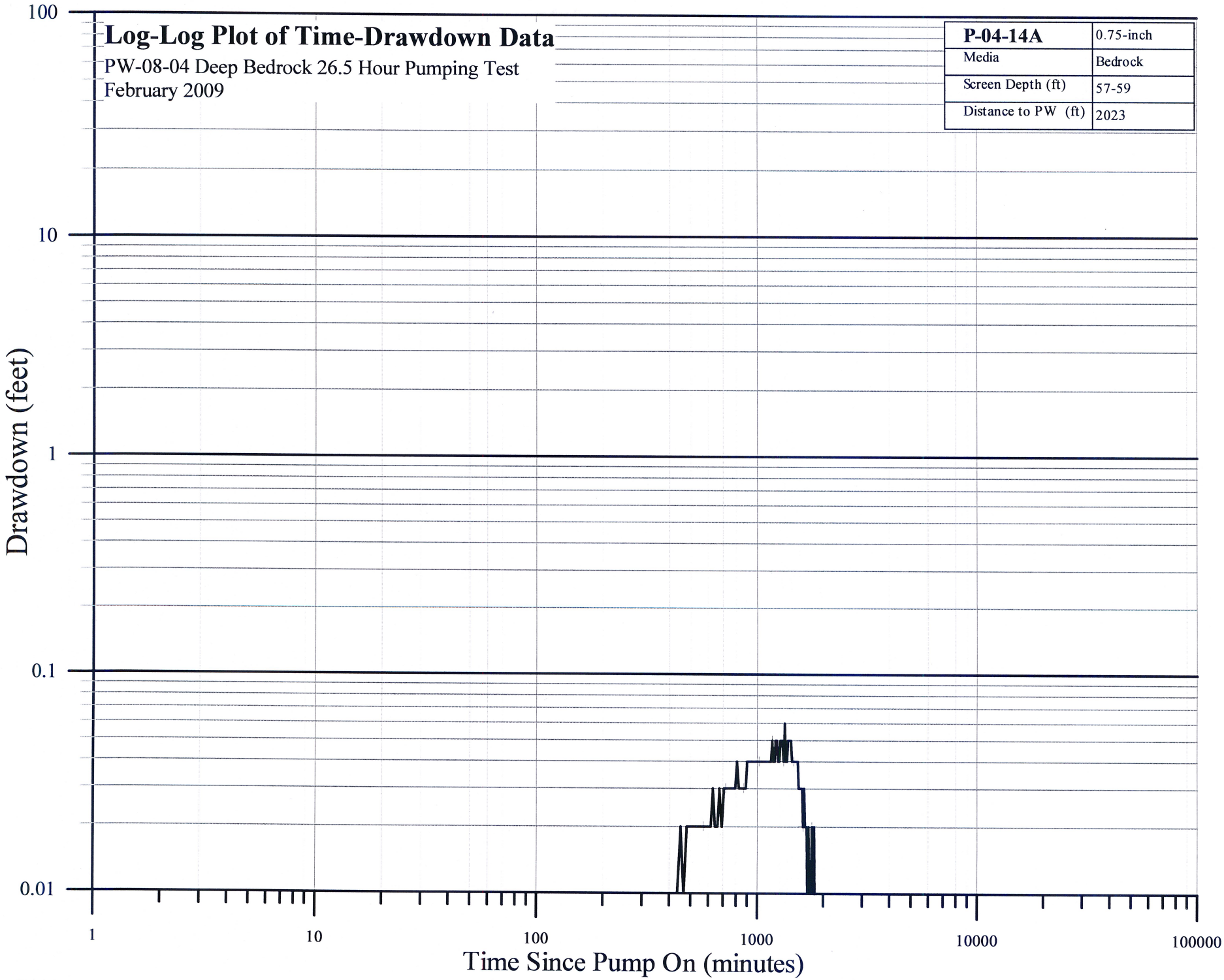
P-04-13B	0.75-inch
Media	Bedrock
Screen Depth (ft)	64-66
Distance to PW (ft)	2988

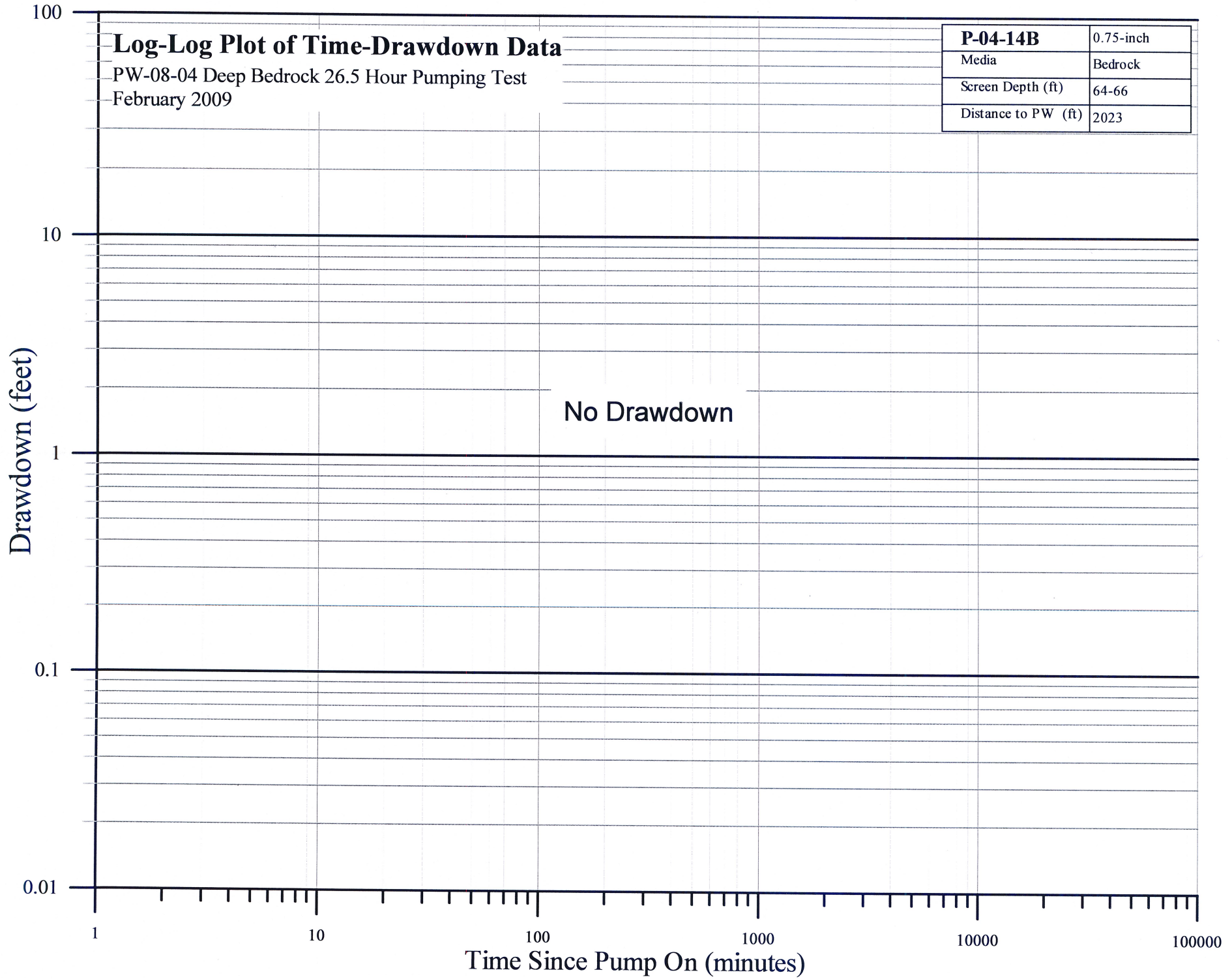


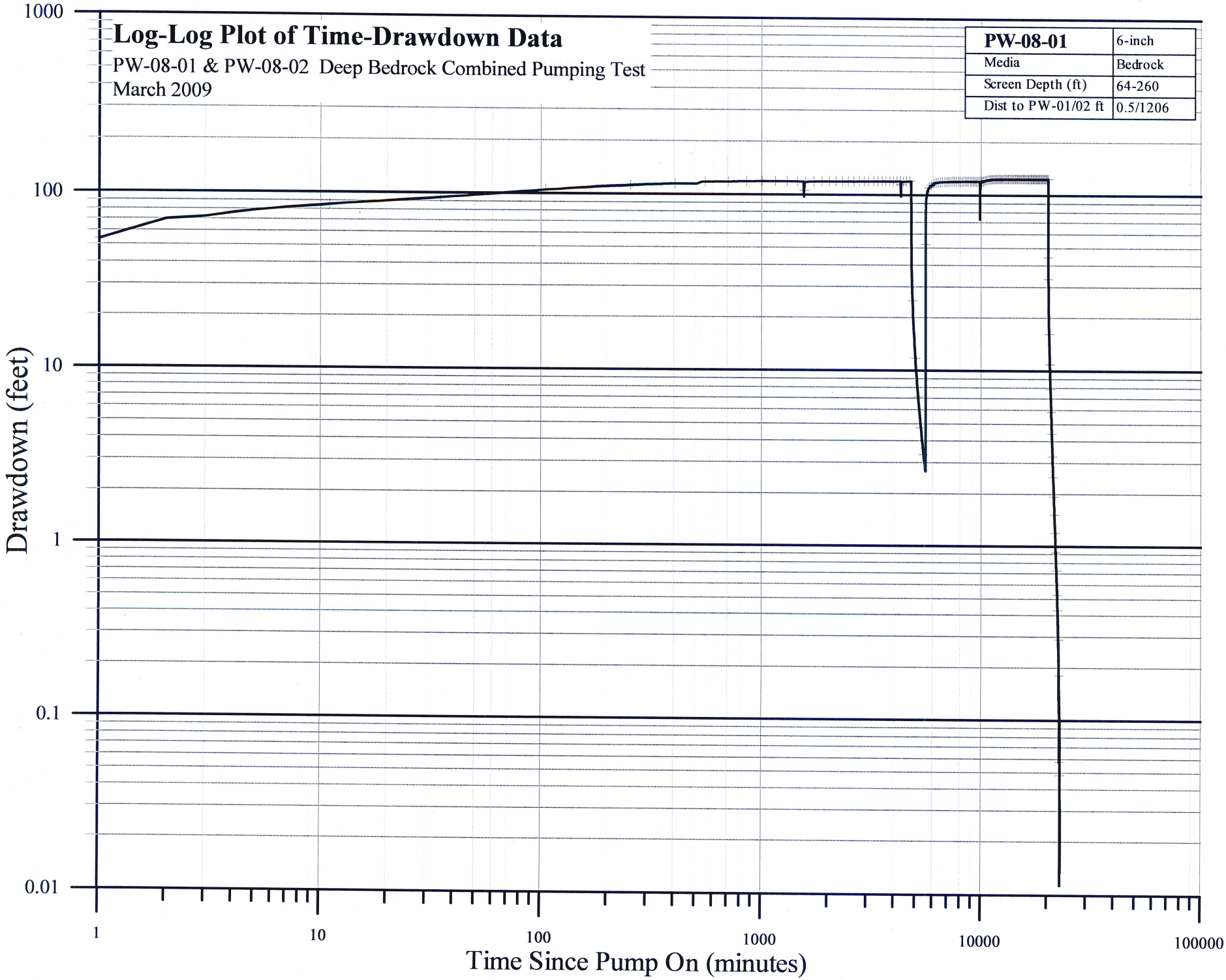
Log-Log Plot of Time-Drawdown Data

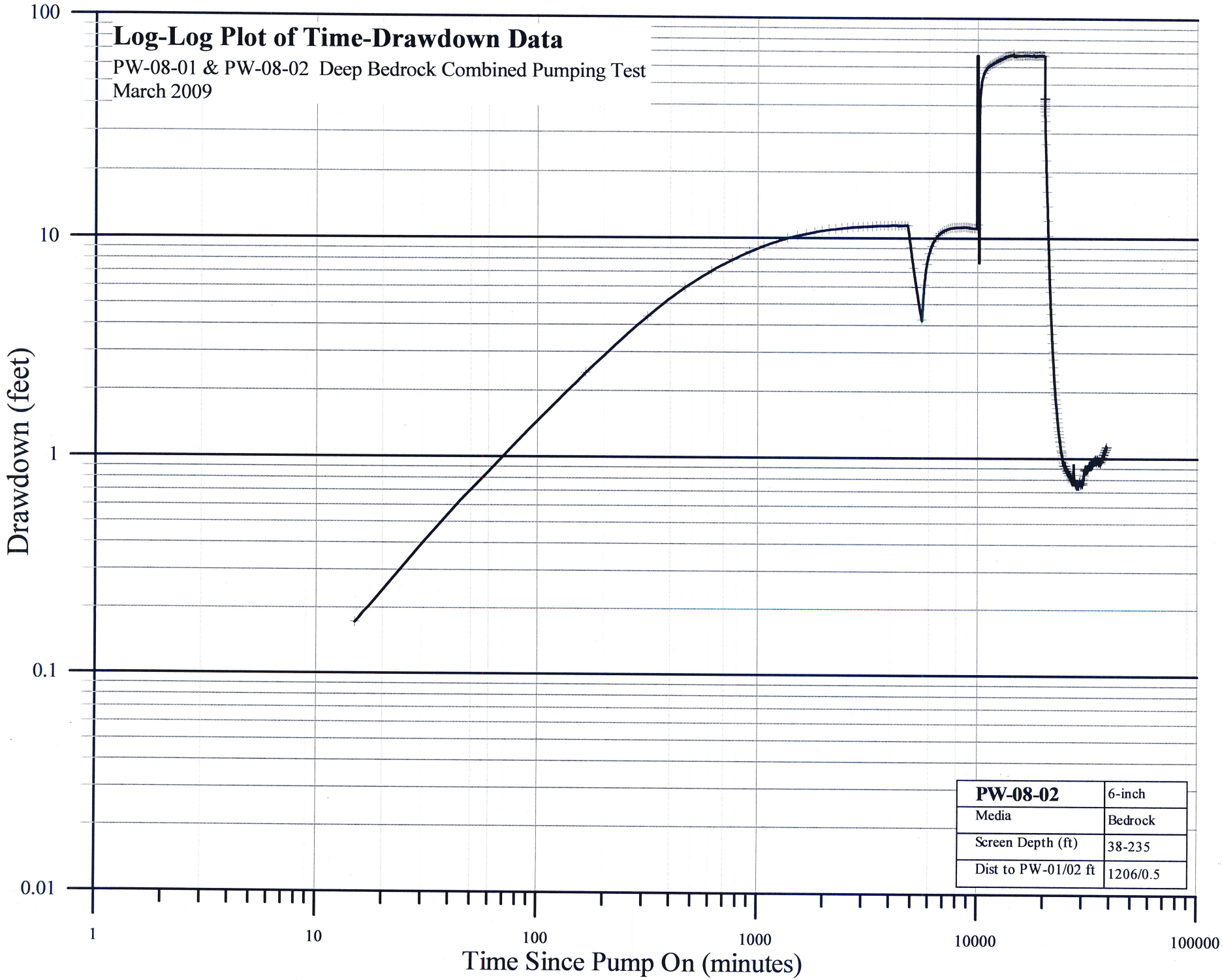
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009

P-04-14A	0.75-inch
Media	Bedrock
Screen Depth (ft)	57-59
Distance to PW (ft)	2023




Log-Log Plot of Time-Drawdown Data
PW-08-04 Deep Bedrock 26.5 Hour Pumping Test
February 2009
P-04-14B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Distance to PW (ft)
2023
No Drawdown
Drawdown (feet)
100
10
1
0.1
0.01
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

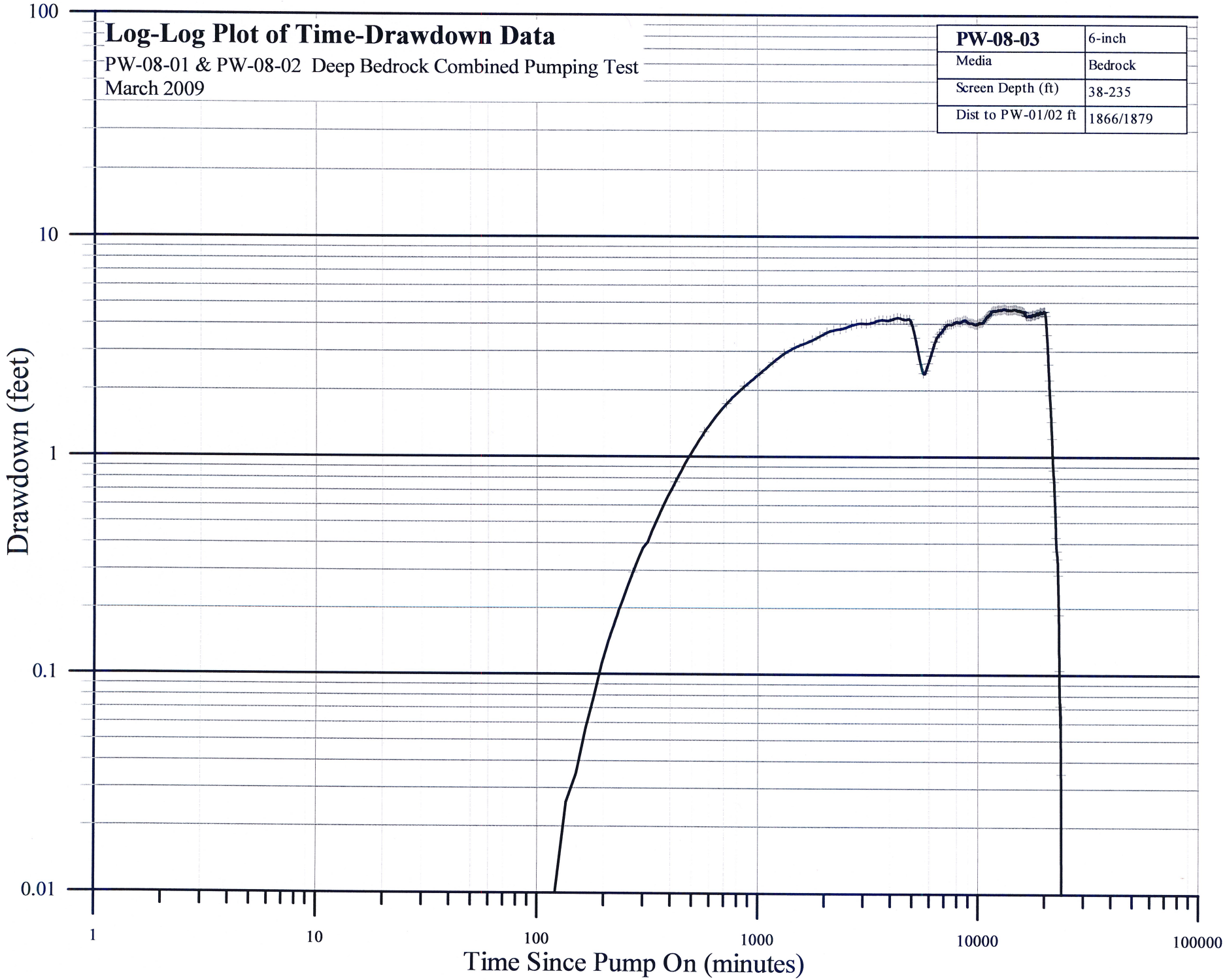

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
PW-08-01 | 6-inch
Media | Bedrock
Screen Depth (ft) | 64-260
Dist to PW-01/02 ft | 0.5/1206
1000
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

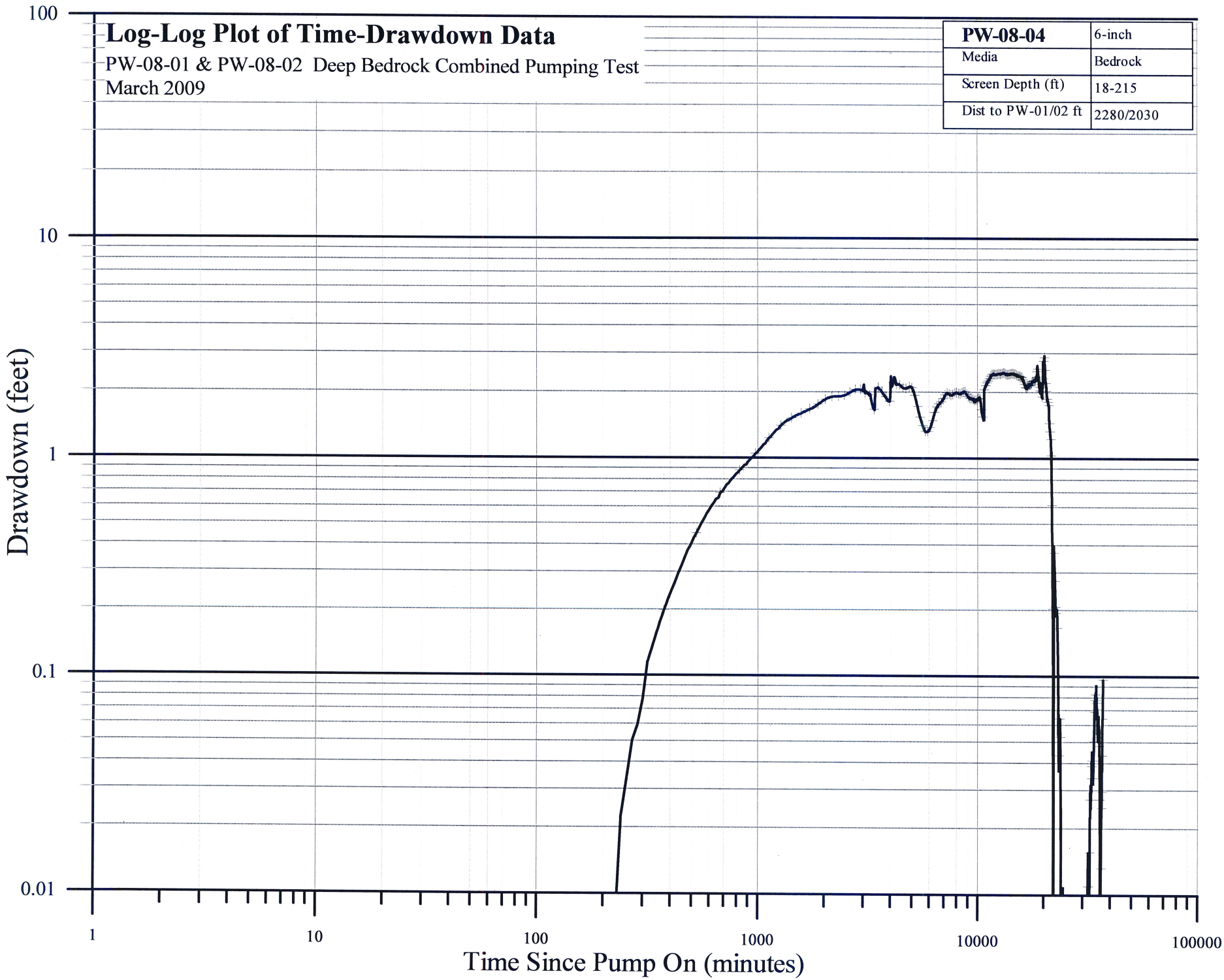

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)
PW-08-02
6-inch
Media
Bedrock
Screen Depth (ft)
38-235
Dist to PW-01/02 ft
1206/0.5

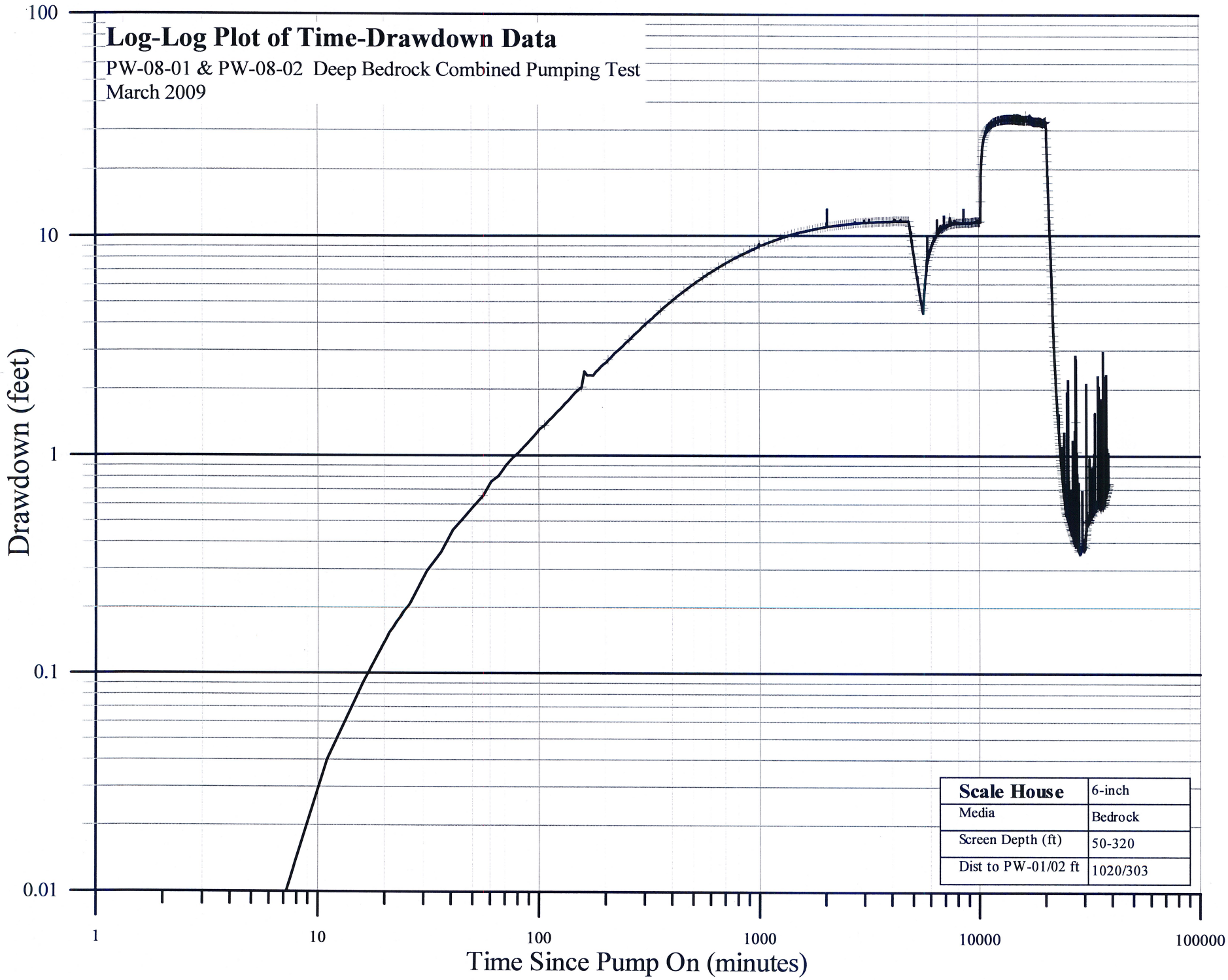
Log-Log Plot of Time-Drawdown Data

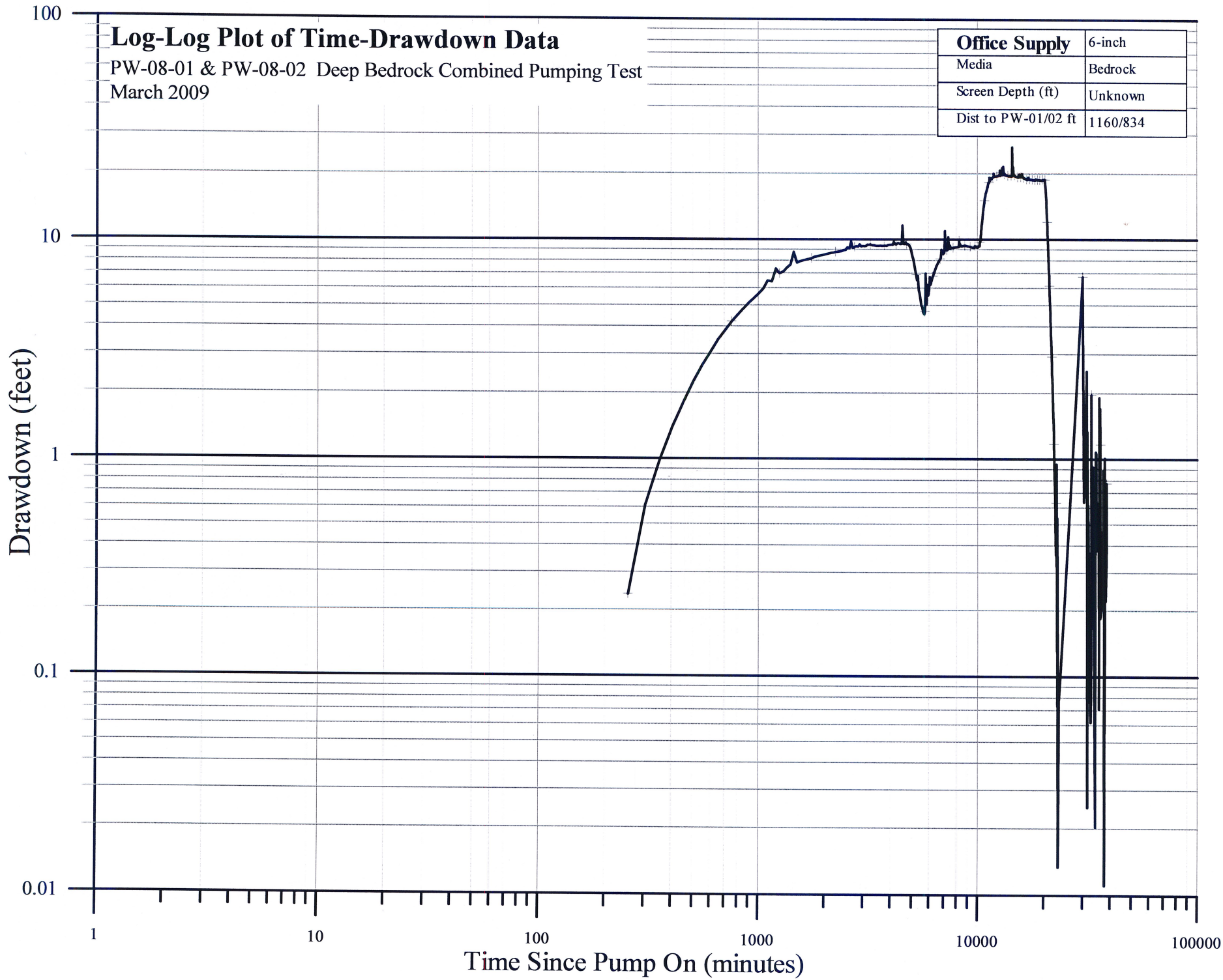
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009

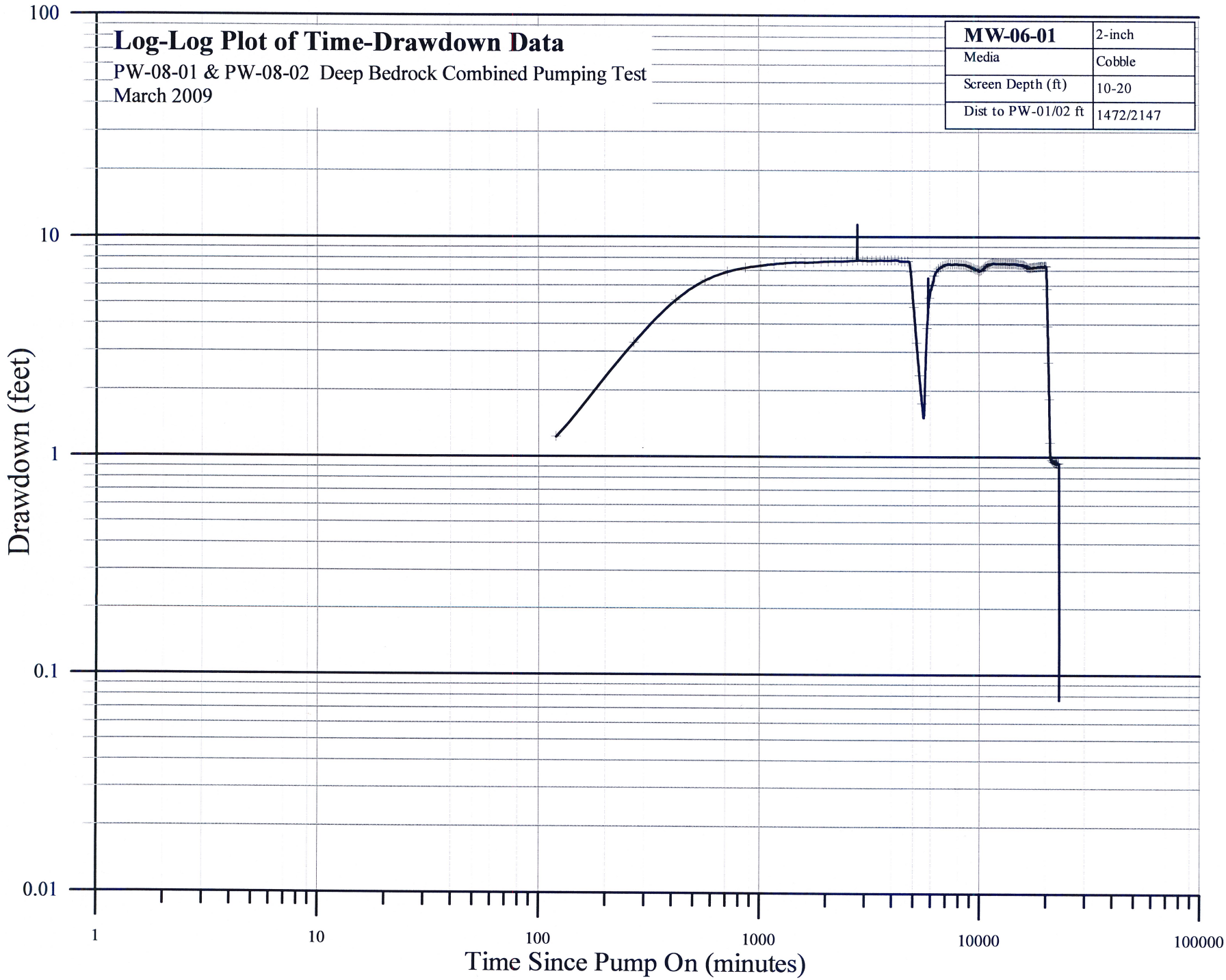
PW-08-03	6-inch
Media	Bedrock
Screen Depth (ft)	38-235
Dist to PW-01/02 ft	1866/1879

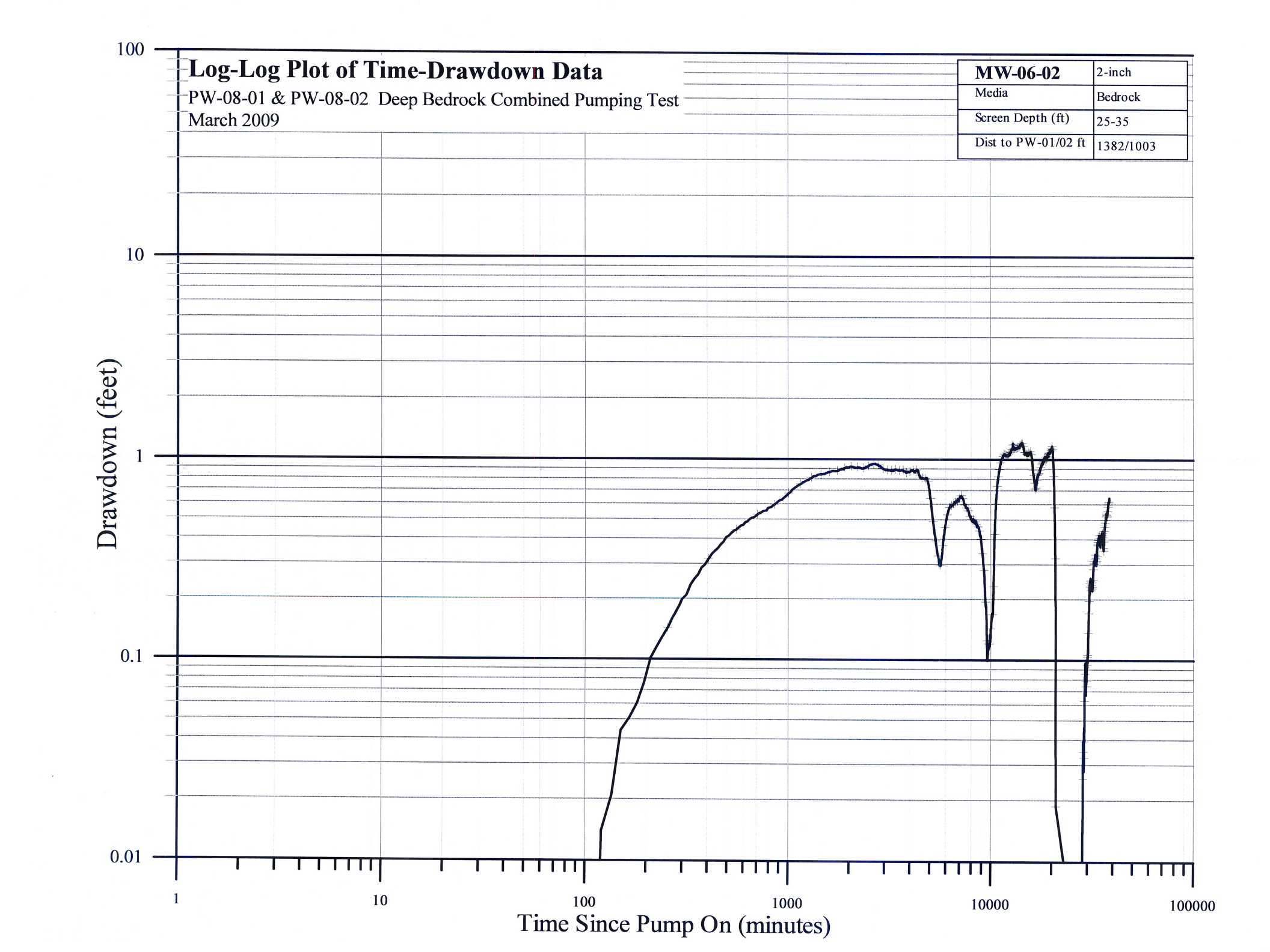


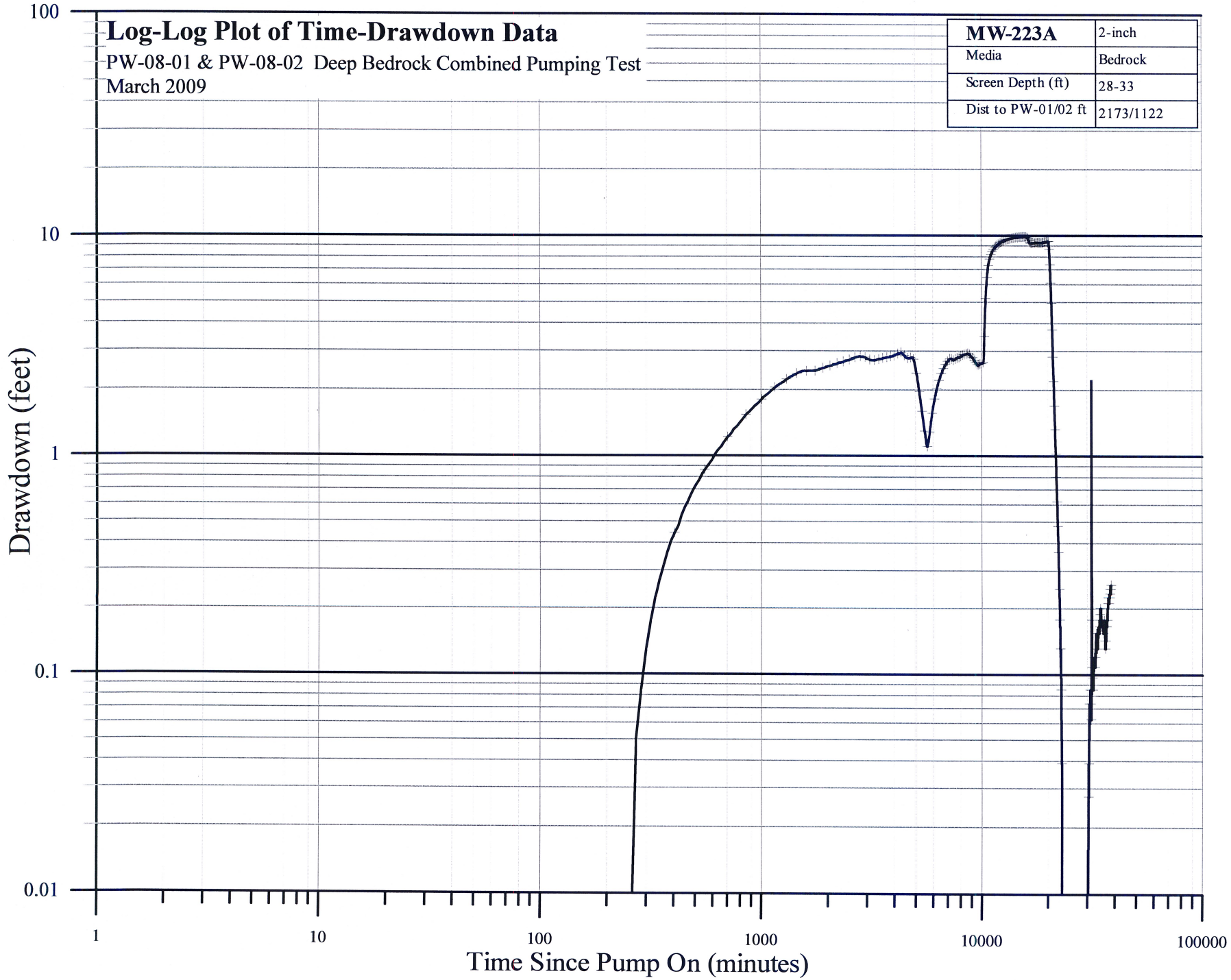

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
PW-08-04
6-inch
Media
Bedrock
Screen Depth (ft)
18-215
Dist to PW-01/02 ft
2280/2030
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

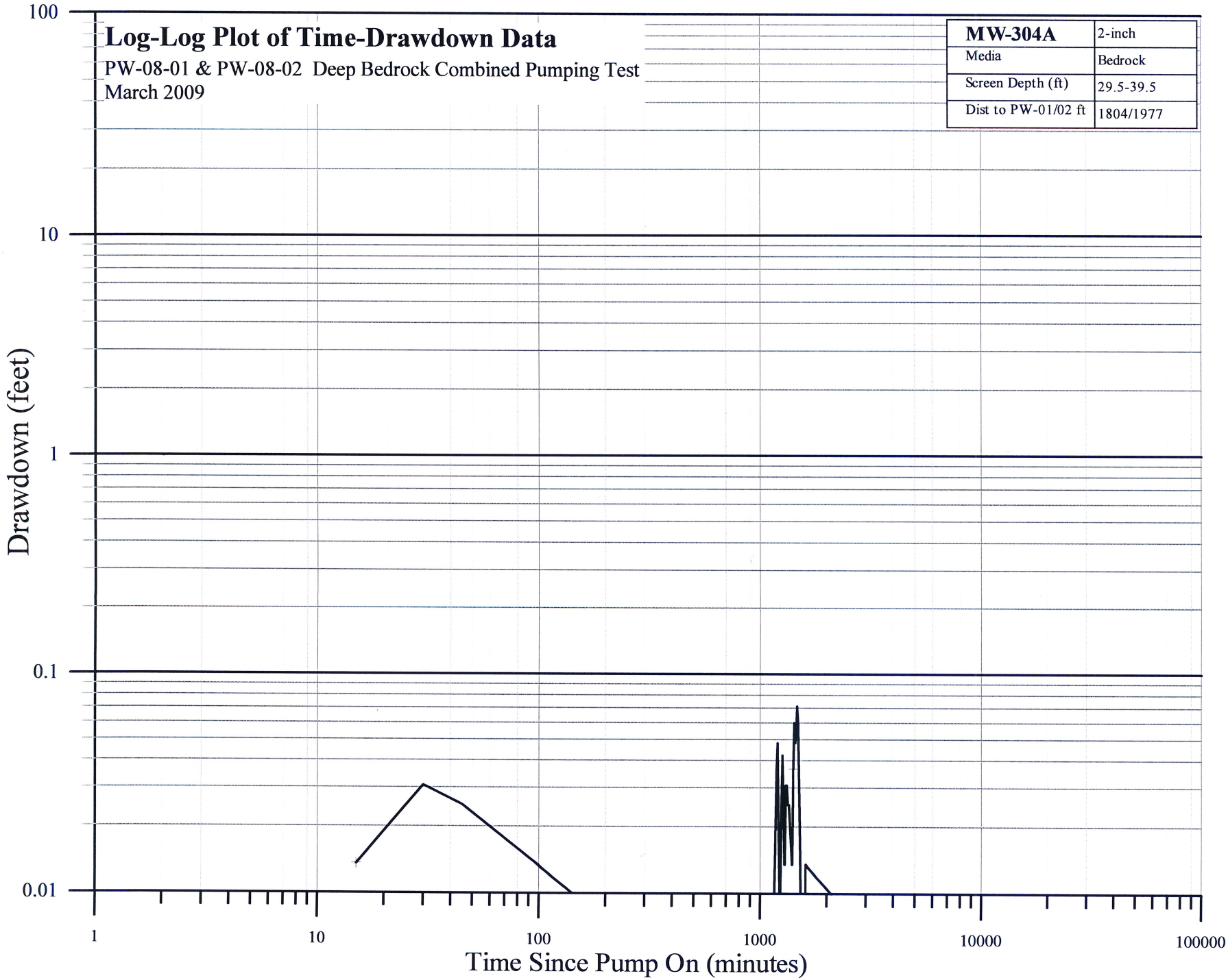

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)
Scale House | 6-inch
Media | Bedrock
Screen Depth (ft) | 50-320
Dist to PW-01/02 ft | 1020/303

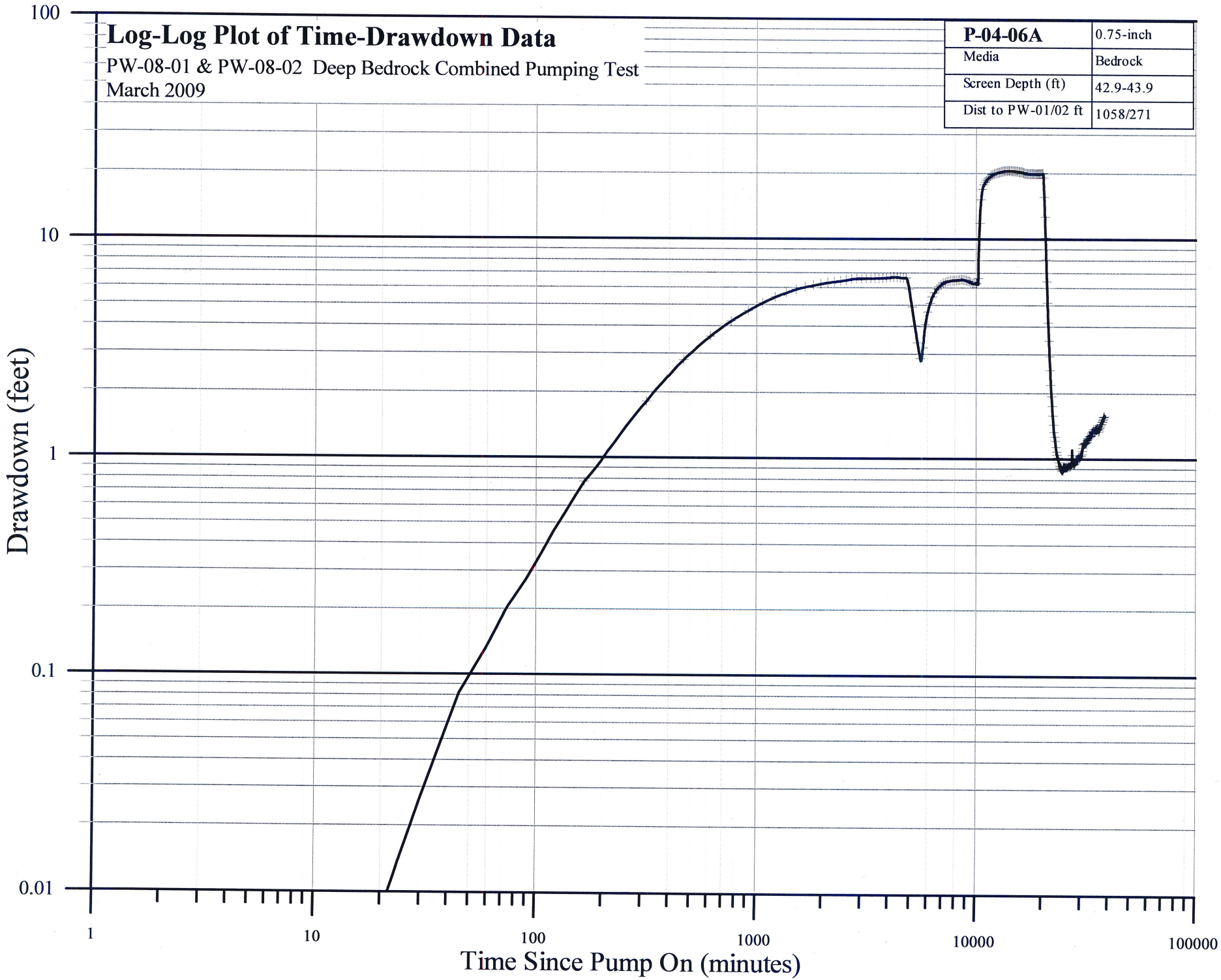

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
Office Supply
6-inch
Media
Bedrock
Screen Depth (ft)
Unknown
Dist to PW-01/02 ft
1160/834
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

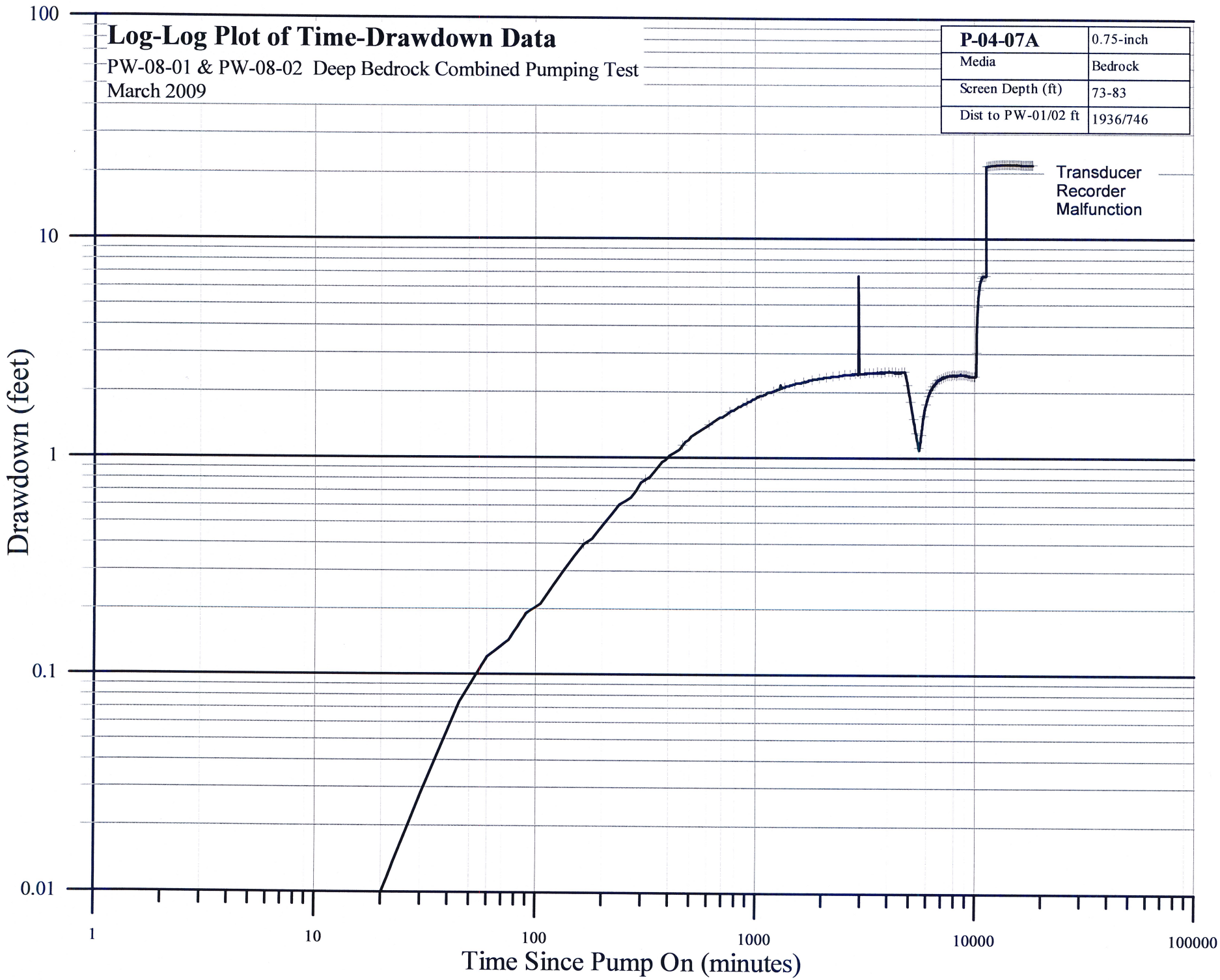

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
MW-06-01 2-inch
Media Cobble
Screen Depth (ft) 10-20
Dist to PW-01/02 ft 1472/2147
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

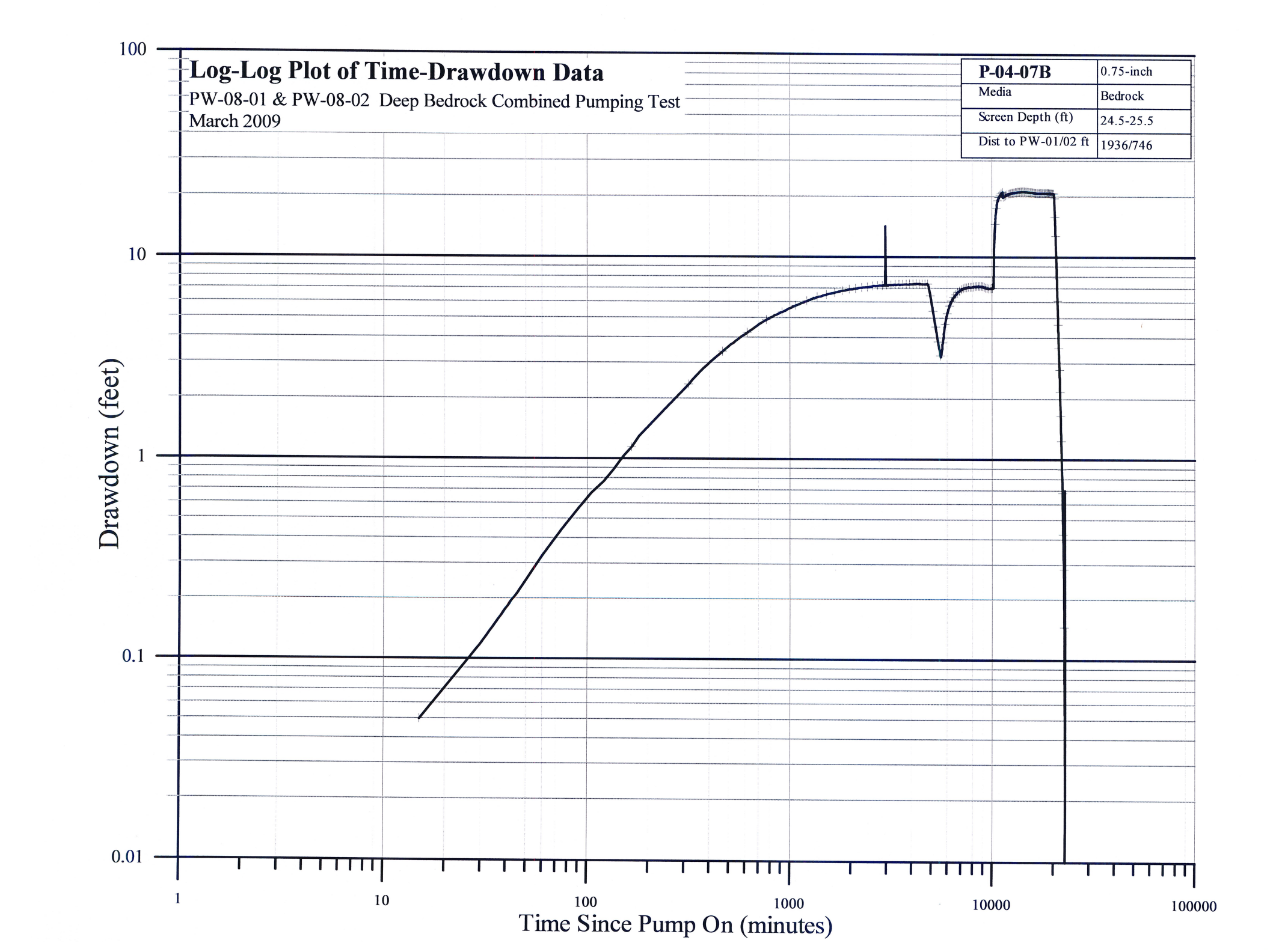

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
MW-06-02 | 2-inch
Media | Bedrock
Screen Depth (ft) | 25-35
Dist to PW-01/02 ft | 1382/1003
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
MW-223A
2-inch
Media
Bedrock
Screen Depth (ft)
28-33
Dist to PW-01/02 ft
2173/1122
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
MW-304A | 2-inch
Media | Bedrock
Screen Depth (ft) | 29.5-39.5
Dist to PW-01/02 ft | 1804/1977
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)


Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-06A
0.75-inch
Media
Bedrock
Screen Depth (ft)
42.9-43.9
Dist to PW-01/02 ft
1058/271
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

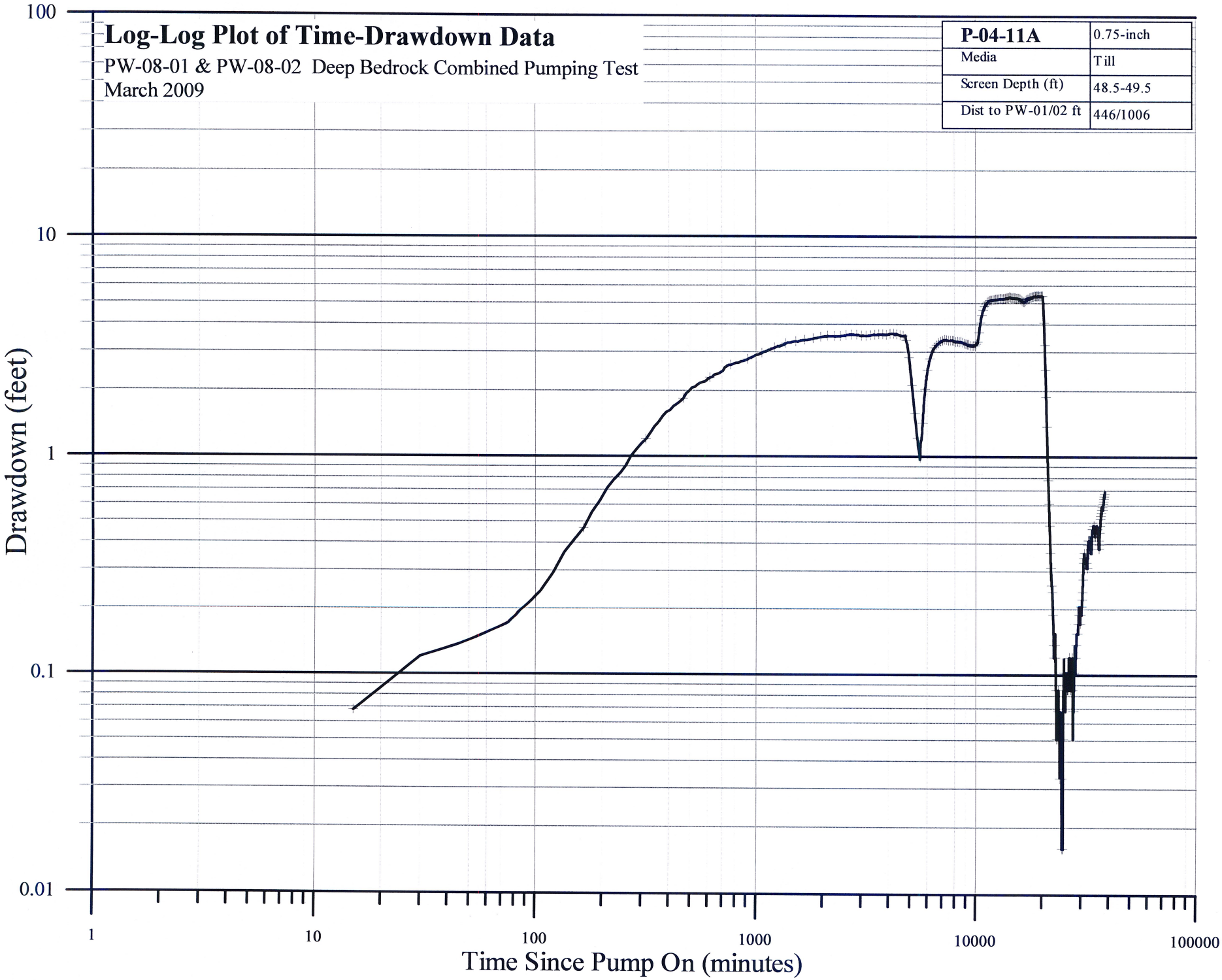

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-07A
0.75-inch
Media
Bedrock
Screen Depth (ft)
73-83
Dist to PW-01/02 ft
1936/746
Transducer
Recorder
Malfunction
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

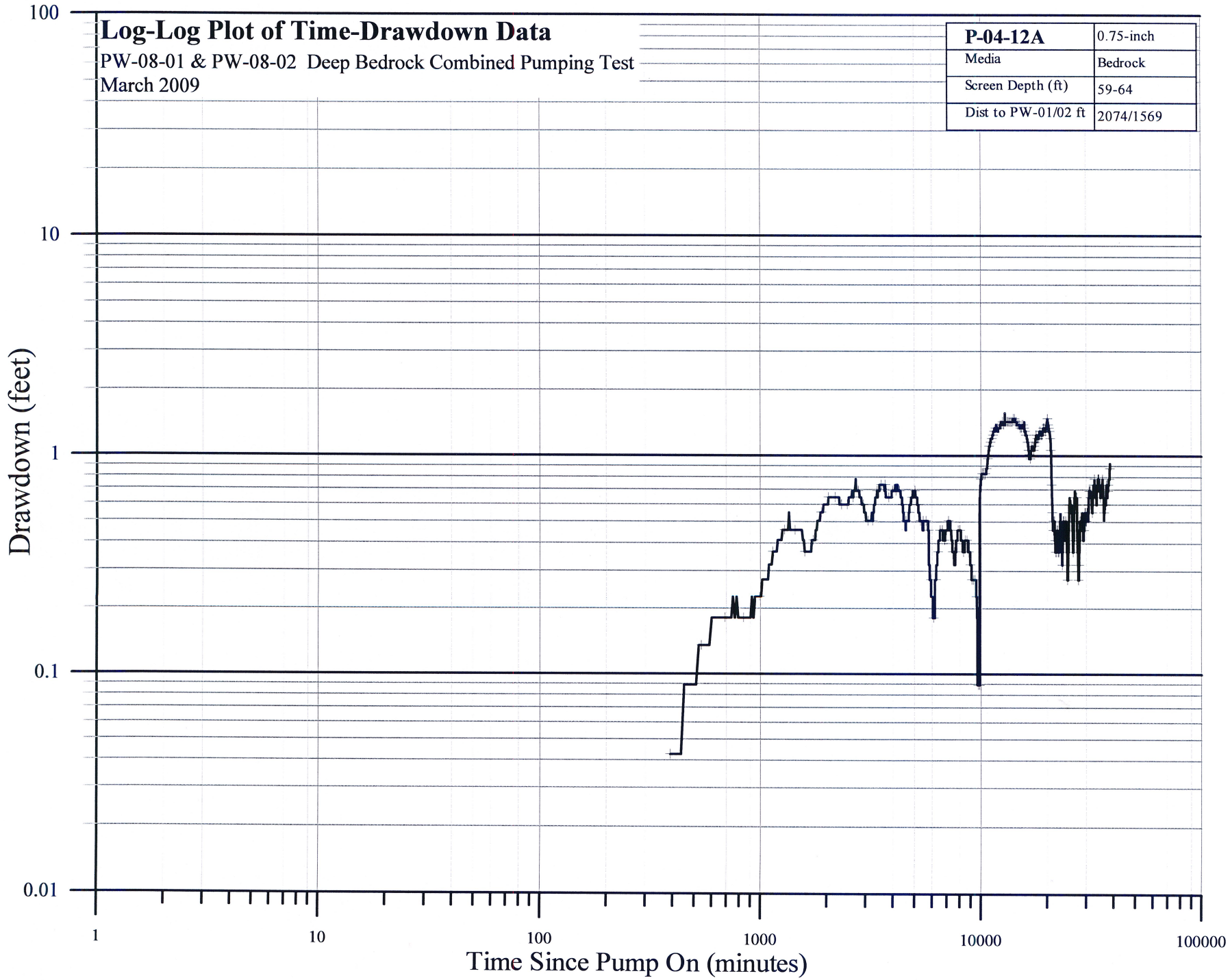

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-07B
0.75-inch
Media
Bedrock
Screen Depth (ft)
24.5-25.5
Dist to PW-01/02 ft
1936/746
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

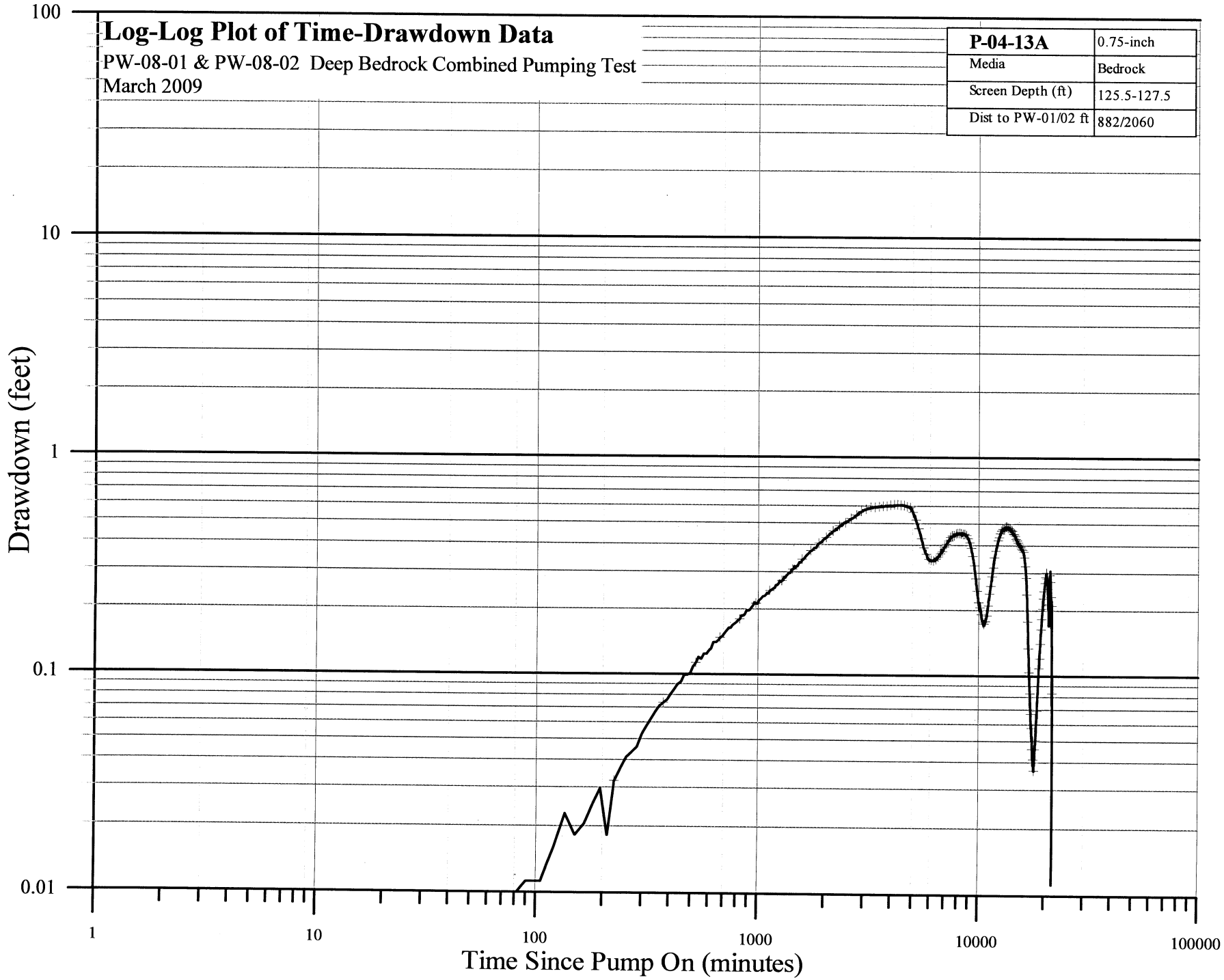
Log-Log Plot of Time-Drawdown Data

PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009

P-04-11A	0.75-inch
Media	Till
Screen Depth (ft)	48.5-49.5
Dist to PW-01/02 ft	446/1006



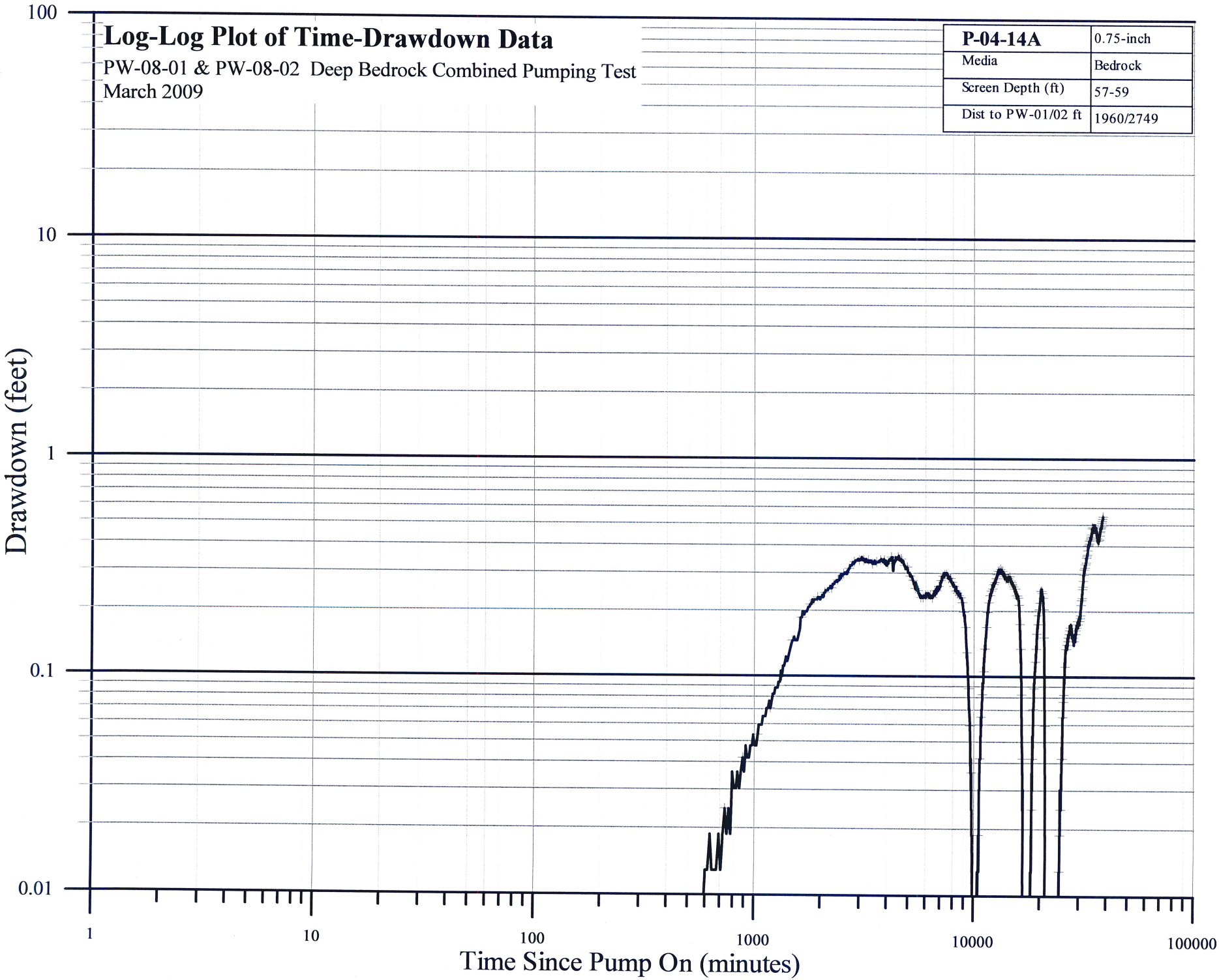

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-12A
0.75-inch
Media
Bedrock
Screen Depth (ft)
59-64
Dist to PW-01/02 ft
2074/1569
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

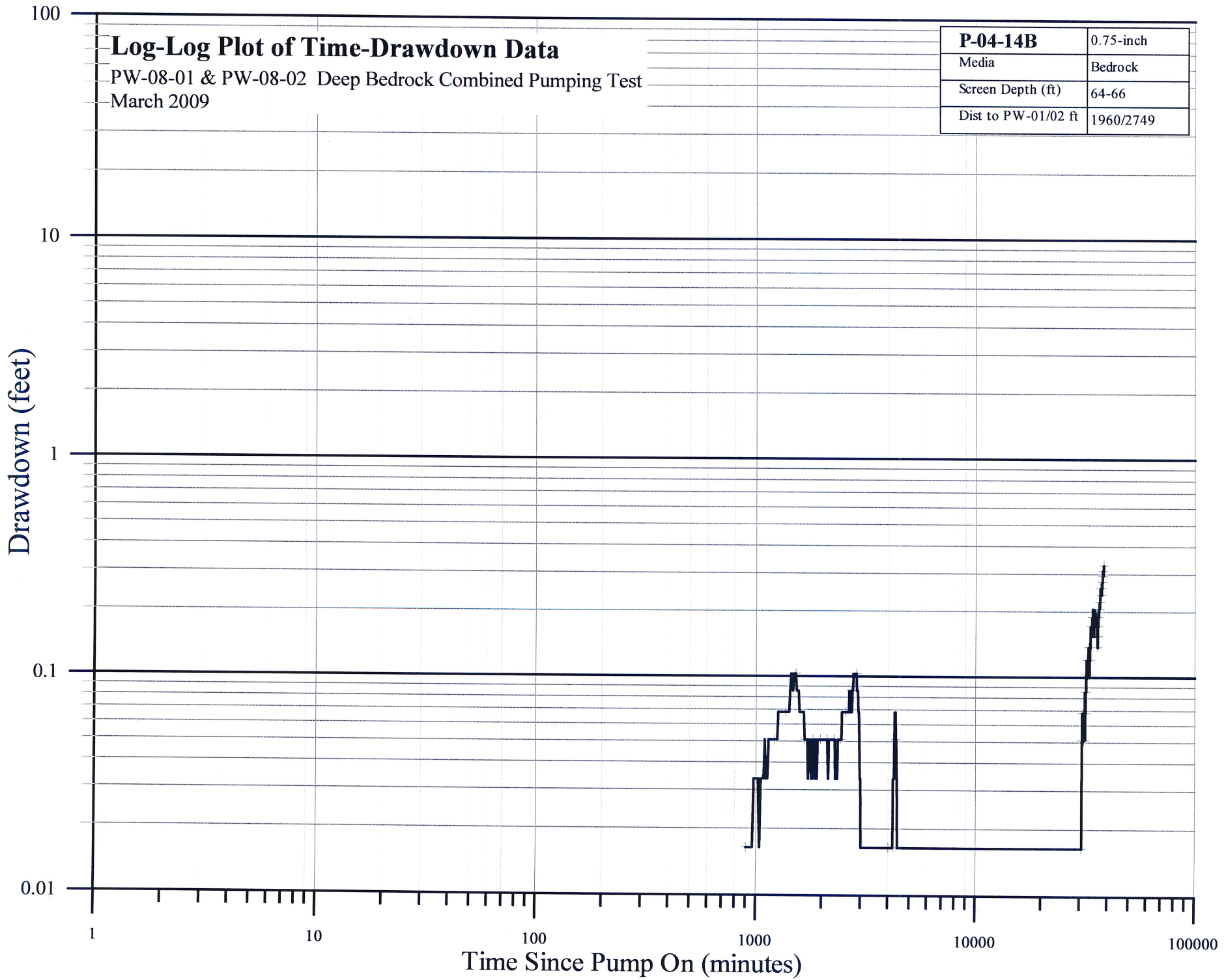

Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-13A
0.75-inch
Media
Bedrock
Screen Depth (ft)
125.5-127.5
Dist to PW-01/02 ft
882/2060
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

Log-Log Plot of Time-Drawdown Data

PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009

P-04-14A	0.75-inch
Media	Bedrock
Screen Depth (ft)	57-59
Dist to PW-01/02 ft	1960/2749




Log-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
P-04-14B
0.75-inch
Media
Bedrock
Screen Depth (ft)
64-66
Dist to PW-01/02 ft
1960/2749
100
10
1
0.1
0.01
Drawdown (feet)
1
10
100
1000
10000
100000
Time Since Pump On (minutes)

HAND-HELD GROUNDWATER LEVEL MEASUREMENTS DURING PUMP TESTING

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
MW04-111		Current ground surface elevation: 192.13 (feet)		
1/19/2009 12:55:00 PM		5.02	194.93	189.91
1/29/2009 10:33:00 AM		5.31		189.62
1/30/2009 10:41:00 AM		5.32		189.61
2/2/2009 10:44:00 AM		5.38		189.55
2/3/2009 11:33:00 AM		5.34		189.59
2/5/2009 9:54:00 AM		5.42		189.51
2/6/2009 1:11:00 PM		5.43		189.50
2/10/2009 10:21:00 AM		5.55		189.38
MW05-01		Current ground surface elevation: 191.77 (feet)		
1/19/2009 1:14:00 PM		5.22	194.86	189.64
1/29/2009 10:34:00 AM		5.50		189.36
1/30/2009 10:42:00 AM		5.51		189.35
2/2/2009 10:45:00 AM		5.57		189.29
2/3/2009 11:34:00 AM		5.53		189.33
2/5/2009 9:56:00 AM		5.62		189.24
2/6/2009 1:13:00 PM		5.62		189.24
2/10/2009 10:22:00 AM		5.73		189.13
MW05-02		Current ground surface elevation: 191.81 (feet)		
1/19/2009 1:15:00 PM		4.87	194.63	189.76
1/29/2009 10:35:00 AM		5.17		189.46
1/30/2009 10:42:00 AM		5.16		189.47
2/2/2009 10:45:00 AM		5.22		189.41
2/3/2009 11:34:00 AM		5.20		189.43
2/5/2009 9:57:00 AM		5.22		189.41
2/6/2009 1:13:00 PM		5.28		189.35
2/10/2009 10:23:00 AM		5.38		189.25
MW05-03		Current ground surface elevation: 192.21 (feet)		
1/19/2009 1:15:00 PM		5.13	194.88	189.75
1/29/2009 10:36:00 AM		5.42		189.46
1/30/2009 10:43:00 AM		5.44		189.44
2/2/2009 10:46:00 AM		5.50		189.38
2/3/2009 11:35:00 AM		5.47		189.41
2/5/2009 9:59:00 AM		5.55		189.33
2/6/2009 1:14:00 PM		5.55		189.33
2/10/2009 10:24:00 AM		5.66		189.22
MW05-04		Current ground surface elevation: 192.16 (feet)		
1/19/2009 1:16:00 PM		5.54	195.41	189.87
1/29/2009 10:37:00 AM		5.82		189.59
1/30/2009 10:44:00 AM		5.84		189.57
2/2/2009 10:46:00 AM		5.90		189.51
2/3/2009 11:36:00 AM		5.86		189.55
2/5/2009 9:52:00 AM		5.99		189.42
2/6/2009 1:14:00 PM		5.95		189.46
2/10/2009 10:25:00 AM		6.08		189.33
3/17/2009 12:22:00 PM		4.48		190.93
3/23/2009 10:19:00 AM		4.45		190.96
3/24/2009 10:49:00 AM		4.52		190.89

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW05-04)				
3/25/2009 9:33:00 AM		4.51	195.41	190.90
3/26/2009 9:13:00 AM		4.45		190.96
3/27/2009 12:38:00 PM		4.35		191.06
3/30/2009 11:28:00 AM		4.11		191.30
3/31/2009 10:20:00 AM		4.20		191.21
4/1/2009 9:54:00 AM		4.22		191.19
4/2/2009 9:44:00 AM		4.25		191.16
4/3/2009 10:17:00 AM		4.19		191.22
4/6/2009 9:56:00 AM		4.24		191.17
4/8/2009 10:21:00 AM		4.24		191.17
4/19/2009 9:21:00 AM		5.12		190.29
MW05-05			Current ground surface elevation: 191.95 (feet)	
1/19/2009 1:17:00 PM		5.10	194.86	189.76
1/29/2009 10:38:00 AM		5.40		189.46
1/30/2009 10:45:00 AM		5.40		189.46
2/2/2009 10:47:00 AM		5.46		189.40
2/3/2009 11:36:00 AM		5.44		189.42
2/5/2009 9:55:00 AM		5.53		189.33
2/6/2009 1:12:00 PM		5.52		189.34
2/10/2009 10:22:00 AM		5.61		189.25
MW06-01			Current ground surface elevation: 163.324 (feet)	
1/14/2009 2:33:00 PM		F1	166.13	166.13
1/29/2009 11:30:00 AM		F1		166.13
1/30/2009 11:39:00 AM		5.11		161.02
2/2/2009 11:52:00 AM		-0.21 ^		166.34
2/3/2009 8:52:00 AM		-0.30 ^		166.43
2/5/2009 8:32:00 AM		-0.14 ^		166.27
2/6/2009 11:52:00 AM		-0.14 ^		166.27
2/10/2009 12:06:00 PM		-0.12 ^		166.25
3/17/2009 9:52:00 AM		-0.35 ^		166.48
3/19/2009 1:15:00 PM		0.45		165.68
3/23/2009 11:01:00 AM		-0.94 ^		167.07
3/23/2009 2:06:00 PM		-0.08 ^		166.21
3/24/2009 1:19:00 PM		6.52		159.61
3/25/2009 11:16:00 AM		M		
3/26/2009 11:27:00 AM		6.83	166.13	159.30
3/27/2009 2:46:00 PM		3.52		162.61
3/30/2009 1:26:00 PM		6.03		160.10
3/31/2009 1:18:00 PM		6.47		159.66
4/1/2009 12:46:00 PM		6.43		159.70
4/2/2009 12:35:00 PM		6.40		159.73
4/3/2009 12:26:00 PM		6.32		159.81
4/6/2009 12:29:00 PM		6.22		159.91
4/8/2009 12:48:00 PM		-1.05 ^		167.18
4/19/2009 12:06:00 PM		-2.81 ^		168.94
MW06-02			Current ground surface elevation: 188.756 (feet)	
1/14/2009 11:05:00 AM		7.45	191.71	184.26
1/29/2009 10:43:00 AM		8.25		183.46
1/30/2009 10:36:00 AM		8.69		183.02

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW06-02)				
2/2/2009 10:40:00 AM		8.44	191.71	183.27
2/2/2009 3:28:00 PM		8.43		183.28
2/3/2009 11:38:00 AM		8.57		183.14
2/5/2009 9:49:00 AM		8.64		183.07
2/6/2009 1:20:00 PM		8.67		183.04
2/10/2009 10:15:00 AM		8.83		182.88
3/17/2009 12:25:00 PM		7.06		184.65
3/18/2009 2:05:00 PM		7.82		183.89
3/23/2009 11:28:00 AM		6.80		184.91
3/24/2009 10:51:00 AM		7.65		184.06
3/25/2009 9:31:00 AM		7.76		183.95
3/26/2009 9:16:00 AM		7.71		184.00
3/27/2009 12:40:00 PM		7.16		184.55
3/30/2009 11:31:00 AM		6.97		184.74
3/31/2009 10:22:00 AM		7.83		183.88
4/1/2009 9:58:00 AM		7.94		183.77
4/2/2009 9:46:00 AM		8.00		183.71
4/3/2009 10:21:00 AM		7.88		183.83
4/6/2009 10:00:00 AM		7.94		183.77
4/8/2009 10:25:00 AM		6.47		185.24
4/19/2009 9:27:00 AM		7.45		184.26
MW-207			Current ground surface elevation: 214.6 (feet)	
1/19/2009 1:55:00 PM		7.01	217.96	210.95
1/29/2009 9:13:00 AM		7.91		210.05
1/29/2009 2:49:00 PM		7.96		210.00
1/30/2009 11:59:00 AM		8.03		209.93
2/2/2009 11:49:00 AM		8.35		209.61
2/3/2009 8:28:00 AM		8.44		209.52
2/5/2009 8:48:00 AM		8.68		209.28
2/6/2009 12:11:00 PM		8.80		209.16
2/10/2009 12:22:00 PM		9.14		208.82
3/17/2009 9:36:00 AM		4.76		213.20
3/18/2009 10:43:00 AM		4.67		213.29
3/19/2009 12:49:00 PM		4.61		213.35
3/23/2009 11:42:00 AM		5.09		212.87
3/23/2009 3:03:00 PM		5.08		212.88
3/24/2009 9:50:00 AM		5.32		212.64
3/25/2009 8:41:00 AM		5.38		212.58
3/26/2009 8:08:00 AM		5.20		212.76
3/27/2009 10:44:00 AM		5.14		212.82
3/30/2009 7:34:00 AM		4.55		213.41
3/31/2009 8:23:00 AM		4.94		213.02
4/1/2009 8:32:00 AM		5.08		212.88
4/2/2009 8:35:00 AM		5.09		212.87
4/3/2009 8:54:00 AM		5.11		212.85
4/6/2009 8:28:00 AM		4.92		213.04
4/6/2009 3:22:00 PM		4.84		213.12
4/8/2009 8:47:00 AM		4.67		213.29
4/19/2009 11:32:00 AM		6.25		211.71
MW-223A			Current ground surface elevation: 173.35 (feet)	

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-223A)				
1/14/2009 1:01:00 PM		F	176.54	175.59
1/29/2009 3:45:00 PM		F		174.04
1/30/2009 11:14:00 AM		F		174.04
2/2/2009 10:40:00 AM		F		173.99
2/3/2009 9:17:00 AM		F		174.09
2/5/2009 7:59:00 AM		F		174.09
2/6/2009 8:32:00 AM		F		174.10
2/10/2009 11:35:00 AM		F		174.04
3/17/2009 9:17:00 AM		2.37		174.17
3/18/2009 10:28:00 AM		8.67		167.87
3/19/2009 12:38:00 PM		9.78		166.76
3/23/2009 11:53:00 AM		0.70		175.84
3/23/2009 5:07:00 PM		1.03		175.51
3/24/2009 10:00:00 AM		3.17		173.37
3/25/2009 8:53:00 AM		3.81		172.73
3/26/2009 8:18:00 AM		3.91		172.63
3/27/2009 10:52:00 AM		2.12		174.42
3/30/2009 7:46:00 AM		3.63		172.91
3/31/2009 8:32:00 AM		9.53		167.01
4/1/2009 8:40:00 AM		10.46		166.08
4/2/2009 8:42:00 AM		10.76		165.78
4/3/2009 9:02:00 AM		10.85		165.69
4/6/2009 8:47:00 AM		10.36		166.18
4/6/2009 2:28:00 PM		10.24		166.30
4/8/2009 8:59:00 AM		1.09		175.45
4/19/2009 10:34:00 AM		1.24		175.30
MW-223B			Current ground surface elevation: 173.32 (feet)	
1/14/2009 1:02:00 PM		3.59	175.93	172.34
1/29/2009 3:46:00 PM		3.82		172.11
1/30/2009 11:15:00 AM		4.51		171.42
2/2/2009 10:40:00 AM		4.13		171.80
2/3/2009 9:18:00 AM		4.13		171.80
2/5/2009 8:00:00 AM		4.18		171.75
2/6/2009 8:33:00 AM		4.20		171.73
2/10/2009 11:36:00 AM		4.12		171.81
3/17/2009 9:17:00 AM		3.08		172.85
3/18/2009 10:30:00 AM		7.24		168.69
3/19/2009 12:38:00 PM		7.63		168.30
3/23/2009 11:53:00 AM		2.03		173.90
3/23/2009 5:08:00 PM		2.24		173.69
3/24/2009 10:00:00 AM		3.70		172.23
3/25/2009 8:53:00 AM		4.16		171.77
3/26/2009 8:18:00 AM		4.19		171.74
3/27/2009 10:52:00 AM		3.21		172.72
3/30/2009 7:47:00 AM		3.94		171.99
3/31/2009 8:32:00 AM		8.07		167.86
4/1/2009 8:40:00 AM		8.94		166.99
4/2/2009 8:42:00 AM		9.24		166.69
4/3/2009 9:02:00 AM		9.34		166.59
4/6/2009 8:47:00 AM		8.92		167.01
4/6/2009 2:28:00 PM		8.90		167.03

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-223B)				
4/8/2009 8:59:00 AM		2.39	175.93	173.54
4/19/2009 10:35:00 AM		2.65		173.28
MW-227			Current ground surface elevation: 160.79 (feet)	
1/14/2009 1:06:00 PM		4.26	164.23	159.97
1/29/2009 3:41:00 PM		4.30		159.93
1/30/2009 11:11:00 AM		4.30		159.93
2/2/2009 10:50:00 AM		4.31		159.92
2/3/2009 9:14:00 AM		4.29		159.94
2/5/2009 8:03:00 AM		4.35		159.88
2/6/2009 8:35:00 AM		4.44		159.79
2/10/2009 11:39:00 AM		4.28		159.95
3/17/2009 9:24:00 AM		3.82		160.41
3/18/2009 10:32:00 AM		3.79		160.44
3/19/2009 12:40:00 PM		3.82		160.41
3/23/2009 11:49:00 AM		3.88		160.35
3/23/2009 5:04:00 PM		3.87		160.36
3/24/2009 9:57:00 AM		3.97		160.26
3/25/2009 8:49:00 AM		3.89		160.34
3/26/2009 8:15:00 AM		3.77		160.46
3/27/2009 10:47:00 AM		3.79		160.44
3/30/2009 7:50:00 AM		3.61		160.62
3/31/2009 8:37:00 AM		4.07		160.16
4/1/2009 8:44:00 AM		4.05		160.18
4/2/2009 8:45:00 AM		3.99		160.24
4/3/2009 9:05:00 AM		4.00		160.23
4/6/2009 8:51:00 AM		4.03		160.20
4/6/2009 2:32:00 PM		3.98		160.25
4/8/2009 9:02:00 AM		3.86		160.37
4/19/2009 10:41:00 AM		4.28		159.95
MW-302R			Current ground surface elevation: 204.49 (feet)	
1/14/2009 12:57:00 PM		7.88	206.86	198.98
1/29/2009 3:01:00 PM		9.55		197.31
1/30/2009 11:21:00 AM		9.65		197.21
2/2/2009 10:36:00 AM		9.97		196.89
2/3/2009 9:25:00 AM		10.06		196.80
2/5/2009 7:56:00 AM		10.20		196.66
2/6/2009 8:25:00 AM		10.30		196.56
2/10/2009 11:32:00 AM		10.31		196.55
3/17/2009 9:14:00 AM		5.36		201.50
3/18/2009 10:20:00 AM		5.42		201.44
3/19/2009 12:27:00 PM		5.38		201.48
3/23/2009 11:46:00 AM		5.54		201.32
3/23/2009 5:11:00 PM		5.58		201.28
3/24/2009 10:05:00 AM		5.78		201.08
3/25/2009 8:56:00 AM		5.83		201.03
3/26/2009 8:20:00 AM		5.80		201.06
3/27/2009 10:49:00 AM		5.74		201.12
3/30/2009 7:42:00 AM		5.20		201.66
3/31/2009 8:27:00 AM		5.31		201.55
4/1/2009 8:36:00 AM		5.34		201.52

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(MW-302R)				
4/2/2009 8:38:00 AM		5.50	206.86	201.36
4/3/2009 8:58:00 AM		5.62		201.24
4/6/2009 8:37:00 AM		5.39		201.47
4/8/2009 8:55:00 AM		4.83		202.03
4/19/2009 10:26:00 AM		7.08		199.78
MW-304A			Current ground surface elevation: 214.67 (feet)	
1/19/2009 3:05:00 PM		26.66	217.31	190.65
1/29/2009 12:18:00 PM		27.32		189.99
1/30/2009 11:51:00 AM		27.39		189.92
2/2/2009 11:29:00 AM		27.58		189.73
2/3/2009 8:36:00 AM		27.64		189.67
2/5/2009 8:13:00 AM		27.80		189.51
2/6/2009 11:41:00 AM		27.83		189.48
2/10/2009 11:53:00 AM		28.07		189.24
3/23/2009 11:28:00 AM		27.19		190.12
3/23/2009 2:17:00 PM		27.14		190.17
3/24/2009 1:31:00 PM		27.17		190.14
3/25/2009 11:33:00 AM		27.07		190.24
3/26/2009 11:38:00 AM		27.05		190.26
3/27/2009 3:01:00 PM		26.90		190.41
3/30/2009 1:37:00 PM		26.65		190.66
3/31/2009 1:06:00 PM		26.83		190.48
4/1/2009 12:33:00 PM		26.59		190.72
4/2/2009 12:23:00 PM		26.48		190.83
4/3/2009 12:17:00 PM		26.36		190.95
4/6/2009 12:17:00 PM		26.26		191.05
4/8/2009 12:26:00 PM		25.87		191.44
4/19/2009 11:56:00 AM		25.76		191.55
OSW			Current ground surface elevation: (feet)	
3/17/2009 10:45:00 AM		29.65		
3/18/2009 11:12:00 AM		45.66		
3/19/2009 2:36:00 PM		45.95		
3/23/2009 10:32:00 AM		30.63		
3/23/2009 5:33:00 PM		31.60		
3/24/2009 10:09:00 AM		38.27		
3/24/2009 3:50:00 PM		39.05		
3/25/2009 9:02:00 AM		40.19		
3/25/2009 2:55:00 PM		40.34		
3/26/2009 8:24:00 AM		40.47		
3/27/2009 8:50:00 AM		36.10		
3/27/2009 3:45:00 PM		36.60		
3/30/2009 8:11:00 AM		40.29		
3/30/2009 3:10:00 PM		40.54		
3/31/2009 9:21:00 AM		49.60		
3/31/2009 1:59:00 PM		49.99		
4/1/2009 9:03:00 AM		51.48		
4/2/2009 9:00:00 AM		50.53		
4/3/2009 9:26:00 AM		50.41		
4/3/2009 12:54:00 PM		50.76		
4/6/2009 9:11:00 AM		49.80		

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OSW)				
4/6/2009 3:02:00 PM		49.43		
4/8/2009 9:24:00 AM		31.31		
4/19/2009 11:04:00 AM		31.01		
OW06-05			Current ground surface elevation: 187.627 (feet)	
1/14/2009 11:08:00 AM		7.03	190.53	183.50
1/29/2009 10:44:00 AM		7.83		182.70
1/30/2009 10:27:00 AM		8.35		182.18
2/2/2009 10:34:00 AM		8.14		182.39
2/2/2009 3:21:00 PM		8.13		182.40
2/3/2009 11:39:00 AM		8.29		182.24
2/5/2009 9:42:00 AM		8.39		182.14
2/6/2009 1:21:00 PM		8.41		182.12
2/10/2009 10:09:00 AM		8.55		181.98
3/17/2009 12:27:00 PM		6.73		183.80
3/18/2009 1:59:00 PM		7.46		183.07
3/23/2009 11:30:00 AM		6.53		184.00
3/24/2009 10:52:00 AM		7.30		183.23
3/25/2009 9:32:00 AM		7.53		183.00
3/26/2009 9:17:00 AM		7.44		183.09
3/27/2009 12:41:00 PM		6.93		183.60
3/30/2009 11:33:00 AM		6.77		183.76
3/31/2009 10:23:00 AM		7.69		182.84
4/1/2009 9:59:00 AM		7.88		182.65
4/2/2009 9:47:00 AM		8.00		182.53
4/3/2009 10:21:00 AM		7.84		182.69
4/6/2009 10:01:00 AM		7.92		182.61
4/8/2009 10:26:00 AM		6.30		184.23
4/19/2009 9:28:00 AM		7.26		183.27
OW06-06			Current ground surface elevation: 187.278 (feet)	
1/14/2009 11:09:00 AM		6.61	190.12	183.51
1/29/2009 10:45:00 AM		7.30		182.82
1/30/2009 10:28:00 AM		7.52		182.60
2/2/2009 10:35:00 AM		7.64		182.48
2/2/2009 3:22:00 PM		7.63		182.49
2/3/2009 11:40:00 AM		7.69		182.43
2/5/2009 9:43:00 AM		7.82		182.30
2/6/2009 1:22:00 PM		7.84		182.28
2/10/2009 10:10:00 AM		7.98		182.14
3/17/2009 12:28:00 PM		6.34		183.78
3/18/2009 2:00:00 PM		6.60		183.52
3/23/2009 11:30:00 AM		6.13		183.99
3/24/2009 10:53:00 AM		6.39		183.73
3/25/2009 9:33:00 AM		6.72		183.40
3/26/2009 9:18:00 AM		6.86		183.26
3/27/2009 12:42:00 PM		6.75		183.37
3/30/2009 11:34:00 AM		6.51		183.61
3/31/2009 10:23:00 AM		6.65		183.47
4/1/2009 10:00:00 AM		6.98		183.14
4/2/2009 9:48:00 AM		7.18		182.94
4/3/2009 10:22:00 AM		7.21		182.91

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW06-06)				
4/6/2009 10:02:00 AM		7.16	190.12	182.96
4/8/2009 10:27:00 AM		6.15		183.97
4/19/2009 9:29:00 AM		6.63		183.49
OW06-07			Current ground surface elevation: 186.609 (feet)	
1/14/2009 11:11:00 AM		9.02	189.16	180.14
1/29/2009 10:46:00 AM		9.74		179.42
1/30/2009 10:30:00 AM		10.78		178.38
2/2/2009 10:36:00 AM		10.27		178.89
2/2/2009 3:23:00 PM		10.26		178.90
2/3/2009 11:41:00 AM		10.55		178.61
2/5/2009 9:44:00 AM		10.62		178.54
2/6/2009 1:22:00 PM		10.64		178.52
2/10/2009 10:11:00 AM		10.72		178.44
3/17/2009 11:29:00 AM		9.27		179.89
3/18/2009 2:01:00 PM		10.80		178.36
3/23/2009 11:31:00 AM		8.60		180.56
3/24/2009 10:54:00 AM		10.19		178.97
3/25/2009 9:34:00 AM		11.12		178.04
3/26/2009 9:19:00 AM		11.32		177.84
3/27/2009 12:43:00 PM		10.41		178.75
3/30/2009 11:35:00 AM		10.84		178.32
3/31/2009 10:24:00 AM		12.24		176.92
4/1/2009 10:01:00 AM		13.15		176.01
4/2/2009 9:48:00 AM		13.34		175.82
4/3/2009 10:23:00 AM		13.32		175.84
4/6/2009 10:03:00 AM		13.23		175.93
4/8/2009 10:28:00 AM		9.03		180.13
4/19/2009 9:30:00 AM		9.39		179.77
OW06-08			Current ground surface elevation: 187.125 (feet)	
1/14/2009 11:13:00 AM		4.85	189.72	184.87
1/29/2009 10:47:00 AM		5.35		184.37
1/30/2009 10:31:00 AM		5.40		184.32
2/2/2009 10:37:00 AM		5.45		184.27
2/2/2009 3:25:00 PM		5.45		184.27
2/3/2009 11:42:00 AM		5.45		184.27
2/5/2009 9:45:00 AM		5.54		184.18
2/6/2009 1:23:00 PM		5.57		184.15
2/10/2009 10:12:00 AM		5.68		184.04
3/17/2009 12:30:00 PM		4.41		185.31
3/18/2009 2:02:00 PM		4.40		185.32
3/23/2009 11:32:00 AM		4.30		185.42
3/24/2009 10:55:00 AM		4.45		185.27
3/25/2009 9:36:00 AM		4.44		185.28
3/26/2009 9:20:00 AM		4.34		185.38
3/27/2009 12:44:00 PM		4.25		185.47
3/30/2009 11:36:00 AM		3.84		185.88
3/31/2009 10:25:00 AM		4.05		185.67
4/1/2009 10:02:00 AM		4.08		185.64
4/2/2009 9:49:00 AM		4.09		185.63
4/3/2009 10:23:00 AM		4.00		185.72

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW06-08)				
4/6/2009 10:04:00 AM		4.04	189.72	185.68
4/8/2009 10:29:00 AM		3.92		185.80
4/19/2009 9:31:00 AM		4.73		184.99
OW06-09			Current ground surface elevation: 187.222 (feet)	
1/14/2009 11:15:00 AM		5.84	190.10	184.26
1/29/2009 10:48:00 AM		6.43		183.67
1/30/2009 10:33:00 AM		6.69		183.41
2/2/2009 10:38:00 AM		6.57		183.53
2/2/2009 3:26:00 PM		6.57		183.53
2/3/2009 11:43:00 AM		6.66		183.44
2/5/2009 9:46:00 AM		6.71		183.39
2/6/2009 1:24:00 PM		6.75		183.35
2/10/2009 10:13:00 AM		6.82		183.28
3/17/2009 12:31:00 PM		5.51		184.59
3/18/2009 2:03:00 PM		5.92		184.18
3/23/2009 11:32:00 AM		5.32		184.78
3/24/2009 10:56:00 AM		5.88		184.22
3/25/2009 9:37:00 AM		5.95		184.15
3/26/2009 9:21:00 AM		5.88		184.22
3/27/2009 12:45:00 PM		5.51		184.59
3/30/2009 11:37:00 AM		5.34		184.76
3/31/2009 10:56:00 AM		5.87		184.23
4/1/2009 10:03:00 AM		5.99		184.11
4/2/2009 9:50:00 AM		6.03		184.07
4/3/2009 10:24:00 AM		5.94		184.16
4/6/2009 10:05:00 AM		5.98		184.12
4/8/2009 10:30:00 AM		5.04		185.06
4/19/2009 9:32:00 AM		5.88		184.22
OW06-10			Current ground surface elevation: 188.401 (feet)	
1/14/2009 11:16:00 AM		6.37	191.07	184.70
1/29/2009 10:50:00 AM		6.98		184.09
1/30/2009 10:34:00 AM		7.29		183.78
2/2/2009 10:39:00 AM		7.12		183.95
2/2/2009 3:27:00 PM		7.13		183.94
2/3/2009 11:43:00 AM		7.22		183.85
2/5/2009 9:47:00 AM		7.29		183.78
2/6/2009 1:25:00 PM		7.31		183.76
2/10/2009 10:14:00 AM		7.42		183.65
3/17/2009 12:32:00 PM		5.94		185.13
3/18/2009 2:04:00 PM		6.45		184.62
3/23/2009 11:32:00 AM		5.73		185.34
3/24/2009 10:57:00 AM		6.29		184.78
3/25/2009 9:38:00 AM		6.45		184.62
3/26/2009 9:22:00 AM		6.37		184.70
3/27/2009 12:46:00 PM		5.97		185.10
3/30/2009 11:38:00 AM		5.78		185.29
3/31/2009 10:27:00 AM		6.37		184.70
4/1/2009 10:04:00 AM		6.51		184.56
4/2/2009 9:51:00 AM		6.54		184.53
4/3/2009 10:25:00 AM		6.44		184.63

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(OW06-10)				
4/6/2009 10:06:00 AM		6.48	191.07	184.59
4/8/2009 10:31:00 AM		5.41		185.66
4/19/2009 9:33:00 AM		6.28		184.79
P-04-05A			Current ground surface elevation: 201.03 (feet)	
1/14/2009 2:56:00 PM		18.56	204.00	185.44
1/29/2009 11:50:00 AM		19.80		184.20
1/29/2009 2:37:00 PM		19.73		184.27
1/30/2009 12:48:00 PM		24.69		179.31
2/2/2009 11:39:00 AM		21.68		182.32
2/3/2009 9:35:00 AM		21.73		182.27
2/5/2009 9:04:00 AM		21.90		182.10
2/6/2009 8:48:00 AM		22.00		182.00
2/10/2009 12:31:00 PM		22.26		181.74
3/17/2009 10:16:00 AM		18.55		185.45
3/18/2009 10:59:00 AM		25.56		178.44
3/19/2009 1:46:00 PM		26.65		177.35
3/23/2009 12:03:00 PM		19.13		184.87
3/23/2009 2:46:00 PM		19.37		184.63
3/24/2009 9:39:00 AM		27.28		176.72
3/25/2009 8:30:00 AM		28.81		175.19
3/26/2009 7:52:00 AM		29.08		174.92
3/27/2009 10:34:00 AM		23.28		180.72
3/30/2009 7:21:00 AM		28.82		175.18
3/31/2009 11:57:00 AM		33.17		170.83
4/1/2009 8:19:00 AM		33.76		170.24
4/2/2009 8:23:00 AM		33.80		170.20
4/3/2009 8:41:00 AM		33.71		170.29
4/6/2009 8:15:00 AM		33.47		170.53
4/6/2009 2:05:00 PM		33.42		170.58
4/8/2009 8:31:00 AM		20.57		183.43
4/19/2009 11:15:00 AM		20.76		183.24
P-04-05B			Current ground surface elevation: 201.03 (feet)	
1/14/2009 2:57:00 PM		5.20	204.02	198.82
1/29/2009 11:51:00 AM		5.99		198.03
1/29/2009 2:38:00 PM		5.99		198.03
1/30/2009 12:48:00 PM		6.03		197.99
2/2/2009 11:40:00 AM		6.12		197.90
2/3/2009 9:36:00 AM		6.17		197.85
2/5/2009 9:05:00 AM		6.22		197.80
2/6/2009 8:48:00 AM		6.28		197.74
2/10/2009 12:32:00 PM		6.39		197.63
3/17/2009 10:16:00 AM		4.32		199.70
3/18/2009 10:59:00 AM		4.33		199.69
3/19/2009 1:45:00 PM		4.31		199.71
3/23/2009 12:02:00 PM		4.28		199.74
3/23/2009 2:47:00 PM		4.28		199.74
3/24/2009 9:40:00 AM		4.30		199.72
3/25/2009 8:31:00 AM		4.33		199.69
3/26/2009 7:53:00 AM		4.35		199.67
3/27/2009 10:34:00 AM		4.35		199.67

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-05B)				
3/30/2009 7:22:00 AM		4.25	204.02	199.77
3/31/2009 11:57:00 AM		4.24		199.78
4/1/2009 8:20:00 AM		4.26		199.76
4/2/2009 8:23:00 AM		4.30		199.72
4/3/2009 8:41:00 AM		4.32		199.70
4/6/2009 8:16:00 AM		4.32		199.70
4/6/2009 2:05:00 PM		4.34		199.68
4/8/2009 8:32:00 AM		4.27		199.75
4/19/2009 11:16:00 AM		4.86		199.16
P-04-06A			Current ground surface elevation: 208.29 (feet)	
1/14/2009 12:48:00 PM		23.92	210.98	187.06
1/29/2009 10:03:00 AM		24.77		186.21
1/29/2009 5:13:00 PM		25.20		185.78
1/30/2009 12:06:00 PM		28.56		182.42
2/2/2009 11:28:00 AM		26.15		184.83
2/3/2009 11:17:00 AM		26.20		184.78
2/5/2009 9:49:00 AM		26.29		184.69
2/6/2009 10:47:00 AM		26.50		184.48
2/6/2009 11:26:00 AM		26.36		184.62
2/10/2009 10:47:00 AM		26.50		184.48
3/17/2009 9:07:00 AM		24.84		186.14
3/18/2009 10:09:00 AM		39.71		171.27
3/19/2009 2:50:00 PM		41.55		169.43
3/23/2009 11:37:00 AM		23.68		187.30
3/23/2009 2:57:00 PM		24.29		186.69
3/24/2009 10:14:00 AM		29.23		181.75
3/25/2009 9:08:00 AM		30.19		180.79
3/26/2009 8:30:00 AM		30.32		180.66
3/27/2009 8:44:00 AM		26.63		184.35
3/27/2009 3:50:00 PM		28.10		182.88
3/30/2009 8:04:00 AM		29.91		181.07
3/30/2009 3:06:00 PM		30.98		180.00
3/31/2009 9:26:00 AM		42.73		168.25
3/31/2009 1:52:00 PM		43.12		167.86
4/1/2009 9:10:00 AM		43.80		167.18
4/2/2009 9:07:00 AM		44.12		166.86
4/2/2009 2:18:00 PM		44.10		166.88
4/3/2009 9:29:00 AM		43.93		167.05
4/3/2009 12:58:00 PM		43.91		167.07
4/6/2009 9:16:00 AM		43.51		167.47
4/6/2009 3:08:00 PM		41.50		169.48
4/8/2009 9:28:00 AM		24.80		186.18
4/19/2009 10:10:00 AM		25.11		185.87
P-04-06B			Current ground surface elevation: 208.29 (feet)	
1/14/2009 12:49:00 PM		6.83	211.02	204.19
1/29/2009 10:04:00 AM		8.11		202.91
1/29/2009 5:12:00 PM		8.14		202.88
1/30/2009 12:07:00 PM		8.18		202.84
2/2/2009 11:29:00 AM		8.45		202.57
2/3/2009 11:18:00 AM		8.49		202.53

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-06B)				
2/5/2009 9:50:00 AM		8.68	211.02	202.34
2/6/2009 11:27:00 AM		8.77		202.25
2/10/2009 10:48:00 AM		9.02		202.00
3/17/2009 9:07:00 AM		4.47		206.55
3/18/2009 10:09:00 AM		4.64		206.38
3/19/2009 2:50:00 PM		4.51		206.51
3/23/2009 11:38:00 AM		4.92		206.10
3/23/2009 2:58:00 PM		4.93		206.09
3/24/2009 10:15:00 AM		5.14		205.88
3/25/2009 9:09:00 AM		5.09		205.93
3/26/2009 8:31:00 AM		5.08		205.94
3/27/2009 8:45:00 AM		4.96		206.06
3/27/2009 3:51:00 PM		4.99		206.03
3/30/2009 8:05:00 AM		4.44		206.58
3/30/2009 3:07:00 PM		4.46		206.56
3/31/2009 9:27:00 AM		4.97		206.05
3/31/2009 1:53:00 PM		4.99		206.03
4/1/2009 9:12:00 AM		5.18		205.84
4/2/2009 9:08:00 AM		5.37		205.65
4/2/2009 2:19:00 PM		5.37		205.65
4/3/2009 9:30:00 AM		5.48		205.54
4/3/2009 12:58:00 PM		5.46		205.56
4/6/2009 9:17:00 AM		5.23		205.79
4/6/2009 3:10:00 PM		5.21		205.81
4/8/2009 9:29:00 AM		4.69		206.33
4/19/2009 10:11:00 AM		6.50		204.52
P-04-07A			Current ground surface elevation: 174.11 (feet)	
1/14/2009 12:24:00 PM		F	177.12	176.82
1/30/2009 2:32:00 PM		F		176.89
2/2/2009 11:12:00 AM		F		176.89
2/3/2009 11:06:00 AM		F		176.89
2/5/2009 10:07:00 AM		F		176.89
2/6/2009 12:29:00 PM		F		176.89
2/10/2009 11:04:00 AM		F		176.89
3/19/2009 3:35:00 PM		19.95		157.17
3/23/2009 10:35:00 AM		F		
3/24/2009 10:29:00 AM		F		
3/25/2009 2:08:00 PM		7.18	177.12	169.94
3/26/2009 8:42:00 AM		7.33		169.79
3/27/2009 11:29:00 AM		3.67		173.45
3/30/2009 8:31:00 AM		7.00		170.12
3/31/2009 8:46:00 AM		20.85		156.27
4/1/2009 8:53:00 AM		21.98		155.14
4/2/2009 8:53:00 AM		22.25		154.87
4/3/2009 9:13:00 AM		22.06		155.06
4/6/2009 9:01:00 AM		21.77		155.35
4/6/2009 2:38:00 PM		19.99		157.13
4/8/2009 9:12:00 AM		1.28		175.84
4/19/2009 10:51:00 AM		0.94		176.18
P-04-07B			Current ground surface elevation: 174.11 (feet)	

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-07B)				
1/14/2009 12:25:00 PM		F	177.15	176.80
1/30/2009 2:33:00 PM		F		176.88
2/2/2009 11:12:00 AM		F		176.88
2/3/2009 11:06:00 AM		F		176.88
2/5/2009 10:07:00 AM		F		176.88
2/6/2009 12:29:00 PM		F		176.88
2/10/2009 11:04:00 AM		F		176.88
3/19/2009 3:35:00 PM		20.47		156.68
3/23/2009 10:35:00 AM		Q		
3/24/2009 10:29:00 AM		Q		
3/25/2009 2:08:00 AM		Q		
3/26/2009 8:42:00 AM		Q		
3/27/2009 11:29:00 AM		3.67	177.15	173.48
3/30/2009 8:31:00 AM		Q		
3/31/2009 8:46:00 AM		19.85	177.15	157.30
4/1/2009 8:54:00 AM		Q		
4/2/2009 8:34:00 AM		Q		
4/3/2009 9:14:00 AM		Q		
4/6/2009 9:01:00 AM		Q		
4/6/2009 2:26:00 PM		19.91	177.15	157.24
4/8/2009 9:13:00 AM		1.46		175.69
4/19/2009 10:51:00 AM		1.13		176.02
P-04-07C			Current ground surface elevation: 174.02 (feet)	
1/14/2009 12:26:00 PM		3.79	177.00	173.21
1/30/2009 2:31:00 PM		4.00		173.00
2/2/2009 11:13:00 AM		4.01		172.99
2/3/2009 11:06:00 AM		3.97		173.03
2/5/2009 10:06:00 AM		4.04		172.96
2/6/2009 12:30:00 PM		4.04		172.96
2/10/2009 11:04:00 AM		4.00		173.00
3/19/2009 3:35:00 PM		3.23		173.77
3/23/2009 10:35:00 AM		3.38		173.62
3/24/2009 10:30:00 AM		3.33		173.67
3/25/2009 2:08:00 AM		3.37		173.63
3/26/2009 8:43:00 AM		3.32		173.68
3/27/2009 11:30:00 AM		3.28		173.72
3/30/2009 8:32:00 AM		3.09		173.91
3/31/2009 9:32:00 AM		3.22		173.78
4/1/2009 8:55:00 AM		3.30		173.70
4/2/2009 8:54:00 AM		3.32		173.68
4/3/2009 9:14:00 AM		3.30		173.70
4/6/2009 9:02:00 AM		3.29		173.71
4/6/2009 2:53:00 PM		3.29		173.71
4/8/2009 9:14:00 AM		3.21		173.79
4/19/2009 10:52:00 AM		3.89		173.11
P-04-08A			Current ground surface elevation: 188.81 (feet)	
1/14/2009 11:41:00 AM		11.53	191.55	180.02
1/29/2009 11:02:00 AM		12.13		179.42
1/29/2009 5:30:00 PM		12.15		179.40
1/30/2009 10:51:00 AM		12.86		178.69

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-08A)				
2/2/2009 10:53:00 AM		12.91	191.55	178.64
2/2/2009 4:11:00 PM		12.91		178.64
2/3/2009 11:27:00 AM		12.98		178.57
2/5/2009 10:06:00 AM		13.17		178.38
2/6/2009 12:47:00 PM		13.17		178.38
2/10/2009 9:17:00 AM		13.27		178.28
3/17/2009 10:34:00 AM		11.06		180.49
3/18/2009 11:18:00 AM		12.70		178.85
3/19/2009 1:55:00 PM		13.26		178.29
3/23/2009 10:09:00 AM		10.79		180.76
3/23/2009 3:28:00 PM		10.82		180.73
3/24/2009 11:01:00 AM		12.64		178.91
3/25/2009 9:29:00 AM		13.15		178.40
3/26/2009 9:10:00 AM		13.18		178.37
3/27/2009 12:17:00 PM		11.90		179.65
3/30/2009 11:09:00 AM		12.69		178.86
3/31/2009 10:01:00 AM		14.52		177.03
4/1/2009 9:40:00 AM		14.94		176.61
4/2/2009 9:29:00 AM		15.07		176.48
4/3/2009 10:01:00 AM		15.04		176.51
4/6/2009 9:35:00 AM		15.06		176.49
4/6/2009 3:45:00 PM		14.96		176.59
4/8/2009 10:07:00 AM		10.98		180.57
4/19/2009 9:01:00 AM		11.64		179.91
P-04-08B			Current ground surface elevation: 188.81 (feet)	
1/14/2009 11:42:00 AM		5.61	191.56	185.95
1/29/2009 11:03:00 AM		6.20		185.36
1/29/2009 5:31:00 PM		6.22		185.34
1/30/2009 10:52:00 AM		6.27		185.29
2/2/2009 10:54:00 AM		6.35		185.21
2/2/2009 4:11:00 PM		6.33		185.23
2/3/2009 11:28:00 AM		6.35		185.21
2/5/2009 10:05:00 AM		6.49		185.07
2/6/2009 12:48:00 PM		6.46		185.10
2/10/2009 9:18:00 AM		6.57		184.99
3/17/2009 10:34:00 AM		4.04		187.52
3/18/2009 11:18:00 AM		4.07		187.49
3/19/2009 12:27:00 PM		5.38		186.18
3/23/2009 10:09:00 AM		4.33		187.23
3/23/2009 3:28:00 PM		4.36		187.20
3/24/2009 11:02:00 AM		4.59		186.97
3/25/2009 9:30:00 AM		4.58		186.98
3/26/2009 9:10:00 AM		4.38		187.18
3/27/2009 12:18:00 PM		4.25		187.31
3/30/2009 11:10:00 AM		3.66		187.90
3/31/2009 10:01:00 AM		4.18		187.38
4/1/2009 9:41:00 AM		4.37		187.19
4/2/2009 9:30:00 AM		4.45		187.11
4/3/2009 10:01:00 AM		4.45		187.11
4/6/2009 9:35:00 AM		4.37		187.19
4/6/2009 3:45:00 PM		4.38		187.18

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-08B)				
4/8/2009 10:07:00 AM		4.10	191.56	187.46
4/19/2009 9:01:00 AM		5.15		186.41
P-04-09A			Current ground surface elevation: 167.01 (feet)	
1/14/2009 10:02:00 AM		5.83	169.89	164.06
1/29/2009 12:35:00 PM		6.18		163.71
1/30/2009 9:46:00 AM		6.37		163.52
2/2/2009 9:31:00 AM		6.29		163.60
2/2/2009 1:26:00 PM		6.27		163.62
2/2/2009 4:57:00 PM		6.42		163.47
2/3/2009 11:57:00 AM		6.74		163.15
2/5/2009 9:24:00 AM		6.32		163.57
2/5/2009 4:05:00 PM		6.38		163.51
2/6/2009 2:50:00 PM		6.56		163.33
2/10/2009 9:23:00 AM		6.30		163.59
3/17/2009 11:38:00 AM		5.21		164.68
3/18/2009 12:00:00 PM		5.23		164.66
3/19/2009 2:20:00 PM		5.12		164.77
3/23/2009 11:43:00 AM		5.15		164.74
3/23/2009 5:37:00 PM		5.20		164.69
3/24/2009 11:30:00 AM		5.48		164.41
3/25/2009 10:02:00 AM		5.55		164.34
3/26/2009 9:46:00 AM		5.47		164.42
3/27/2009 9:06:00 AM		5.24		164.65
3/30/2009 8:48:00 AM		5.02		164.87
3/31/2009 10:55:00 AM		5.26		164.63
4/1/2009 10:30:00 AM		5.28		164.61
4/2/2009 10:27:00 AM		5.28		164.61
4/3/2009 10:46:00 AM		5.22		164.67
4/6/2009 10:40:00 AM		5.27		164.62
4/6/2009 3:51:00 PM		5.21		164.68
4/8/2009 11:02:00 AM		4.87		165.02
4/19/2009 8:13:00 AM		5.54		164.35
P-04-09B			Current ground surface elevation: 167.01 (feet)	
1/14/2009 10:03:00 AM		5.30	169.93	164.63
1/30/2009 9:47:00 AM		5.78		164.15
2/2/2009 9:31:00 AM		5.81		164.12
2/2/2009 1:26:00 PM		5.80		164.13
2/2/2009 4:58:00 PM		5.81		164.12
2/3/2009 11:58:00 AM		5.82		164.11
2/5/2009 9:25:00 AM		5.84		164.09
2/5/2009 4:06:00 PM		5.84		164.09
2/6/2009 2:50:00 PM		5.86		164.07
2/10/2009 9:24:00 AM		5.84		164.09
3/17/2009 11:38:00 AM		4.57		165.36
3/18/2009 12:00:00 PM		4.50		165.43
3/19/2009 2:20:00 PM		4.29		165.64
3/23/2009 11:44:00 AM		M		
3/24/2009 11:30:00 AM		M		
3/25/2009 10:03:00 AM		M		
3/26/2009 9:47:00 AM		M		

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-09B)				
3/27/2009 9:07:00 AM		4.80	169.93	165.13
3/30/2009 8:48:00 AM		3.93		166.00
3/31/2009 10:55:00 AM		4.15		165.78
4/1/2009 10:30:00 AM		4.19		165.74
4/2/2009 10:27:00 AM		4.17		165.76
4/3/2009 10:46:00 AM		4.14		165.79
4/6/2009 10:41:00 AM		4.22		165.71
4/6/2009 3:51:00 PM		4.13		165.80
4/8/2009 11:02:00 AM		4.05		165.88
4/19/2009 8:13:00 AM		4.98		164.95
P-04-10A			Current ground surface elevation: 165.97 (feet)	
1/14/2009 9:23:00 AM		8.40	169.94	161.54
1/29/2009 11:16:00 AM		8.75		161.19
1/29/2009 3:04:00 PM		9.11		160.83
2/2/2009 9:09:00 AM		9.10		160.84
2/5/2009 9:03:00 AM		9.31		160.63
2/5/2009 4:33:00 PM		9.30		160.64
2/6/2009 2:22:00 PM		10.29		159.65
2/10/2009 8:50:00 AM		8.94		161.00
3/17/2009 10:42:00 AM		8.05		161.89
3/18/2009 11:24:00 AM		9.06		160.88
3/19/2009 1:59:00 PM		9.51		160.43
3/23/2009 9:47:00 AM		7.76		162.18
3/23/2009 3:40:00 PM		8.66		161.28
3/24/2009 11:38:00 AM		15.17		154.77
3/25/2009 10:15:00 AM		15.59		154.35
3/26/2009 10:04:00 AM		15.56		154.38
3/27/2009 1:18:00 PM		11.10		158.84
3/30/2009 12:05:00 PM		15.05		154.89
3/31/2009 11:07:00 AM		15.93		154.01
4/1/2009 10:42:00 AM		16.07		153.87
4/2/2009 10:37:00 AM		16.04		153.90
4/3/2009 10:59:00 AM		15.98		153.96
4/6/2009 10:53:00 AM		15.92		154.02
4/8/2009 11:13:00 AM		7.73		162.21
4/19/2009 7:58:00 AM		7.62		162.32
P-04-10B			Current ground surface elevation: 165.97 (feet)	
1/14/2009 9:24:00 AM		6.47	169.90	163.43
1/29/2009 11:17:00 AM		7.06		162.84
1/29/2009 4:05:00 PM		7.03		162.87
1/30/2009 12:29:00 PM		7.20		162.70
2/2/2009 9:10:00 AM		7.11		162.79
2/3/2009 10:36:00 AM		7.12		162.78
2/5/2009 9:04:00 AM		M		
2/5/2009 4:34:00 PM		7.04	169.90	162.86
2/6/2009 2:23:00 PM		7.09		162.81
2/10/2009 8:51:00 AM		7.06		162.84
3/23/2009 9:48:00 AM		M		
3/24/2009 11:38:00 AM		M		
3/25/2009 10:16:00 AM		M		

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-10B)				
3/26/2009 10:04:00 AM		M		
3/27/2009 1:18:00 PM		M		
3/31/2009 11:07:00 AM		5.64	169.90	164.26
4/1/2009 10:43:00 AM		5.52		164.38
4/2/2009 10:38:00 AM		5.49		164.41
4/3/2009 11:00:00 AM		5.44		164.46
4/6/2009 10:54:00 AM		5.58		164.32
4/8/2009 11:13:00 AM		5.04		164.86
4/19/2009 7:58:00 AM		5.94		163.96
P-04-11A			Current ground surface elevation: 183.99 (feet)	
1/14/2009 9:45:00 AM		10.04	187.08	177.04
1/29/2009 11:30:00 AM		11.06		176.02
1/29/2009 4:13:00 PM		11.49		175.59
1/30/2009 12:36:00 PM		13.30		173.78
2/2/2009 9:18:00 AM		11.52		175.56
2/3/2009 10:46:00 AM		11.60		175.48
2/5/2009 9:22:00 AM		11.71		175.37
2/6/2009 2:30:00 PM		11.73		175.35
2/10/2009 9:09:00 AM		11.96		175.12
3/17/2009 12:12:00 PM		8.29		178.79
3/18/2009 2:20:00 PM		11.27		175.81
3/23/2009 10:14:00 AM		9.08		178.00
3/23/2009 3:33:00 PM		9.76		177.32
3/24/2009 11:07:00 AM		12.72		174.36
3/25/2009 9:25:00 AM		12.86		174.22
3/26/2009 9:06:00 AM		12.90		174.18
3/27/2009 12:28:00 PM		10.80		176.28
3/30/2009 11:18:00 AM		12.50		174.58
3/31/2009 10:07:00 AM		14.35		172.73
4/1/2009 9:47:00 AM		14.51		172.57
4/2/2009 9:36:00 AM		14.59		172.49
4/3/2009 10:09:00 AM		14.54		172.54
4/6/2009 9:42:00 AM		14.69		172.39
4/8/2009 10:13:00 AM		9.37		177.71
4/19/2009 9:08:00 AM		9.93		177.15
P-04-11B			Current ground surface elevation: 183.99 (feet)	
1/14/2009 9:46:00 AM		3.95	187.14	183.19
1/29/2009 11:31:00 AM		4.67		182.47
1/29/2009 4:14:00 PM		4.69		182.45
1/30/2009 12:36:00 PM		4.70		182.44
2/2/2009 9:19:00 AM		4.83		182.31
2/3/2009 10:47:00 AM		4.77		182.37
2/5/2009 9:21:00 AM		4.82		182.32
2/6/2009 2:30:00 PM		4.91		182.23
2/10/2009 9:10:00 AM		5.05		182.09
3/23/2009 10:15:00 AM		M		
3/24/2009 11:07:00 AM		M		
3/25/2009 9:25:00 AM		M		
3/26/2009 9:06:00 AM		M		
3/27/2009 12:29:00 PM		M		

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-11B)				
3/30/2009 11:18:00 AM		M		
3/31/2009 12:18:00 PM		3.60	187.14	183.54
4/1/2009 9:48:00 AM		3.53		183.61
4/2/2009 9:37:00 AM		3.42		183.72
4/3/2009 10:10:00 AM		3.42		183.72
4/6/2009 9:43:00 AM		3.48		183.66
4/8/2009 10:14:00 AM		3.37		183.77
4/19/2009 9:08:00 AM		3.68		183.46
P-04-12A			Current ground surface elevation: 166.33 (feet)	
1/14/2009 10:46:00 AM		3.84	169.17	165.33
1/29/2009 12:42:00 PM		3.93		165.24
1/30/2009 10:14:00 AM		4.40		164.77
2/2/2009 10:24:00 AM		4.33		164.84
2/2/2009 3:08:00 PM		6.50		162.67
2/3/2009 11:50:00 AM		9.15		160.02
2/5/2009 10:34:00 AM		M		164.43
2/5/2009 4:24:00 PM		4.46		164.71
2/6/2009 2:40:00 PM		4.71		164.46
2/10/2009 9:52:00 AM		4.38		164.79
3/17/2009 11:49:00 AM		3.95		165.22
3/18/2009 1:27:00 PM		3.80		165.37
3/23/2009 9:59:00 AM		3.66		165.51
3/24/2009 11:17:00 AM		4.04		165.13
3/25/2009 9:48:00 AM		4.26		164.91
3/26/2009 9:35:00 AM		4.31		164.86
3/27/2009 1:05:00 PM		4.07		165.10
3/30/2009 11:55:00 AM		3.89		165.28
3/31/2009 10:39:00 AM		4.31		164.86
4/1/2009 10:11:00 AM		4.51		164.66
4/2/2009 10:14:00 AM		4.45		164.72
4/3/2009 10:34:00 AM		4.38		164.79
4/6/2009 10:19:00 AM		4.51		164.66
4/8/2009 10:43:00 AM		3.47		165.70
4/19/2009 8:42:00 AM		3.80		165.37
P-04-12B			Current ground surface elevation: 166.33 (feet)	
1/14/2009 10:47:00 AM		3.58	169.27	165.69
1/29/2009 12:43:00 PM		4.25		165.02
3/17/2009 11:49:00 AM		3.70		165.57
3/18/2009 1:27:00 PM		3.54		165.73
3/23/2009 10:00:00 AM		3.57		165.70
3/24/2009 11:17:00 AM		3.55		165.72
3/25/2009 9:48:00 AM		3.57		165.70
3/26/2009 9:35:00 AM		3.58		165.69
3/27/2009 1:05:00 PM		3.61		165.66
3/30/2009 11:55:00 AM		3.61		165.66
3/31/2009 10:40:00 AM		3.62		165.65
4/1/2009 10:12:00 AM		3.63		165.64
4/2/2009 10:14:00 AM		3.65		165.62
4/3/2009 10:34:00 AM		3.67		165.60
4/6/2009 10:19:00 AM		3.70		165.57

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-12B)				
4/8/2009 10:43:00 AM		3.65	169.27	165.62
4/19/2009 8:43:00 AM		3.60		165.67
P-04-12C			Current ground surface elevation: 166.31 (feet)	
1/14/2009 10:48:00 AM		F	169.51	165.73
1/30/2009 10:15:00 AM		3.45		166.06
2/2/2009 10:25:00 AM		3.43		166.08
2/2/2009 3:09:00 PM		3.40		166.11
2/3/2009 11:51:00 AM		3.54		165.97
2/5/2009 10:36:00 AM		3.38		166.13
2/5/2009 4:25:00 PM		F		166.15
2/6/2009 2:21:00 PM		F		166.15
2/10/2009 9:53:00 AM		F		166.15
3/17/2009 11:49:00 AM		3.86		165.65
3/18/2009 1:27:00 PM		3.74		165.77
3/23/2009 10:01:00 AM		3.23		166.28
3/24/2009 11:18:00 AM		3.30		166.21
3/25/2009 9:49:00 AM		3.26		166.25
3/26/2009 9:36:00 AM		3.20		166.31
3/27/2009 1:06:00 PM		3.13		166.38
3/30/2009 11:56:00 AM		2.95		166.56
3/31/2009 10:40:00 AM		3.22		166.29
4/1/2009 10:13:00 AM		3.12		166.39
4/2/2009 10:15:00 AM		3.09		166.42
4/3/2009 10:35:00 AM		3.00		166.51
4/6/2009 10:20:00 AM		3.23		166.28
4/8/2009 10:44:00 AM		3.19		166.32
4/19/2009 8:43:00 AM		3.43		166.08
P-04-13A			Current ground surface elevation: 144.38 (feet)	
1/14/2009 9:00:00 AM		4.16	147.27	143.11
1/29/2009 11:00:00 AM		4.55		142.72
1/29/2009 4:31:00 PM		1.36		145.91
1/30/2009 12:19:00 PM		F		145.55
2/2/2009 8:38:00 AM		F		145.53
2/3/2009 10:03:00 AM		F		145.38
2/5/2009 8:47:00 AM		F		145.43
2/6/2009 2:12:00 PM		F		145.39
2/10/2009 8:16:00 AM		F		145.39
3/17/2009 10:56:00 AM		3.61		143.66
3/18/2009 11:45:00 AM		3.58		143.69
3/23/2009 9:18:00 AM		3.45		143.82
3/23/2009 3:50:00 PM		3.49		143.78
3/24/2009 11:47:00 AM		3.77		143.50
3/25/2009 10:32:00 AM		4.01		143.26
3/26/2009 10:17:00 AM		4.07		143.20
3/27/2009 1:31:00 PM		3.82		143.45
3/30/2009 12:23:00 PM		3.67		143.60
3/31/2009 12:25:00 PM		3.74		143.53
4/1/2009 11:41:00 AM		3.93		143.34
4/2/2009 11:11:00 AM		3.92		143.35
4/3/2009 11:32:00 AM		3.84		143.43

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-13A)				
4/6/2009 11:37:00 AM		3.74	147.27	143.53
4/8/2009 11:47:00 AM		2.92		144.35
4/19/2009 7:06:00 AM		3.17		144.10
P-04-13B			Current ground surface elevation: 144.38 (feet)	
1/14/2009 9:01:00 AM		4.07	147.30	143.23
1/29/2009 11:00:00 AM		4.41		142.89
1/29/2009 4:32:00 PM		4.48		142.82
1/30/2009 12:20:00 PM		4.70		142.60
2/2/2009 8:39:00 AM		4.62		142.68
2/3/2009 10:04:00 AM		4.61		142.69
2/5/2009 8:48:00 AM		4.68		142.62
2/6/2009 2:12:00 PM		4.72		142.58
2/10/2009 8:17:00 AM		4.72		142.58
3/18/2009 11:45:00 AM		3.70		143.60
3/23/2009 9:19:00 AM		3.52		143.78
3/23/2009 3:50:00 PM		3.68		143.62
3/24/2009 11:47:00 AM		3.95		143.35
3/25/2009 10:32:00 AM		4.14		143.16
3/26/2009 10:17:00 AM		4.11		143.19
3/27/2009 1:31:00 PM		3.80		143.50
3/30/2009 12:24:00 PM		3.63		143.67
3/31/2009 12:26:00 PM		3.93		143.37
4/1/2009 11:42:00 AM		4.03		143.27
4/2/2009 11:12:00 AM		3.95		143.35
4/3/2009 11:33:00 AM		3.86		143.44
4/6/2009 11:38:00 AM		3.89		143.41
4/8/2009 11:47:00 AM		2.94		144.36
4/19/2009 7:07:00 AM		3.27		144.03
P-04-13C			Current ground surface elevation: 144.78 (feet)	
1/14/2009 9:03:00 AM		F	147.93	144.51
1/29/2009 11:00:00 AM		3.75		144.18
1/29/2009 2:53:00 PM		3.78		144.15
1/29/2009 4:33:00 PM		3.78		144.15
1/30/2009 12:21:00 PM		3.80		144.13
2/2/2009 8:40:00 AM		3.86		144.07
2/3/2009 10:04:00 AM		3.84		144.09
2/5/2009 8:46:00 AM		3.85		144.08
2/6/2009 2:11:00 PM		3.82		144.11
2/10/2009 8:17:00 AM		3.86		144.07
3/18/2009 11:45:00 AM		4.02		143.91
3/23/2009 9:20:00 AM		3.63		144.30
3/23/2009 3:51:00 PM		3.63		144.30
3/24/2009 11:48:00 AM		3.66		144.27
3/25/2009 10:33:00 AM		3.68		144.25
3/26/2009 10:18:00 AM		3.68		144.25
3/27/2009 1:32:00 PM		3.65		144.28
3/30/2009 12:24:00 PM		3.53		144.40
3/31/2009 12:26:00 PM		3.54		144.39
4/1/2009 11:42:00 AM		3.56		144.37
4/2/2009 11:12:00 AM		3.60		144.33

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-04-13C)				
4/3/2009 11:33:00 AM		3.59	147.93	144.34
4/6/2009 11:38:00 AM		3.56		144.37
4/8/2009 11:48:00 AM		3.47		144.46
4/19/2009 7:07:00 AM		3.80		144.13
P-04-14A			Current ground surface elevation: 150.21 (feet)	
1/14/2009 8:44:00 AM		F	153.26	151.21
1/29/2009 11:47:00 AM		2.04		151.22
1/30/2009 3:55:00 PM		F		151.30
2/2/2009 8:59:00 AM		F		151.34
2/3/2009 10:23:00 AM		F		151.33
2/5/2009 8:26:00 AM		F		151.23
2/6/2009 1:37:00 PM		F		151.34
2/10/2009 8:38:00 AM		F		151.35
3/23/2009 9:35:00 AM		F		
3/24/2009 3:06:00 PM		F		
3/25/2009 2:27:00 PM		2.91	153.26	150.35
3/26/2009 10:57:00 AM		1.47		151.79
3/27/2009 1:48:00 PM		1.27		151.99
3/30/2009 12:43:00 PM		0.97		152.29
3/31/2009 11:26:00 AM		1.15		152.11
4/1/2009 11:02:00 AM		1.23		152.03
4/2/2009 10:58:00 AM		1.20		152.06
4/3/2009 11:14:00 AM		1.11		152.15
4/6/2009 11:15:00 AM		1.09		152.17
4/8/2009 11:29:00 AM		0.67		152.59
4/19/2009 7:28:00 AM		1.25		152.01
P-04-14B			Current ground surface elevation: 150.21 (feet)	
1/14/2009 8:45:00 AM		F	153.28	152.48
1/29/2009 11:46:00 AM		3.25		150.03
1/30/2009 3:55:00 PM		3.26		150.02
2/2/2009 9:00:00 AM		F		150.15
2/3/2009 10:24:00 AM		F		150.15
2/5/2009 8:27:00 AM		F		150.16
2/6/2009 1:37:00 PM		F		150.20
2/10/2009 8:39:00 AM		F		150.13
3/23/2009 9:35:00 AM		F		
3/24/2009 3:06:00 PM		F		
3/25/2009 2:28:00 PM		3.48	153.28	149.80
3/26/2009 10:57:00 AM		3.65		149.63
3/27/2009 1:49:00 PM		2.48		150.80
3/30/2009 12:43:00 PM		1.98		151.30
3/31/2009 11:26:00 AM		2.21		151.07
4/1/2009 11:02:00 AM		2.29		150.99
4/2/2009 10:58:00 AM		2.26		151.02
4/3/2009 11:14:00 AM		2.18		151.10
4/6/2009 11:15:00 AM		2.20		151.08
4/8/2009 11:29:00 AM		2.08		151.20
4/19/2009 7:28:00 AM		2.84		150.44
P-06-04A			Current ground surface elevation: 186.232 (feet)	

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-06-04A)				
1/19/2009 2:30:00 PM		13.00	189.06	176.06
1/29/2009 11:40:00 AM		13.99		175.07
1/30/2009 11:36:00 AM		14.08		174.98
2/2/2009 11:41:00 AM		14.25		174.81
2/3/2009 8:45:00 AM		14.32		174.74
2/5/2009 8:20:00 AM		14.48		174.58
2/6/2009 11:47:00 AM		14.58		174.48
2/10/2009 12:01:00 PM		14.89		174.17
3/17/2009 9:43:00 AM		14.02		175.04
3/23/2009 10:56:00 AM		M		
3/23/2009 2:11:00 PM		M		
3/24/2009 1:24:00 PM		M		
3/25/2009 11:09:00 AM		M		
3/26/2009 11:31:00 AM		M		
3/27/2009 2:53:00 PM		13.70	189.06	175.36
3/30/2009 1:30:00 PM		13.10		175.96
3/31/2009 1:14:00 PM		12.19		176.87
4/1/2009 12:40:00 PM		11.76		177.30
4/2/2009 12:30:00 PM		11.59		177.47
4/3/2009 12:22:00 PM		11.44		177.62
4/6/2009 12:24:00 PM		11.17		177.89
4/8/2009 12:33:00 PM		10.46		178.60
4/19/2009 12:03:00 PM		11.42		177.64
P-06-04B			Current ground surface elevation: 186.232 (feet)	
1/19/2009 2:31:00 PM		15.52	189.17	173.65
1/29/2009 11:42:00 AM		15.65		173.52
1/30/2009 11:37:00 AM		15.65		173.52
2/2/2009 11:41:00 AM		15.83		173.34
2/3/2009 8:46:00 AM		15.77		173.40
2/5/2009 8:21:00 AM		15.85		173.32
2/6/2009 11:48:00 AM		15.90		173.27
2/10/2009 12:02:00 PM		16.16		173.01
3/17/2009 9:43:00 AM		15.63		173.54
3/18/2009 1:10:00 PM		15.97		173.20
3/23/2009 10:57:00 AM		15.62		173.55
3/23/2009 2:12:00 PM		15.57		173.60
3/24/2009 1:25:00 PM		15.61		173.56
3/25/2009 11:10:00 AM		15.57		173.60
3/26/2009 11:32:00 AM		15.58		173.59
3/27/2009 2:54:00 PM		15.56		173.61
3/30/2009 1:31:00 PM		15.17		174.00
3/31/2009 1:14:00 PM		14.92		174.25
4/1/2009 12:41:00 PM		14.90		174.27
4/2/2009 12:31:00 PM		14.97		174.20
4/3/2009 12:23:00 PM		14.95		174.22
4/6/2009 12:24:00 PM		14.94		174.23
4/8/2009 12:34:00 PM		14.67		174.50
4/19/2009 12:03:00 PM		15.30		173.87
P-08-04			Current ground surface elevation: 192.66 (feet)	
1/19/2009 12:31:00 PM		4.32	195.39	191.07

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-04)				
1/29/2009 10:22:00 AM		4.58	195.39	190.81
1/30/2009 2:21:00 PM		4.57		190.82
2/2/2009 11:04:00 AM		4.65		190.74
2/3/2009 10:59:00 AM		4.64		190.75
2/5/2009 9:59:00 AM		4.71		190.68
2/6/2009 12:38:00 PM		4.72		190.67
2/10/2009 10:56:00 AM		4.76		190.63
3/23/2009 10:26:00 AM		3.39		192.00
3/24/2009 10:38:00 AM		3.47		191.92
3/25/2009 10:44:00 AM		3.42		191.97
3/26/2009 8:58:00 AM		3.32		192.07
3/27/2009 12:03:00 PM		3.25		192.14
3/30/2009 11:01:00 AM		2.84		192.55
3/31/2009 9:39:00 AM		3.06		192.33
4/1/2009 9:27:00 AM		3.09		192.30
4/2/2009 9:20:00 AM		3.13		192.26
4/3/2009 9:54:00 AM		3.03		192.36
4/6/2009 9:27:00 AM		3.09		192.30
4/8/2009 10:01:00 AM		3.06		192.33
4/19/2009 9:40:00 AM		4.05		191.34
P-08-06			Current ground surface elevation: 182.24 (feet)	
1/14/2009 2:50:00 PM		5.93	184.89	178.96
1/29/2009 1:38:00 AM		7.09		177.80
1/29/2009 9:40:00 AM		6.99		177.90
1/29/2009 11:44:00 AM		7.04		177.85
1/29/2009 1:38:00 PM		7.09		177.80
1/29/2009 2:49:00 PM		7.10		177.79
1/30/2009 9:26:00 AM		7.71		177.18
1/30/2009 1:11:00 PM		7.76		177.13
2/2/2009 11:43:00 AM		7.60		177.29
2/3/2009 9:40:00 AM		7.66		177.23
2/5/2009 9:07:00 AM		7.74		177.15
2/6/2009 11:07:00 AM		7.81		177.08
2/10/2009 12:34:00 PM		7.96		176.93
3/17/2009 10:24:00 AM		4.78		180.11
3/18/2009 11:08:00 AM		4.79		180.10
3/19/2009 1:43:00 PM		4.92		179.97
3/23/2009 10:08:00 AM		4.72		180.17
3/23/2009 1:18:00 PM		4.72		180.17
3/23/2009 2:43:00 PM		4.72		180.17
3/23/2009 5:17:00 PM		4.77		180.12
3/24/2009 9:21:00 AM		5.91		178.98
3/25/2009 8:25:00 AM		6.84		178.05
3/26/2009 7:45:00 AM		6.65		178.24
3/27/2009 10:13:00 AM		6.05		178.84
3/30/2009 7:11:00 AM		6.41		178.48
3/31/2009 12:01:00 PM		7.03		177.86
4/1/2009 8:13:00 AM		6.99		177.90
4/2/2009 8:20:00 AM		6.83		178.06
4/3/2009 8:35:00 AM		6.82		178.07
4/6/2009 8:11:00 AM		7.11		177.78

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-06)				
4/6/2009 2:03:00 PM		7.08	184.89	177.81
4/6/2009 3:32:00 PM		7.06		177.83
4/8/2009 8:26:00 AM		5.21		179.68
4/19/2009 11:18:00 AM		5.34		179.55
P-08-07			Current ground surface elevation: 211.67 (feet)	
1/14/2009 3:09:00 PM		4.72	214.40	209.68
1/29/2009 11:55:00 AM		5.54		208.86
1/29/2009 12:46:00 PM		5.69		208.71
1/29/2009 2:44:00 PM		5.58		208.82
1/30/2009 12:46:00 PM		5.69		208.71
2/2/2009 11:37:00 AM		5.86		208.54
2/3/2009 9:31:00 AM		5.90		208.50
2/5/2009 8:59:00 AM		6.04		208.36
2/6/2009 8:45:00 AM		6.12		208.28
2/10/2009 12:27:00 PM		6.27		208.13
3/17/2009 10:12:00 AM		3.32		211.08
3/18/2009 10:54:00 AM		3.18		211.22
3/19/2009 1:31:00 PM		3.10		211.30
3/23/2009 11:59:00 AM		3.28		211.12
3/23/2009 2:51:00 PM		3.28		211.12
3/24/2009 9:44:00 AM		3.36		211.04
3/25/2009 8:37:00 AM		3.38		211.02
3/26/2009 8:02:00 AM		3.27		211.13
3/27/2009 10:38:00 AM		3.21		211.19
3/30/2009 7:28:00 AM		2.97		211.43
3/31/2009 11:48:00 AM		3.20		211.20
4/1/2009 8:24:00 AM		3.23		211.17
4/2/2009 8:29:00 AM		3.27		211.13
4/3/2009 8:47:00 AM		3.30		211.10
4/6/2009 8:21:00 AM		3.28		211.12
4/8/2009 8:40:00 AM		3.16		211.24
4/19/2009 11:12:00 AM		4.48		209.92
P-08-09A			Current ground surface elevation: 198.19 (feet)	
1/19/2009 2:44:00 PM		14.42	200.76	186.34
3/23/2009 12:12:00 PM		15.45		185.31
3/23/2009 4:53:00 PM		15.42		185.34
3/24/2009 1:06:00 PM		15.43		185.33
3/25/2009 11:27:00 AM		15.37		185.39
3/26/2009 11:12:00 AM		15.25		185.51
3/27/2009 2:23:00 PM		15.14		185.62
3/30/2009 1:02:00 PM		14.60		186.16
3/31/2009 11:53:00 AM		14.77		185.99
4/1/2009 12:13:00 PM		14.45		186.31
4/2/2009 12:01:00 PM		14.22		186.54
4/3/2009 12:01:00 PM		14.04		186.72
4/6/2009 12:01:00 PM		13.76		187.00
4/8/2009 12:10:00 PM		13.39		187.37
4/19/2009 11:44:00 AM		13.72		187.04
P-08-09B			Current ground surface elevation: 198.19 (feet)	

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-09B)				
1/19/2009 2:45:00 PM		14.61	200.80	186.19
3/23/2009 12:12:00 PM		15.53		185.27
3/23/2009 4:53:00 PM		15.51		185.29
3/24/2009 1:07:00 PM		15.55		185.25
3/25/2009 11:28:00 AM		15.47		185.33
3/26/2009 11:12:00 AM		15.38		185.42
3/27/2009 2:24:00 PM		15.26		185.54
3/30/2009 1:03:00 PM		14.67		186.13
3/31/2009 11:54:00 AM		14.81		185.99
4/1/2009 12:14:00 PM		14.49		186.31
4/2/2009 12:02:00 PM		14.29		186.51
4/3/2009 12:02:00 PM		14.10		186.70
4/6/2009 12:01:00 PM		13.87		186.93
4/8/2009 12:11:00 PM		13.50		187.30
4/19/2009 11:44:00 AM		13.94		186.86
P-08-09C			Current ground surface elevation: 198.19 (feet)	
1/19/2009 2:46:00 PM		12.27	200.92	188.65
3/23/2009 12:13:00 PM		D		
3/23/2009 4:53:00 PM		D		
3/24/2009 1:07:00 PM		D		
3/25/2009 11:28:00 AM		D		
3/26/2009 11:12:00 AM		D		
3/27/2009 2:24:00 PM		D		
3/30/2009 1:03:00 PM		D		
3/31/2009 11:54:00 AM		11.12	200.92	189.80
4/1/2009 12:14:00 PM		10.73		190.19
4/2/2009 12:02:00 PM		10.90		190.02
4/3/2009 12:02:00 PM		11.09		189.83
4/6/2009 12:02:00 PM		10.38		190.54
4/8/2009 12:11:00 PM		10.02		190.90
4/19/2009 11:45:00 AM		D		
P-08-10A			Current ground surface elevation: 202.18 (feet)	
1/19/2009 2:08:00 PM		19.13	204.87	185.74
3/23/2009 12:00:00 PM		19.87		185.00
3/23/2009 4:44:00 PM		19.82		185.05
3/24/2009 1:40:00 PM		19.94		184.93
3/25/2009 11:46:00 AM		19.82		185.05
3/26/2009 11:43:00 AM		19.74		185.13
3/27/2009 2:04:00 PM		19.67		185.20
3/30/2009 1:43:00 PM		19.22		185.65
3/31/2009 12:42:00 PM		19.44		185.43
4/1/2009 12:01:00 PM		19.08		185.79
4/2/2009 11:41:00 AM		18.81		186.06
4/3/2009 11:53:00 AM		18.60		186.27
4/6/2009 11:52:00 AM		18.50		186.37
4/8/2009 12:00:00 PM		18.12		186.75
4/19/2009 11:37:00 AM		18.58		186.29
P-08-10B			Current ground surface elevation: 202.18 (feet)	
1/19/2009 2:09:00 PM		19.21	204.98	185.77

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-10B)				
3/23/2009 12:01:00 PM		20.07	204.98	184.91
3/23/2009 4:44:00 PM		20.02		184.96
3/24/2009 1:41:00 PM		20.11		184.87
3/25/2009 11:47:00 AM		20.02		184.96
3/26/2009 11:43:00 AM		19.88		185.10
3/27/2009 2:05:00 PM		19.81		185.17
3/30/2009 1:43:00 PM		19.31		185.67
3/31/2009 12:43:00 PM		19.65		185.33
4/1/2009 12:02:00 PM		19.27		185.71
4/2/2009 11:41:00 AM		19.00		185.98
4/3/2009 11:54:00 AM		18.82		186.16
4/6/2009 11:52:00 AM		18.70		186.28
4/8/2009 12:01:00 PM		18.30		186.68
4/19/2009 11:38:00 AM		18.70		186.28
P-08-10C			Current ground surface elevation: 202.18 (feet)	
1/19/2009 2:10:00 PM		F	205.08	202.37
3/23/2009 12:02:00 PM		M		
3/24/2009 1:42:00 PM		M		
3/25/2009 11:47:00 AM		3.58	205.08	201.50
3/26/2009 11:44:00 AM		3.53		201.55
3/27/2009 2:05:00 PM		3.16		201.92
3/30/2009 1:44:00 PM		3.94		201.14
3/31/2009 12:43:00 PM		3.18		201.90
4/1/2009 12:02:00 PM		3.30		201.78
4/2/2009 11:42:00 AM		3.60		201.48
4/3/2009 11:54:00 AM		3.42		201.66
4/6/2009 11:53:00 AM		3.18		201.90
4/8/2009 12:01:00 PM		2.91		202.17
4/19/2009 11:38:00 AM		4.44		200.64
P-08-3A			Current ground surface elevation: 168.85 (feet)	
1/14/2009 9:36:00 AM		5.05	171.56	166.51
1/29/2009 11:21:00 AM		5.55		166.01
1/29/2009 4:07:00 PM		5.52		166.04
1/30/2009 12:30:00 PM		5.52		166.04
2/2/2009 9:12:00 AM		5.60		165.96
2/3/2009 10:40:00 AM		5.56		166.00
2/5/2009 9:08:00 AM		5.89		165.67
2/6/2009 2:26:00 PM		5.60		165.96
2/10/2009 8:56:00 AM		5.70		165.86
3/23/2009 9:52:00 AM		4.02		167.54
3/23/2009 3:42:00 PM		4.06		167.50
3/24/2009 11:41:00 AM		4.23		167.33
3/25/2009 10:18:00 AM		4.31		167.25
3/26/2009 10:06:00 AM		4.22		167.34
3/27/2009 1:22:00 PM		4.07		167.49
3/30/2009 12:09:00 PM		3.42		168.14
3/31/2009 11:09:00 AM		3.75		167.81
4/1/2009 10:48:00 AM		3.83		167.73
4/2/2009 10:41:00 AM		3.82		167.74
4/3/2009 11:03:00 AM		3.73		167.83

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-08-3A)				
4/6/2009 11:00:00 AM		3.85	171.56	167.71
4/8/2009 11:17:00 AM		3.54		168.02
4/19/2009 8:06:00 AM		4.71		166.85
P-08-3B			Current ground surface elevation: 168.85 (feet)	
1/14/2009 9:37:00 AM		5.10	171.75	166.65
1/29/2009 11:22:00 AM		5.66		166.09
1/29/2009 4:08:00 PM		5.69		166.06
1/30/2009 12:31:00 PM		5.71		166.04
2/2/2009 9:13:00 AM		5.81		165.94
2/3/2009 10:41:00 AM		5.80		165.95
2/5/2009 9:09:00 AM		5.62		166.13
2/6/2009 2:26:00 PM		5.88		165.87
2/10/2009 8:57:00 AM		5.93		165.82
3/23/2009 9:52:00 AM		4.10		167.65
3/23/2009 3:43:00 PM		4.12		167.63
3/24/2009 11:41:00 AM		4.25		167.50
3/25/2009 10:18:00 AM		4.31		167.44
3/26/2009 10:06:00 AM		4.23		167.52
3/27/2009 1:22:00 PM		4.15		167.60
3/30/2009 12:09:00 PM		3.42		168.33
3/31/2009 11:09:00 AM		3.62		168.13
4/1/2009 10:48:00 AM		3.67		168.08
4/2/2009 10:41:00 AM		3.71		168.04
4/3/2009 11:03:00 AM		3.60		168.15
4/6/2009 11:00:00 AM		3.66		168.09
4/8/2009 11:17:00 AM		3.56		168.19
4/19/2009 8:06:00 AM		4.91		166.84
P-213			Current ground surface elevation: 180.32 (feet)	
1/19/2009 2:51:00 PM		0.00	184.34	184.34
P-213A			Current ground surface elevation: (feet)	
3/23/2009 1:57:00 PM		-1.02 ^		
3/24/2009 1:12:00 PM		-0.88 ^		
3/25/2009 11:21:00 AM		-0.99 ^		
3/26/2009 11:15:00 AM		-1.09 ^		
3/27/2009 2:31:00 PM		-1.13 ^		
3/30/2009 1:15:00 PM		-1.64 ^		
3/31/2009 1:00:00 PM		-1.41 ^		
4/1/2009 12:22:00 PM		-1.79 ^		
4/2/2009 12:11:00 PM		-1.63 ^		
4/3/2009 12:09:00 PM		-2.21 ^		
4/6/2009 12:10:00 PM		-2.35 ^		
4/8/2009 12:21:00 PM		-2.75 ^		
4/19/2009 11:51:00 AM		-2.27		
P-213B			Current ground surface elevation: (feet)	
3/23/2009 2:00:00 PM		-0.75 ^		
3/25/2009 11:22:00 AM		0.00		
3/26/2009 11:16:00 AM		0.00		
3/27/2009 2:33:00 PM		-0.87 ^		

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(P-213B)				
3/30/2009 1:16:00 PM		-1.30 ^		
3/31/2009 1:00:00 PM		-1.15 ^		
4/1/2009 12:22:00 PM		-1.34 ^		
4/2/2009 12:10:00 PM		-2.00 ^		
4/3/2009 12:08:00 PM		-1.85 ^		
4/6/2009 12:08:00 PM		-1.81 ^		
4/8/2009 12:19:00 PM		-2.29 ^		
4/19/2009 11:49:00 AM		-1.75		
PW-08-01			Current ground surface elevation: 173.1 (feet)	
1/14/2009 2:44:00 PM		11.94	176.01	164.07
1/29/2009 9:45:00 AM		12.32		163.69
1/29/2009 11:41:00 AM		12.39		163.62
1/29/2009 12:49:00 PM		12.42		163.59
1/29/2009 1:00:00 PM		12.41		163.60
1/29/2009 1:01:00 PM		33.33		142.68
1/29/2009 1:02:00 PM		40.61		135.40
1/29/2009 1:03:00 PM		43.54		132.47
1/29/2009 1:04:00 PM		45.71		130.30
1/29/2009 1:05:00 PM		47.13		128.88
1/29/2009 1:06:00 PM		48.08		127.93
1/29/2009 1:07:00 PM		48.93		127.08
1/29/2009 1:08:00 PM		49.81		126.20
1/29/2009 1:09:00 PM		50.22		125.79
1/29/2009 1:10:00 PM		50.71		125.30
1/29/2009 1:12:00 PM		51.61		124.40
1/29/2009 1:14:00 PM		52.40		123.61
1/29/2009 1:16:00 PM		53.09		122.92
1/29/2009 1:18:00 PM		53.73		122.28
1/29/2009 1:20:00 PM		54.35		121.66
1/29/2009 1:22:00 PM		54.90		121.11
1/29/2009 1:24:00 PM		55.42		120.59
1/29/2009 1:26:00 PM		55.91		120.10
1/29/2009 1:28:00 PM		56.37		119.64
1/29/2009 1:30:00 PM		56.77		119.24
1/29/2009 1:35:00 PM		57.88		118.13
1/29/2009 1:40:00 PM		58.83		117.18
1/29/2009 1:45:00 PM		59.72		116.29
1/29/2009 1:50:00 PM		60.53		115.48
1/29/2009 1:55:00 PM		61.30		114.71
1/29/2009 2:00:00 PM		62.04		113.97
1/29/2009 2:10:00 PM		63.34		112.67
1/29/2009 2:20:00 PM		64.49		111.52
1/29/2009 2:30:00 PM		65.54		110.47
1/29/2009 2:51:00 PM		68.83		107.18
1/29/2009 3:09:00 PM		70.34		105.67
1/29/2009 3:29:00 PM		71.85		104.16
1/29/2009 3:51:00 PM		73.26		102.75
1/29/2009 4:30:00 PM		74.63		101.38
1/29/2009 4:58:00 PM		76.26		99.75
1/29/2009 8:41:00 PM		80.35		95.66
1/30/2009 8:09:00 AM		79.90		96.11

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-01)				
1/30/2009 8:32:00 AM		67.28	176.01	108.73
1/30/2009 8:46:00 AM		73.82		102.19
1/30/2009 9:01:00 AM		78.03		97.98
1/30/2009 9:21:00 AM		80.03		95.98
1/30/2009 11:01:00 AM		82.10		93.91
1/30/2009 12:52:00 PM		82.68		93.33
1/30/2009 1:00:00 PM		82.68		93.33
1/30/2009 1:01:00 PM		58.60		117.41
1/30/2009 1:02:00 PM		51.04		124.97
1/30/2009 1:03:00 PM		48.56		127.45
1/30/2009 1:04:00 PM		47.36		128.65
1/30/2009 1:05:00 PM		46.59		129.42
1/30/2009 1:06:00 PM		45.88		130.13
1/30/2009 1:07:00 PM		45.40		130.61
1/30/2009 1:08:00 PM		44.80		131.21
1/30/2009 1:09:00 PM		44.37		131.64
1/30/2009 1:10:00 PM		43.91		132.10
1/30/2009 1:12:00 PM		43.16		132.85
1/30/2009 1:14:00 PM		42.46		133.55
1/30/2009 1:16:00 PM		41.76		134.25
1/30/2009 1:18:00 PM		41.14		134.87
1/30/2009 1:20:00 PM		40.58		135.43
1/30/2009 1:22:00 PM		40.05		135.96
1/30/2009 1:24:00 PM		39.56		136.45
1/30/2009 1:26:00 PM		39.08		136.93
1/30/2009 1:28:00 PM		38.65		137.36
1/30/2009 1:30:00 PM		38.23		137.78
1/30/2009 4:15:00 PM		24.18		151.83
2/2/2009 11:45:00 AM		11.95		164.06
2/2/2009 3:40:00 PM		11.98		164.03
2/3/2009 9:42:00 AM		12.20		163.81
2/5/2009 9:09:00 AM		12.04		163.97
2/6/2009 11:07:00 AM		12.10		163.91
2/10/2009 12:37:00 PM		12.03		163.98
3/17/2009 10:20:00 AM		11.10		164.91
3/18/2009 5:15:00 PM		13.81		162.20
3/19/2009 1:39:00 PM		17.80		158.21
3/23/2009 10:10:00 AM		10.09		165.92
3/23/2009 12:30:00 PM		10.33		165.68
3/23/2009 12:30:30 PM		51.05		124.96
3/23/2009 12:31:00 PM		64.25		111.76
3/23/2009 12:31:30 PM		71.45		104.56
3/23/2009 12:32:00 PM		80.15		95.86
3/23/2009 12:33:00 PM		82.55		93.46
3/23/2009 12:34:00 PM		86.40		89.61
3/23/2009 12:35:00 PM		88.90		87.11
3/23/2009 12:36:00 PM		90.70		85.31
3/23/2009 12:37:00 PM		92.13		83.88
3/23/2009 12:38:00 PM		93.15		82.86
3/23/2009 12:39:00 PM		94.04		81.97
3/23/2009 12:40:00 PM		94.83		81.18

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-01)				
3/23/2009 12:41:00 PM		95.53	176.01	80.48
3/23/2009 12:42:00 PM		96.19		79.82
3/23/2009 12:43:00 PM		96.90		79.11
3/23/2009 12:44:00 PM		97.40		78.61
3/23/2009 12:45:00 PM		97.85		78.16
3/23/2009 12:46:00 PM		98.43		77.58
3/23/2009 12:48:00 PM		99.15		76.86
3/23/2009 12:50:00 PM		100.00		76.01
3/23/2009 12:55:00 PM		101.70		74.31
3/23/2009 1:00:00 PM		103.09		72.92
3/23/2009 1:05:00 PM		104.43		71.58
3/23/2009 1:10:00 PM		105.59		70.42
3/23/2009 1:15:00 PM		106.64		69.37
3/23/2009 1:20:00 PM		107.67		68.34
3/23/2009 1:25:00 PM		108.49		67.52
3/23/2009 1:30:00 PM		109.30		66.71
3/23/2009 1:40:00 PM		110.84		65.17
3/23/2009 1:50:00 PM		112.19		63.82
3/23/2009 2:00:00 PM		113.20		62.81
3/23/2009 2:10:00 PM		114.62		61.39
3/23/2009 3:20:00 PM		118.87		57.14
3/23/2009 3:50:00 PM		120.57		55.44
3/23/2009 5:15:00 PM		123.03		52.98
3/23/2009 10:26:00 PM		127.96		48.05
3/24/2009 8:00:00 AM		129.20		46.81
3/24/2009 9:00:00 AM		129.25		46.76
3/24/2009 12:00:00 PM		129.43		46.58
3/24/2009 12:30:00 PM		129.44		46.57
3/24/2009 1:51:00 PM		129.05		46.96
3/24/2009 2:18:00 PM		129.05		46.96
3/24/2009 2:25:00 PM		107.67		68.34
3/24/2009 2:26:00 PM		112.23		63.78
3/24/2009 2:27:00 PM		115.50		60.51
3/24/2009 2:28:00 PM		117.90		58.11
3/24/2009 2:29:00 PM		119.69		56.32
3/24/2009 2:30:00 PM		121.19		54.82
3/24/2009 2:32:00 PM		123.30		52.71
3/24/2009 2:34:00 PM		124.78		51.23
3/24/2009 2:36:00 PM		126.21		49.80
3/24/2009 2:38:00 PM		127.27		48.74
3/24/2009 2:40:00 PM		127.60		48.41
3/24/2009 2:50:00 PM		128.18		47.83
3/24/2009 3:45:00 PM		128.83		47.18
3/24/2009 10:47:00 PM		129.46		46.55
3/25/2009 8:18:00 AM		129.51		46.50
3/25/2009 10:54:00 AM		129.62		46.39
3/25/2009 12:06:00 PM		129.64		46.37
3/25/2009 3:11:00 PM		129.64		46.37
3/25/2009 10:37:00 PM		129.80		46.21
3/26/2009 7:47:00 AM		129.86		46.15
3/26/2009 11:54:00 AM		129.98		46.03

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-01)				
3/26/2009 12:08:00 PM		108.48	176.01	67.53
3/26/2009 12:09:00 PM		112.73		63.28
3/26/2009 12:10:00 PM		115.76		60.25
3/26/2009 12:11:00 PM		117.95		58.06
3/26/2009 12:12:00 PM		119.71		56.30
3/26/2009 12:13:00 PM		121.24		54.77
3/26/2009 12:14:00 PM		122.37		53.64
3/26/2009 12:16:00 PM		124.23		51.78
3/26/2009 12:18:00 PM		125.75		50.26
3/26/2009 12:20:00 PM		127.20		48.81
3/26/2009 12:25:00 PM		128.00		48.01
3/26/2009 12:30:00 PM		128.36		47.65
3/26/2009 2:43:00 PM		129.60		46.41
3/27/2009 8:29:00 AM		13.26		162.75
3/27/2009 9:30:00 AM		13.26		162.75
3/27/2009 9:31:00 AM		62.65		113.36
3/27/2009 9:32:00 AM		78.65		97.36
3/27/2009 9:33:00 AM		85.84		90.17
3/27/2009 9:34:00 AM		90.20		85.81
3/27/2009 9:35:00 AM		92.87		83.14
3/27/2009 9:36:00 AM		94.90		81.11
3/27/2009 9:37:00 AM		96.20		79.81
3/27/2009 9:38:00 AM		97.27		78.74
3/27/2009 9:39:00 AM		98.20		77.81
3/27/2009 9:40:00 AM		98.88		77.13
3/27/2009 9:41:00 AM		99.65		76.36
3/27/2009 9:42:00 AM		100.23		75.78
3/27/2009 9:43:00 AM		100.81		75.20
3/27/2009 9:44:00 AM		101.31		74.70
3/27/2009 9:45:00 AM		101.74		74.27
3/27/2009 9:46:00 AM		102.16		73.85
3/27/2009 9:48:00 AM		102.90		73.11
3/27/2009 9:50:00 AM		103.60		72.41
3/27/2009 9:55:00 AM		105.08		70.93
3/27/2009 10:00:00 AM		106.35		69.66
3/27/2009 11:49:00 AM		118.19		57.82
3/27/2009 3:15:00 PM		124.00		52.01
3/27/2009 3:34:00 PM		124.27		51.74
3/30/2009 7:14:00 AM		130.07		45.94
3/30/2009 9:21:00 AM		130.20		45.81
3/30/2009 9:36:00 AM		99.93		76.08
3/30/2009 9:37:00 AM		108.76		67.25
3/30/2009 9:38:00 AM		110.80		65.21
3/30/2009 9:39:00 AM		113.95		62.06
3/30/2009 9:41:00 AM		118.17		57.84
3/30/2009 9:47:00 AM		124.84		51.17
3/30/2009 9:51:00 AM		127.60		48.41
3/30/2009 9:56:00 AM		127.88		48.13
3/30/2009 10:01:00 AM		128.26		47.75
3/30/2009 1:54:00 PM		130.06		45.95
3/30/2009 3:18:00 PM		130.67		45.34

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-01)				
3/30/2009 6:34:00 PM		131.88	176.01	44.13
3/31/2009 8:15:00 AM		133.46		42.55
3/31/2009 12:03:00 PM		133.56		42.45
4/1/2009 8:14:00 AM		133.94		42.07
4/1/2009 11:31:00 AM		133.98		42.03
4/1/2009 1:22:00 PM		134.02		41.99
4/2/2009 8:18:00 AM		134.01		42.00
4/2/2009 12:47:00 PM		134.10		41.91
4/2/2009 2:04:00 PM		134.10		41.91
4/2/2009 6:34:00 PM		134.18		41.83
4/3/2009 8:33:00 AM		134.10		41.91
4/3/2009 12:41:00 PM		134.14		41.87
4/6/2009 8:10:00 AM		134.11		41.90
4/6/2009 12:42:00 PM		134.12		41.89
4/6/2009 1:15:00 PM		134.12		41.89
4/6/2009 1:16:00 PM		134.12		41.89
4/6/2009 1:17:00 PM		97.72		78.29
4/6/2009 1:18:00 PM		86.27		89.74
4/6/2009 1:19:00 PM		75.63		100.38
4/6/2009 1:20:00 PM		67.03		108.98
4/6/2009 1:21:00 PM		61.44		114.57
4/6/2009 1:22:00 PM		57.73		118.28
4/6/2009 1:23:00 PM		54.47		121.54
4/6/2009 1:24:00 PM		53.78		122.23
4/6/2009 1:25:00 PM		52.82		123.19
4/6/2009 1:26:00 PM		51.98		124.03
4/6/2009 1:27:00 PM		51.25		124.76
4/6/2009 1:28:00 PM		50.59		125.42
4/6/2009 1:29:00 PM		49.96		126.05
4/6/2009 1:30:00 PM		49.41		126.60
4/6/2009 1:31:00 PM		48.90		127.11
4/6/2009 1:32:00 PM		48.40		127.61
4/6/2009 1:45:00 PM		43.53		132.48
4/6/2009 1:50:00 PM		42.18		133.83
4/6/2009 1:55:00 PM		40.88		135.13
4/6/2009 2:00:00 PM		39.75		136.26
4/6/2009 3:30:00 PM		29.14		146.87
4/8/2009 8:24:00 AM		10.34		165.67
4/19/2009 11:19:00 AM		9.94		166.07
PW-08-02			Current ground surface elevation: 203.98 (feet)	
1/14/2009 12:00:00 PM		29.41	206.47	177.06
1/29/2009 10:03:00 AM		29.94		176.53
1/29/2009 5:10:00 PM		31.35		175.12
1/30/2009 9:33:00 AM		36.94		169.53
1/30/2009 12:11:00 PM		37.33		169.14
2/2/2009 11:23:00 AM		32.18		174.29
2/2/2009 3:34:00 PM		32.16		174.31
2/3/2009 8:17:00 AM		32.31		174.16
2/3/2009 11:23:00 AM		32.16		174.31
2/5/2009 10:16:00 AM		32.30		174.17
2/6/2009 12:42:00 PM		32.34		174.13

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-02)				
2/10/2009 10:37:00 AM		32.39	206.47	174.08
3/17/2009 2:00:00 PM		31.16		175.31
3/17/2009 2:01:00 PM		59.00		147.47
3/17/2009 2:02:00 PM		57.25		149.22
3/17/2009 2:03:00 PM		56.90		149.57
3/17/2009 2:04:00 PM		57.40		149.07
3/17/2009 2:05:00 PM		58.30		148.17
3/17/2009 2:06:00 PM		58.82		147.65
3/17/2009 2:07:00 PM		59.90		146.57
3/17/2009 2:08:00 PM		60.35		146.12
3/17/2009 2:09:00 PM		61.15		145.32
3/17/2009 2:10:00 PM		61.65		144.82
3/17/2009 2:11:00 PM		62.28		144.19
3/17/2009 2:12:00 PM		62.61		143.86
3/17/2009 2:14:00 PM		63.45		143.02
3/17/2009 2:16:00 PM		64.20		142.27
3/17/2009 2:18:00 PM		65.14		141.33
3/17/2009 2:20:00 PM		65.81		140.66
3/17/2009 2:25:00 PM		67.40		139.07
3/17/2009 2:31:00 PM		68.60		137.87
3/17/2009 2:35:00 PM		69.62		136.85
3/17/2009 2:45:00 PM		71.28		135.19
3/17/2009 2:50:00 PM		71.85		134.62
3/17/2009 3:02:00 PM		73.80		132.67
3/17/2009 3:10:00 PM		74.62		131.85
3/17/2009 3:20:00 PM		75.49		130.98
3/17/2009 3:32:00 PM		76.50		129.97
3/17/2009 3:50:00 PM		77.75		128.72
3/17/2009 4:40:00 PM		81.02		125.45
3/17/2009 5:45:00 PM		83.45		123.02
3/17/2009 6:00:00 PM		83.88		122.59
3/17/2009 6:10:00 PM		81.59		124.88
3/17/2009 10:30:00 PM		84.70		121.77
3/18/2009 9:30:00 AM		88.54		117.93
3/18/2009 1:41:00 PM		89.78		116.69
3/18/2009 2:35:00 PM		89.95		116.52
3/18/2009 10:20:00 PM		90.10		116.37
3/18/2009 10:32:00 PM		89.75		116.72
3/19/2009 12:10:00 PM		90.35		116.12
3/19/2009 4:00:00 PM		90.54		115.93
3/19/2009 4:00:30 PM		74.00		132.47
3/19/2009 4:31:00 PM		72.12		134.35
3/19/2009 4:32:00 PM		69.90		136.57
3/19/2009 4:33:00 PM		67.45		139.02
3/19/2009 4:34:00 PM		66.20		140.27
3/19/2009 4:35:00 PM		65.20		141.27
3/19/2009 4:36:00 PM		64.55		141.92
3/19/2009 4:37:00 PM		64.20		142.27
3/19/2009 4:38:00 PM		63.65		142.82
3/19/2009 4:39:00 PM		63.35		143.12
3/19/2009 4:40:00 PM		63.10		143.37

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-02)				
3/19/2009 4:42:00 PM		62.35	206.47	144.12
3/19/2009 4:44:00 PM		61.90		144.57
3/19/2009 4:46:00 PM		61.52		144.95
3/19/2009 4:48:00 PM		61.21		145.26
3/19/2009 4:50:00 PM		60.81		145.66
3/19/2009 4:55:00 PM		60.02		146.45
3/19/2009 5:00:00 PM		59.34		147.13
3/19/2009 5:15:00 PM		57.80		148.67
3/23/2009 11:58:00 AM		29.58		176.89
3/23/2009 5:29:00 PM		33.65		172.82
3/24/2009 10:20:00 AM		39.49		166.98
3/24/2009 3:24:00 PM		40.03		166.44
3/25/2009 9:12:00 AM		40.84		165.63
3/25/2009 2:16:00 PM		40.90		165.57
3/26/2009 8:36:00 AM		41.07		165.40
3/26/2009 2:49:00 PM		41.03		165.44
3/27/2009 10:21:00 AM		34.56		171.91
3/27/2009 11:40:00 AM		35.65		170.82
3/27/2009 4:03:00 PM		37.90		168.57
3/30/2009 10:05:00 AM		40.57		165.90
3/30/2009 2:08:00 PM		40.90		165.57
3/30/2009 2:15:00 PM		40.90		165.57
3/30/2009 2:16:00 PM		57.72		148.75
3/30/2009 2:17:00 PM		60.66		145.81
3/30/2009 2:18:00 PM		61.82		144.65
3/30/2009 2:19:00 PM		62.69		143.78
3/30/2009 2:20:00 PM		63.10		143.37
3/30/2009 2:21:00 PM		63.58		142.89
3/30/2009 2:22:00 PM		63.99		142.48
3/30/2009 2:23:00 PM		64.37		142.10
3/30/2009 2:24:00 PM		64.77		141.70
3/30/2009 2:25:00 PM		65.03		141.44
3/30/2009 2:26:00 PM		65.32		141.15
3/30/2009 2:27:00 PM		65.82		140.65
3/30/2009 2:28:00 PM		65.92		140.55
3/30/2009 2:29:00 PM		66.03		140.44
3/30/2009 2:30:00 PM		66.32		140.15
3/30/2009 2:32:00 PM		66.76		139.71
3/30/2009 2:34:00 PM		67.15		139.32
3/30/2009 2:36:00 PM		67.53		138.94
3/30/2009 2:38:00 PM		67.88		138.59
3/30/2009 2:40:00 PM		68.21		138.26
3/30/2009 2:45:00 PM		68.96		137.51
3/30/2009 2:50:00 PM		69.62		136.85
3/30/2009 2:55:00 PM		70.21		136.26
3/30/2009 3:00:00 PM		70.77		135.70
3/30/2009 3:41:00 PM		74.11		132.36
3/30/2009 3:45:00 PM		74.32		132.15
3/30/2009 6:26:00 PM		81.51		124.96
3/30/2009 10:22:00 PM		86.11		120.36
3/31/2009 8:02:00 AM		90.20		116.27

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-02)				
3/31/2009 9:33:00 AM		90.47	206.47	116.00
3/31/2009 11:38:00 AM		90.91		115.56
3/31/2009 1:36:00 PM		91.35		115.12
4/1/2009 7:57:00 AM		94.52		111.95
4/1/2009 11:19:00 AM		94.99		111.48
4/1/2009 1:03:00 PM		95.29		111.18
4/1/2009 2:58:00 PM		95.56		110.91
4/2/2009 8:04:00 AM		97.11		109.36
4/2/2009 11:28:00 AM		97.53		108.94
4/2/2009 2:12:00 PM		97.82		108.65
4/2/2009 6:42:00 PM		96.57		109.90
4/2/2009 9:08:00 PM		97.03		109.44
4/3/2009 8:22:00 AM		97.25		109.22
4/3/2009 11:44:00 AM		97.30		109.17
4/3/2009 1:24:00 PM		97.20		109.27
4/6/2009 8:00:00 AM		97.26		109.21
4/6/2009 12:49:00 PM		96.72		109.75
4/6/2009 1:00:00 PM		96.72		109.75
4/6/2009 1:02:00 PM		96.72		109.75
4/6/2009 1:15:00 PM		96.72		109.75
4/6/2009 1:15:30 PM		96.72		109.75
4/6/2009 2:12:00 PM		64.06		142.41
4/6/2009 2:13:00 PM		63.93		142.54
4/6/2009 2:15:00 PM		63.78		142.69
4/6/2009 2:16:00 PM		63.71		142.76
4/6/2009 2:18:00 PM		63.55		142.92
4/6/2009 2:19:00 PM		63.48		142.99
4/6/2009 2:20:00 PM		63.39		143.08
4/6/2009 2:25:00 PM		63.04		143.43
4/6/2009 3:40:00 PM		58.25		148.22
4/8/2009 9:43:00 AM		31.24		175.23
4/19/2009 9:47:00 AM		30.71		175.76
PW-08-03			Current ground surface elevation: 169.4 (feet)	
1/14/2009 10:08:00 AM		9.76	171.12	161.36
1/29/2009 12:00:00 PM		11.31		159.81
1/29/2009 5:34:00 PM		11.39		159.73
1/30/2009 9:39:00 AM		13.35		157.77
2/2/2009 10:02:00 AM		11.77		159.35
2/2/2009 11:56:00 AM		11.76		159.36
2/2/2009 1:20:00 PM		12.17		158.95
2/2/2009 4:52:00 PM		14.77		156.35
2/3/2009 8:12:00 AM		17.97		153.15
2/3/2009 12:00:00 PM		18.88		152.24
2/5/2009 9:27:00 AM		12.37		158.75
2/5/2009 1:00:00 PM		12.26		158.86
2/5/2009 1:01:00 PM		20.77		150.35
2/5/2009 1:02:00 PM		25.49		145.63
2/5/2009 1:03:00 PM		29.63		141.49
2/5/2009 1:04:00 PM		33.33		137.79
2/5/2009 1:05:00 PM		36.78		134.34
2/5/2009 1:06:00 PM		40.05		131.07

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-03)				
2/5/2009 1:07:00 PM		42.97	171.12	128.15
2/5/2009 1:08:00 PM		45.86		125.26
2/5/2009 1:09:00 PM		48.29		122.83
2/5/2009 1:10:00 PM		51.03		120.09
2/5/2009 1:12:00 PM		55.89		115.23
2/5/2009 1:14:00 PM		60.60		110.52
2/5/2009 1:16:00 PM		64.11		107.01
2/5/2009 1:18:00 PM		67.94		103.18
2/5/2009 1:20:00 PM		72.42		98.70
2/5/2009 1:22:00 PM		76.59		94.53
2/5/2009 1:24:00 PM		80.90		90.22
2/5/2009 1:26:00 PM		85.31		85.81
2/5/2009 1:28:00 PM		89.71		81.41
2/5/2009 1:30:00 PM		93.84		77.28
2/5/2009 1:32:00 PM		97.97		73.15
2/5/2009 1:35:00 PM		104.17		66.95
2/5/2009 1:38:00 PM		110.17		60.95
2/5/2009 1:42:00 PM		117.84		53.28
2/5/2009 1:46:00 PM		125.98		45.14
2/5/2009 1:48:00 PM		130.08		41.04
2/5/2009 1:50:00 PM		134.40		36.72
2/5/2009 1:58:00 PM		151.02		20.10
2/5/2009 2:00:00 PM		155.47		15.65
2/5/2009 2:01:00 PM		155.71		15.41
2/5/2009 2:02:00 PM		155.01		16.11
2/5/2009 2:03:00 PM		154.29		16.83
2/5/2009 2:04:00 PM		153.61		17.51
2/5/2009 2:05:00 PM		152.91		18.21
2/5/2009 2:06:00 PM		152.06		19.06
2/5/2009 2:07:00 PM		151.48		19.64
2/5/2009 2:09:00 PM		150.20		20.92
2/5/2009 2:10:00 PM		149.44		21.68
2/5/2009 2:12:00 PM		148.01		23.11
2/5/2009 2:14:00 PM		146.64		24.48
2/5/2009 2:16:00 PM		145.38		25.74
2/5/2009 2:18:00 PM		144.02		27.10
2/5/2009 2:20:00 PM		142.48		28.64
2/5/2009 2:25:00 PM		138.59		32.53
2/5/2009 2:30:00 PM		135.66		35.46
2/5/2009 2:35:00 PM		133.12		38.00
2/5/2009 2:40:00 PM		130.77		40.35
2/5/2009 2:45:00 PM		128.75		42.37
2/5/2009 2:50:00 PM		126.99		44.13
2/5/2009 2:55:00 PM		124.98		46.14
2/5/2009 3:00:00 PM		123.08		48.04
2/5/2009 3:05:00 PM		121.55		49.57
2/5/2009 3:10:00 PM		120.12		51.00
2/5/2009 3:15:00 PM		118.93		52.19
2/5/2009 3:25:00 PM		117.11		54.01
2/5/2009 3:35:00 PM		115.86		55.26
2/5/2009 3:45:00 PM		115.02		56.10

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-03)				
2/5/2009 3:55:00 PM		114.34	171.12	56.78
2/5/2009 4:00:00 PM		113.97		57.15
2/5/2009 4:15:00 PM		113.05		58.07
2/5/2009 4:45:00 PM		112.26		58.86
2/5/2009 5:00:00 PM		112.19		58.93
2/5/2009 5:15:00 PM		112.19		58.93
2/5/2009 5:20:00 PM		112.16		58.96
2/5/2009 5:30:00 PM		112.26		58.86
2/5/2009 5:45:00 PM		112.78		58.34
2/5/2009 10:00:00 PM		114.57		56.55
2/5/2009 10:05:00 PM		115.45		55.67
2/6/2009 8:13:00 AM		112.77		58.35
2/6/2009 8:17:00 AM		113.80		57.32
2/6/2009 8:55:00 AM		118.88		52.24
2/6/2009 9:00:00 AM		119.44		51.68
2/6/2009 9:01:00 AM		120.73		50.39
2/6/2009 9:02:00 AM		122.42		48.70
2/6/2009 9:04:00 AM		123.94		47.18
2/6/2009 9:05:00 AM		126.99		44.13
2/6/2009 9:06:00 AM		128.52		42.60
2/6/2009 9:07:00 AM		129.96		41.16
2/6/2009 9:09:00 AM		132.93		38.19
2/6/2009 9:10:00 AM		134.38		36.74
2/6/2009 9:12:00 AM		137.10		34.02
2/6/2009 9:14:00 AM		139.91		31.21
2/6/2009 9:16:00 AM		142.70		28.42
2/6/2009 9:18:00 AM		145.45		25.67
2/6/2009 9:20:00 AM		148.14		22.98
2/6/2009 9:22:00 AM		151.22		19.90
2/6/2009 9:24:00 AM		153.45		17.67
2/6/2009 9:26:00 AM		156.10		15.02
2/6/2009 9:28:00 AM		158.80		12.32
2/6/2009 9:30:00 AM		161.37		9.75
2/6/2009 9:35:00 AM		167.70		3.42
2/6/2009 9:37:00 AM		170.35		0.77
2/6/2009 9:42:00 AM		176.00		-4.88
2/6/2009 9:45:00 AM		179.60		-8.48
2/6/2009 9:51:00 AM		187.07		-15.95
2/6/2009 9:56:00 AM		192.18		-21.06
2/6/2009 10:00:00 AM		197.08		-25.96
2/6/2009 10:01:00 AM		197.75		-26.63
2/6/2009 10:02:00 AM		198.16		-27.04
2/6/2009 10:03:00 AM		198.59		-27.47
2/6/2009 10:04:00 AM		199.13		-28.01
2/6/2009 10:05:00 AM		199.27 G		-28.15
2/6/2009 10:06:00 AM		199.27 G		-28.15
2/6/2009 10:07:00 AM		199.27 G		-28.15
2/6/2009 10:08:00 AM		199.27 G		-28.15
2/6/2009 10:09:00 AM		199.27 G		-28.15
2/6/2009 10:10:00 AM		199.27 G		-28.15
2/6/2009 10:11:00 AM		199.27		

WATER LEVEL SUMMARY
All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-03)				
2/6/2009 10:13:00 AM		199.21	171.12	-28.09
2/6/2009 10:14:00 AM		199.10		-27.98
2/6/2009 10:24:00 AM		198.93		-27.81
2/6/2009 10:26:00 AM		198.75		-27.63
2/6/2009 10:28:00 AM		198.60		-27.48
2/6/2009 10:30:00 AM		198.45		-27.33
2/6/2009 10:35:00 AM		197.88		-26.76
2/6/2009 10:40:00 AM		197.42		-26.30
2/6/2009 10:45:00 AM		196.92		-25.80
2/6/2009 10:55:00 AM		196.25		-25.13
2/6/2009 11:00:00 AM		195.91		-24.79
2/6/2009 11:30:00 AM		195.51		-24.39
2/6/2009 12:15:00 PM		192.35		-21.23
2/6/2009 1:00:00 PM		193.51		-22.39
2/6/2009 1:51:00 PM		190.25		-19.13
2/6/2009 2:00:00 PM		189.95		-18.83
2/6/2009 3:04:00 PM		188.77		-17.65
2/6/2009 3:25:00 PM		188.46		-17.34
2/6/2009 3:30:00 PM		188.40		-17.28
2/6/2009 3:31:00 PM		175.95		-4.83
2/6/2009 3:32:00 PM		169.44		1.68
2/6/2009 3:33:00 PM		163.01		8.11
2/6/2009 3:34:00 PM		156.64		14.48
2/6/2009 3:35:00 PM		150.30		20.82
2/6/2009 3:36:00 PM		143.91		27.21
2/6/2009 3:37:00 PM		137.59		33.53
2/6/2009 3:38:00 PM		131.36		39.76
2/6/2009 3:39:00 PM		125.20		45.92
2/6/2009 3:40:00 PM		119.15		51.97
2/6/2009 3:42:00 PM		107.27		63.85
2/6/2009 3:44:00 PM		95.74		75.38
2/6/2009 3:46:00 PM		84.65		86.47
2/6/2009 3:48:00 PM		73.91		97.21
2/6/2009 3:50:00 PM		63.71		107.41
2/6/2009 3:52:00 PM		54.43		116.69
2/6/2009 3:54:00 PM		46.25		124.87
2/6/2009 3:56:00 PM		39.38		131.74
2/6/2009 3:58:00 PM		33.53		137.59
2/6/2009 4:00:00 PM		28.80		142.32
2/6/2009 4:02:00 PM		24.98		146.14
2/6/2009 4:03:00 PM		23.42		147.70
2/6/2009 4:07:00 PM		18.45		152.67
2/6/2009 4:08:00 PM		17.95		153.17
2/6/2009 4:10:00 PM		17.00		154.12
2/6/2009 4:15:00 PM		15.66		155.46
2/6/2009 4:41:00 PM		14.94		156.18
2/6/2009 4:45:00 PM		14.91		156.21
2/10/2009 9:32:00 AM		11.12		160.00
3/17/2009 12:15:00 PM		9.26		161.86
3/18/2009 12:34:00 PM		9.70		161.42
3/19/2009 2:10:00 PM		10.02		161.10

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-03)				
3/23/2009 10:57:00 AM		9.05	171.12	162.07
3/23/2009 5:40:00 PM		9.53		161.59
3/24/2009 11:26:00 AM		12.15		158.97
3/24/2009 3:16:00 PM		12.37		158.75
3/25/2009 9:59:00 AM		13.11		158.01
3/25/2009 2:39:00 PM		13.16		157.96
3/26/2009 9:44:00 AM		13.38		157.74
3/27/2009 8:56:00 AM		11.75		159.37
3/27/2009 4:08:00 PM		11.81		159.31
3/30/2009 8:51:00 AM		13.13		157.99
3/30/2009 3:29:00 PM		13.21		157.91
3/31/2009 10:50:00 AM		13.62		157.50
4/1/2009 10:25:00 AM		13.81		157.31
4/2/2009 10:24:00 AM		13.78		157.34
4/3/2009 10:44:00 AM		13.85		157.27
4/6/2009 10:35:00 AM		13.72		157.40
4/8/2009 10:59:00 AM		9.51		161.61
4/19/2009 8:15:00 AM		9.06		162.06
PW-08-04			Current ground surface elevation: 172.52 (feet)	
1/14/2009 10:13:00 AM		9.16	174.44	165.28
1/29/2009 12:00:00 PM		9.77		164.67
1/29/2009 5:36:00 PM		9.74		164.70
1/30/2009 9:53:00 AM		10.52		163.92
2/2/2009 10:13:00 AM		10.03		164.41
2/2/2009 12:15:00 PM		10.12		164.32
2/2/2009 12:16:00 PM		20.19		154.25
2/2/2009 12:17:00 PM		24.62		149.82
2/2/2009 12:18:00 PM		27.59		146.85
2/2/2009 12:19:00 PM		29.90		144.54
2/2/2009 12:20:00 PM		31.87		142.57
2/2/2009 12:21:00 PM		33.53		140.91
2/2/2009 12:22:00 PM		34.97		139.47
2/2/2009 12:23:00 PM		36.25		138.19
2/2/2009 12:24:00 PM		37.38		137.06
2/2/2009 12:25:00 PM		38.49		135.95
2/2/2009 12:27:00 PM		40.39		134.05
2/2/2009 12:29:00 PM		42.12		132.32
2/2/2009 12:31:00 PM		43.68		130.76
2/2/2009 12:33:00 PM		45.09		129.35
2/2/2009 12:35:00 PM		46.73		127.71
2/2/2009 12:36:00 PM		47.96		126.48
2/2/2009 12:37:00 PM		48.96		125.48
2/2/2009 12:38:00 PM		50.48		123.96
2/2/2009 12:39:00 PM		49.74		124.70
2/2/2009 12:40:00 PM		51.16		123.28
2/2/2009 12:41:00 PM		51.84		122.60
2/2/2009 12:42:00 PM		52.51		121.93
2/2/2009 12:43:00 PM		53.09		121.35
2/2/2009 12:45:00 PM		54.20		120.24
2/2/2009 12:50:00 PM		57.04		117.40
2/2/2009 12:55:00 PM		59.51		114.93

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-04)				
2/2/2009 1:00:00 PM		61.77	174.44	112.67
2/2/2009 1:05:00 PM		63.72		110.72
2/2/2009 1:10:00 PM		65.56		108.88
2/2/2009 1:15:00 PM		67.04		107.40
2/2/2009 1:33:00 PM		71.25		103.19
2/2/2009 1:50:00 PM		74.44		100.00
2/2/2009 2:00:00 PM		75.74		98.70
2/2/2009 2:15:00 PM		77.28		97.16
2/2/2009 2:19:00 PM		77.62		96.82
2/2/2009 2:30:00 PM		78.52		95.92
2/2/2009 2:46:00 PM		79.34		95.10
2/2/2009 4:15:00 PM		81.30		93.14
2/2/2009 4:26:00 PM		81.39		93.05
2/2/2009 4:40:00 PM		81.42		93.02
2/2/2009 10:34:00 PM		82.30		92.14
2/3/2009 8:08:00 AM		82.38		92.06
2/3/2009 12:02:00 PM		82.39		92.05
2/3/2009 12:04:00 PM		82.39		92.05
2/3/2009 12:11:00 PM		82.39		92.05
2/3/2009 1:00:00 PM		82.40		92.04
2/3/2009 1:02:00 PM		83.59		90.85
2/3/2009 1:03:00 PM		83.98		90.46
2/3/2009 1:04:00 PM		84.42		90.02
2/3/2009 1:07:00 PM		85.08		89.36
2/3/2009 1:08:00 PM		85.28		89.16
2/3/2009 1:10:00 PM		85.51		88.93
2/3/2009 1:12:00 PM		85.73		88.71
2/3/2009 1:14:00 PM		85.95		88.49
2/3/2009 1:16:00 PM		86.04		88.40
2/3/2009 1:18:00 PM		86.14		88.30
2/3/2009 1:20:00 PM		86.28		88.16
2/3/2009 1:30:00 PM		86.81		87.63
2/3/2009 1:45:00 PM		87.31		87.13
2/3/2009 2:00:00 PM		87.60		86.84
2/3/2009 2:30:00 PM		87.95		86.49
2/3/2009 2:45:00 PM		88.08		86.36
2/3/2009 2:46:00 PM		72.45		101.99
2/3/2009 2:47:00 PM		65.77		108.67
2/3/2009 2:48:00 PM		61.76		112.68
2/3/2009 2:49:00 PM		58.78		115.66
2/3/2009 2:50:00 PM		56.65		117.79
2/3/2009 2:51:00 PM		54.77		119.67
2/3/2009 2:52:00 PM		53.14		121.30
2/3/2009 2:53:00 PM		51.72		122.72
2/3/2009 2:54:00 PM		50.43		124.01
2/3/2009 2:55:00 PM		49.26		125.18
2/3/2009 2:57:00 PM		47.16		127.28
2/3/2009 2:59:00 PM		45.28		129.16
2/3/2009 3:01:00 PM		43.64		130.80
2/3/2009 3:03:00 PM		42.13		132.31
2/3/2009 3:05:00 PM		40.74		133.70

WATER LEVEL SUMMARY

All Pumping Test Locations

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(PW-08-04)				
2/3/2009 3:07:00 PM		39.46	174.44	134.98
2/3/2009 3:09:00 PM		38.30		136.14
2/3/2009 3:11:00 PM		37.20		137.24
2/3/2009 3:13:00 PM		36.17		138.27
2/3/2009 3:15:00 PM		35.20		139.24
2/3/2009 3:18:00 PM		33.80		140.64
2/3/2009 3:20:00 PM		33.07		141.37
2/3/2009 3:25:00 PM		31.17		143.27
2/3/2009 3:30:00 PM		29.58		144.86
2/3/2009 4:05:00 PM		22.50		151.94
2/5/2009 9:31:00 AM		10.27		164.17
2/5/2009 3:19:00 PM		10.49		163.95
2/6/2009 2:54:00 PM		11.69		162.75
2/10/2009 9:38:00 AM		10.05		164.39
3/17/2009 12:05:00 PM		9.01		165.43
3/18/2009 12:15:00 PM		9.43		165.01
3/19/2009 2:07:00 PM		10.65		163.79
3/23/2009 11:02:00 AM		8.88		165.56
3/23/2009 5:42:00 PM		8.97		165.47
3/24/2009 11:23:00 AM		10.36		164.08
3/24/2009 3:18:00 PM		10.48		163.96
3/25/2009 9:55:00 AM		10.91		163.53
3/25/2009 2:43:00 PM		10.89		163.55
3/26/2009 9:41:00 AM		11.01		163.43
3/27/2009 8:59:00 AM		10.33		164.11
3/27/2009 4:14:00 PM		10.21		164.23
3/30/2009 8:55:00 AM		10.71		163.73
3/30/2009 3:32:00 PM		10.77		163.67
3/31/2009 10:47:00 AM		11.21		163.23
4/1/2009 10:19:00 AM		11.29		163.15
4/2/2009 10:20:00 AM		11.29		163.15
4/3/2009 10:40:00 AM		11.23		163.21
4/6/2009 10:29:00 AM		11.27		163.17
4/8/2009 10:53:00 AM		9.08		165.36
4/19/2009 8:22:00 AM		9.08		165.36
SHSW			Current ground surface elevation: (feet)	
3/17/2009 11:05:00 AM		35.16		
3/18/2009 10:13:00 AM		60.45		
3/19/2009 2:48:00 PM		61.55		
3/23/2009 10:47:00 AM		33.72		
3/23/2009 5:24:00 PM		37.33		
3/24/2009 10:13:00 AM		43.36		
3/24/2009 3:27:00 PM		43.98		
3/25/2009 9:06:00 AM		44.88		
3/25/2009 2:51:00 PM		45.32		
3/26/2009 8:29:00 AM		45.15		
3/27/2009 8:43:00 AM		38.24		
3/27/2009 3:53:00 PM		41.73		
3/30/2009 8:07:00 AM		44.86		
3/30/2009 3:04:00 PM		50.37		
3/31/2009 9:28:00 AM		65.29		

Location / Date	Height Above Measuring Point (feet)	Depth Below Measuring Point (feet)	Measuring Point Elevation (feet)	Water Level Elevation (feet)
(SHSW)				
3/31/2009 1:55:00 PM		66.12		
4/1/2009 9:13:00 AM		66.96		
4/2/2009 9:09:00 AM		67.14		
4/2/2009 2:20:00 PM		67.17		
4/3/2009 9:31:00 AM		66.88		
4/3/2009 1:13:00 PM		66.84		
4/6/2009 9:19:00 AM		66.32		
4/6/2009 3:13:00 PM		60.32		
4/8/2009 9:31:00 AM		34.95		
4/19/2009 10:09:00 AM		34.36		
SW-1			Current ground surface elevation: (feet)	
1/14/2009 12:00:00 PM		^		

Measurement Qualifier Notes:

^ - Artesian condition, if there is an associated value it was measured using one of several apparatus.

D - The sampling location was dry.

F - The sampling location was frozen.

F1 - Well was flowing

G - Greater than specified amount.

M - Results are missing or not reliable due to a meter malfunction.

Q - An obstruction prevented the collection of data.

HANTUSH AND JACOB
TRANSMISSIVITY CALCULATIONS

Hydrogeologic Anaysis Results - Walton Method (Leaky Confined Aquifer)
PW-08-01 7-Day Pump Test - March 23, 2009 to March 30, 2009
Juniper Ridge Landfill, Old Town, Maine

Well ID	Bedrock Transmissivity (cm^2/s)	Storativity	Drawdown Near End of Test (ft)	Distance from PW-08-01 (ft)	Saturated Till Thickness, b'(ft)	Hydraulic Resistance, c (min)	Till Hydraulic Conductivity, K'=b'/c (cm/s)
PW-08-02	4.61	7.58E-05	11.32	1,206	30	3.05E+07	5.00E-07
PW-08-03	4.83	1.75E-04	4.08	1,866	32	1.12E+07	1.43E-06
PW-08-04	3.34	1.42E-04	1.83	2,280	5	7.45E+06	3.74E-07
OSW	0.49	8.55E-05	9.66	1,160	41	8.81E+06	2.36E-06
SHSW	6.01	1.01E-04	11.14	1,020	42	4.29E+07	4.96E-07
P-04-06A	4.94	2.21E-04	7.30	1,058	42	7.15E+06	2.99E-06
P-04-07B	3.78	5.15E-05	7.10	1,936	5	2.40E+07	9.95E-08
MW-223A	1.57	8.06E-05	2.93	2,173	17	9.59E+06	9.06E-07

Minimum	**0.49**	**5.15E-05**	**9.95E-08**
Maximum	**6.01**	**2.21E-04**	**2.99E-06**
Range	**5.52**	**1.70E-04**	**2.89E-06**
Average	**3.70**	**1.17E-04**	**1.14E-06**
Geomean	**2.99**	**1.05E-04**	**7.34E-07**

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

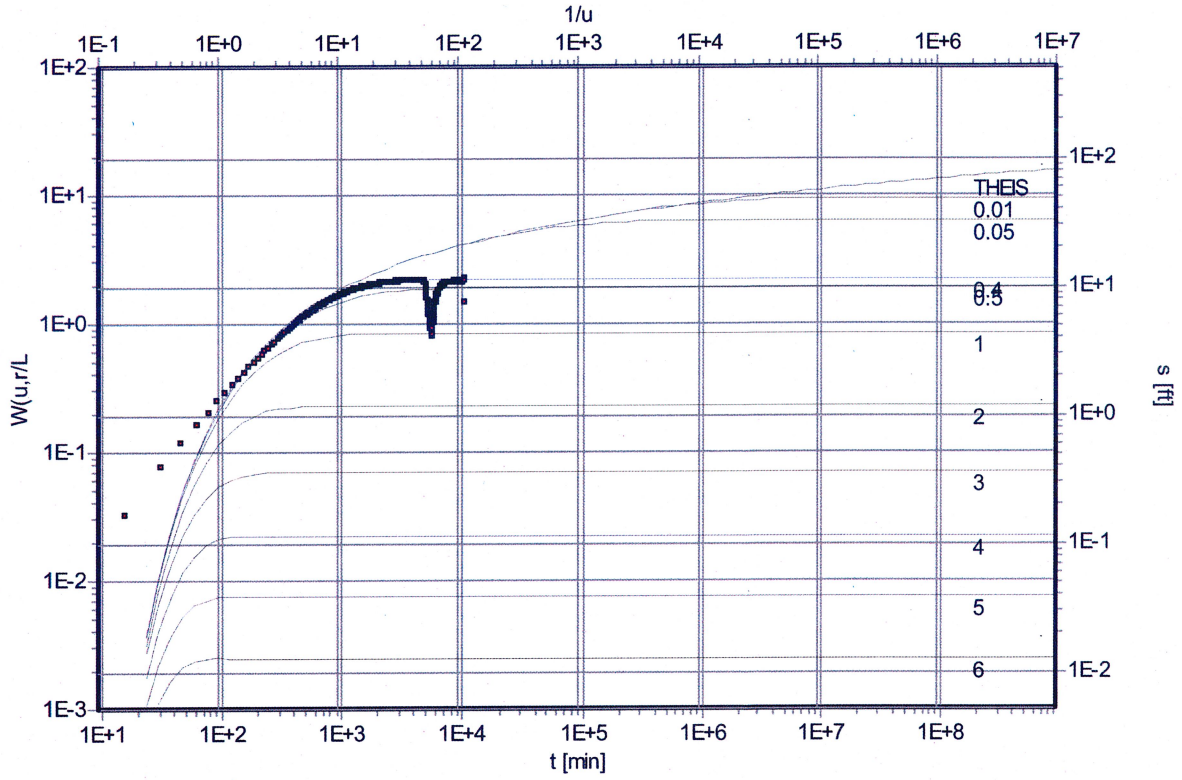
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ PW-08-02



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	4.61E+0 [cm²/s]	Conductivity:	5.95E-4 [cm/s]
	Storativity:	7.58E-5	c:	3.05E+7 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	0.4
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from PW-08-02 during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at PW-08-02: b' = 30 feet
- Estimated Hydraulic Conductivity of Till at PW-08-02: K' = 5.00E-7 cm/s

Evaluated by: APG

Evaluation Date: 5/5/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

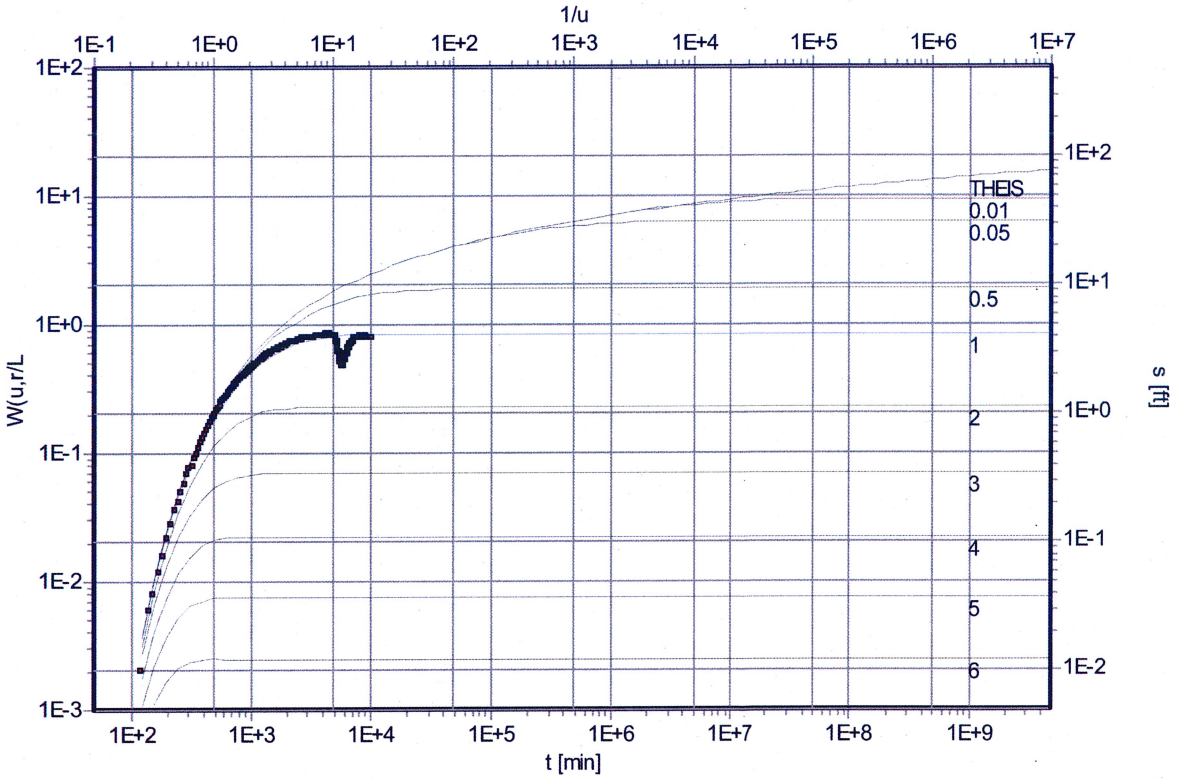
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ PW-08-03



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	4.83E+0 [cm²/s]	Conductivity:	6.22E-4 [cm/s]
	Storativity:	1.75E-4	c:	1.12E+7 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	1
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from PW-08-03 during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at PW-08-03: b' = 32 feet
- Estimated Hydraulic Conductivity of Till at PW-08-03: K' = 1.43E-6 cm/s

Evaluated by: APG

Evaluation Date: 5/4/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

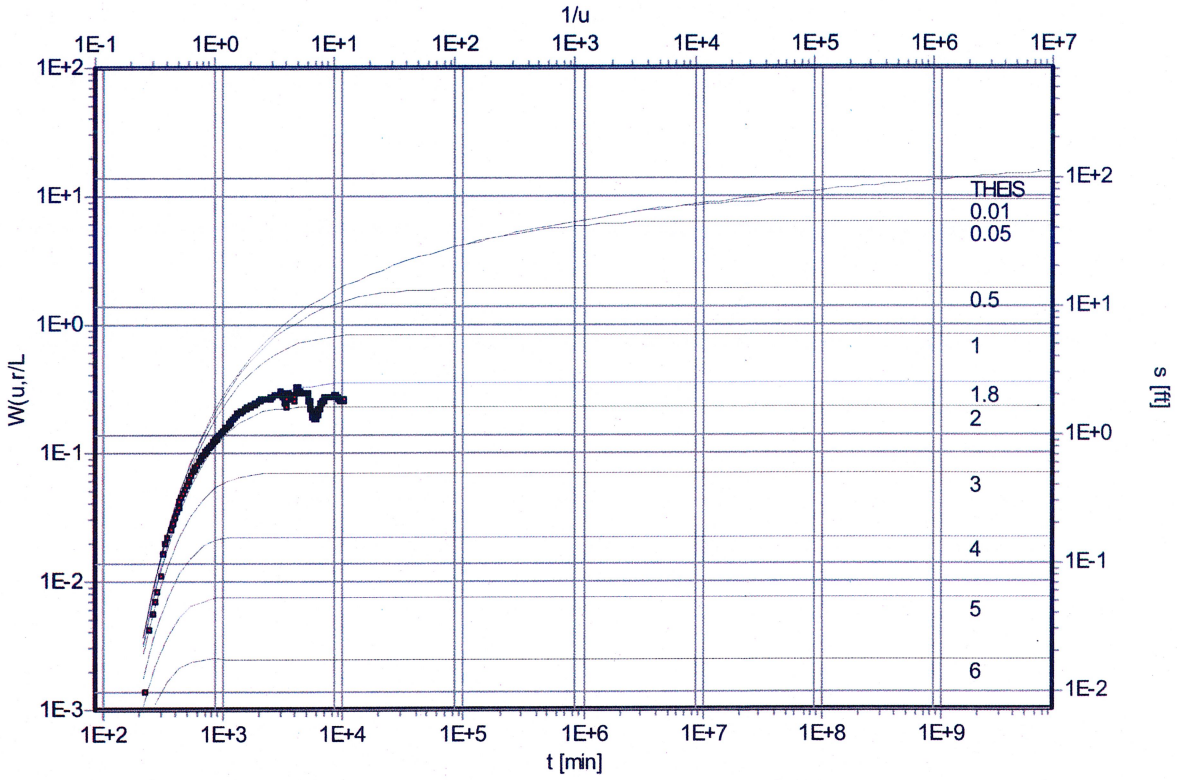
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ PW-08-04



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	3.34E+0 [cm²/s]	Conductivity:	4.31E-4 [cm/s]
	Storativity:	1.42E-4	c:	7.45E+6 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	1.8
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from PW-08-04 during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at PW-08-04: b' = 5 feet
- Estimated Hydraulic Conductivity of Till at PW-08-04: K' = 3.74E-7 cm/s

Evaluated by: APG

Evaluation Date: 5/4/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

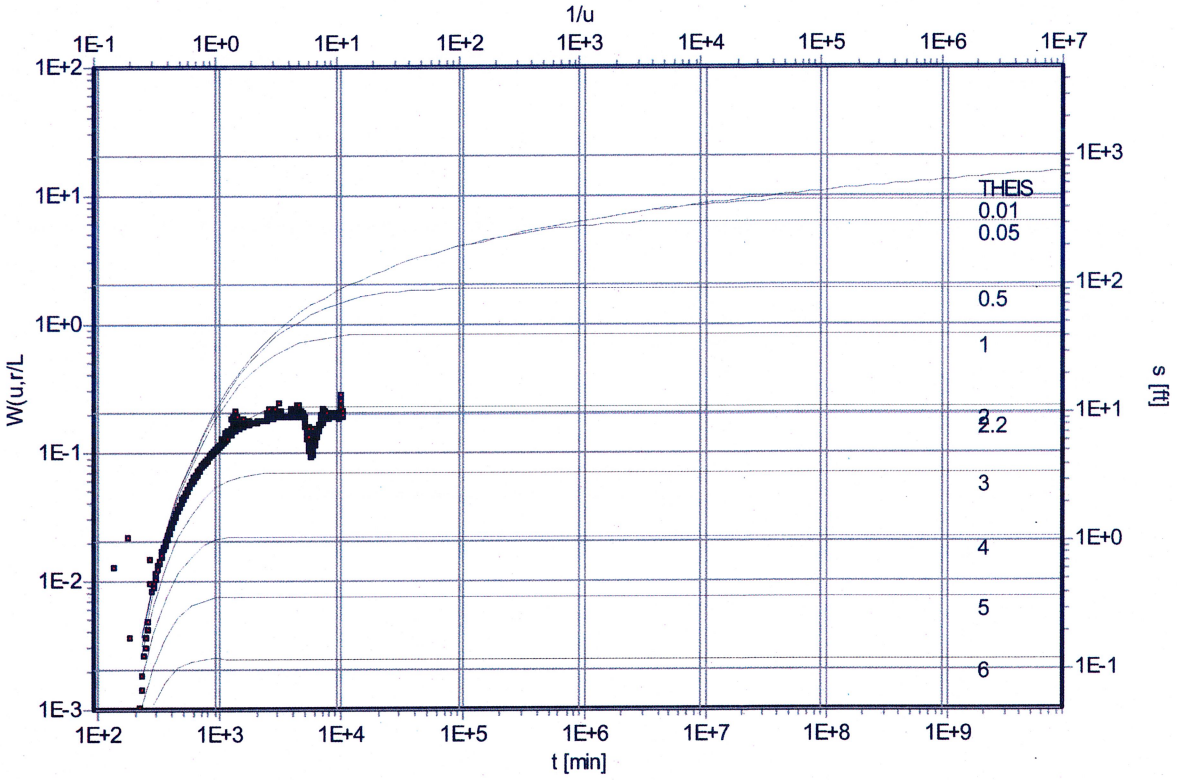
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ OSW



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	4.89E-1 [cm²/s]	Conductivity:	6.29E-5 [cm/s]
	Storativity:	8.55E-5	c:	8.81E+6 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	2.2
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from OSW during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at OSW: b' = 41 feet
- Estimated Hydraulic Conductivity of Till at OSW: K' = 2.36E-6 cm/s

Evaluated by: APG

Evaluation Date: 5/5/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

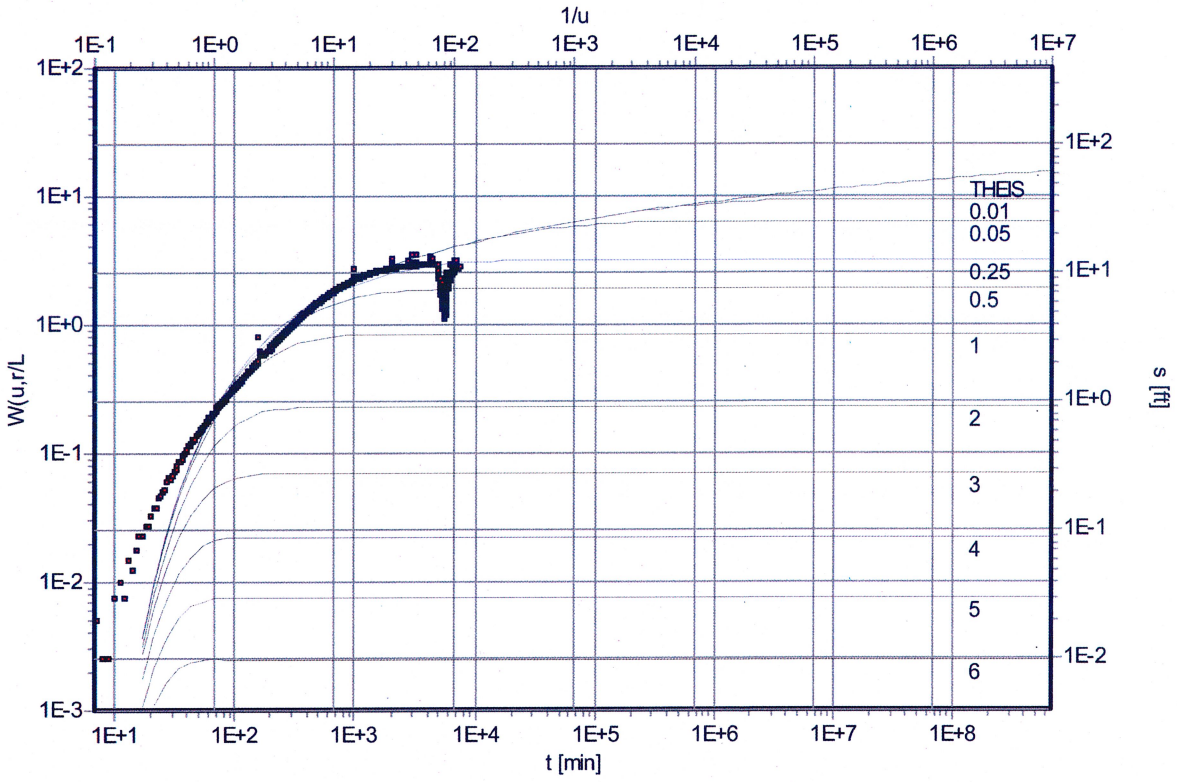
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ SHSW



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:	Transmissivity:	6.01E+0 [cm²/s]	Conductivity:	7.74E-4 [cm/s]
	Storativity:	1.01E-4	c:	4.29E+7 [min]
Test parameters:	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	0.25
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from SHSW during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at SHSW: b' = 42 feet
- Estimated Hydraulic Conductivity of Till at SHSW: K' = 4.96E-7 cm/s

Evaluated by: APG

Evaluation Date: 5/5/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

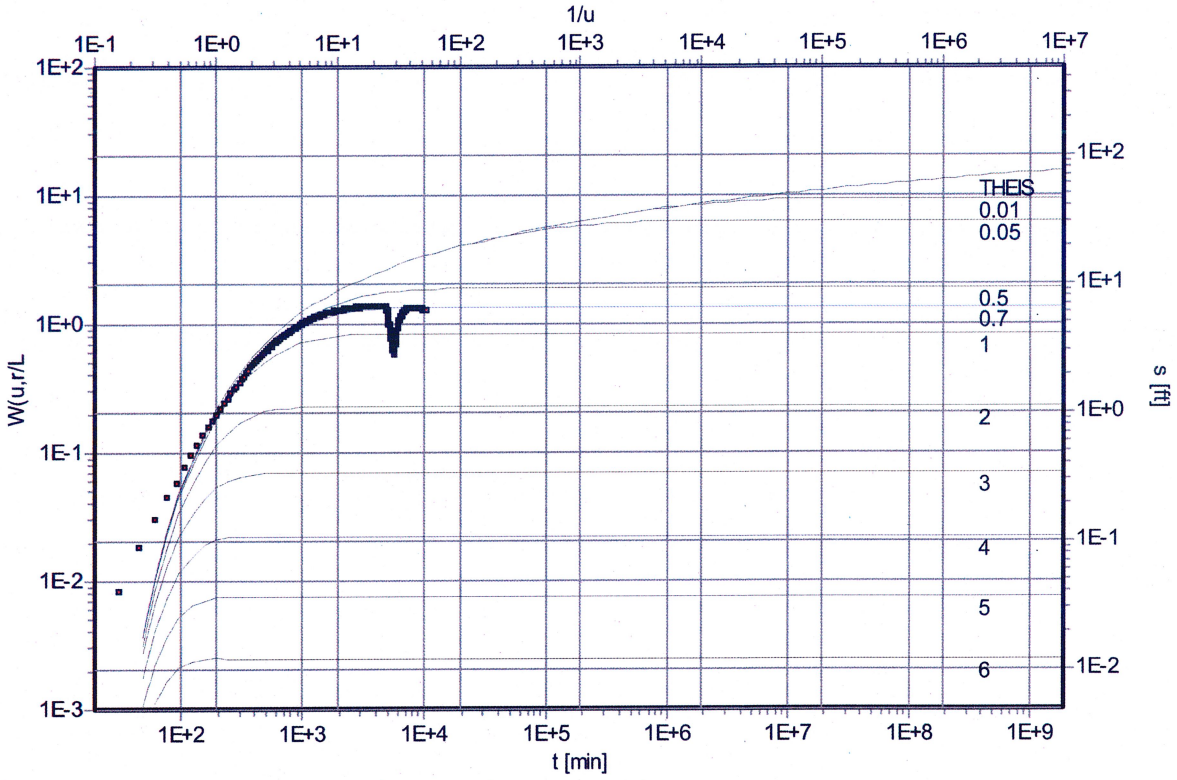
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ P-04-06A



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	4.94E+0 [cm²/s]	Conductivity:	6.37E-4 [cm/s]
	Storativity:	2.21E-4	c:	7.15E+6 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	0.7
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from P-04-06A during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at P-04-06A: b' = 42 feet
- Estimated Hydraulic Conductivity of Till at P-04-06A: K' = 2.99E-6 cm/s

Evaluated by: APG

Evaluation Date: 5/4/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

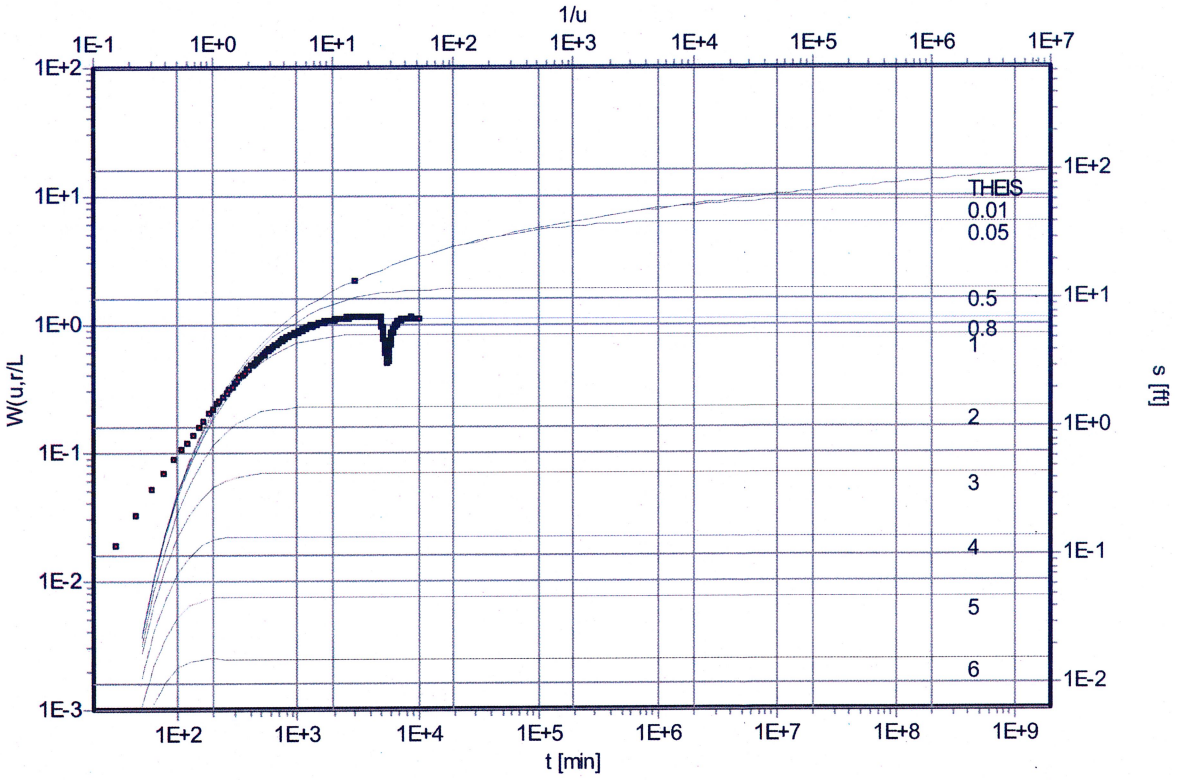
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ P-04-07B



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:	Transmissivity:	3.78E+0 [cm²/s]	Conductivity:	4.87E-4 [cm/s]
	Storativity:	5.15E-5	c:	2.40E+7 [min]
Test parameters:	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	0.8
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from P-04-07B during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at P-04-07B: b' = 5 feet
- Estimated Hydraulic Conductivity of Till at P-04-07B: K' = 9.95E-8 cm/s

Evaluated by: APG

Evaluation Date: 5/4/2009

Waterloo Hydrogeologic Inc.
180 Columbia St. Unit 1104
Waterloo, Ontario, Canada
Phone 519 746-1798

Pumping Test Analysis Report

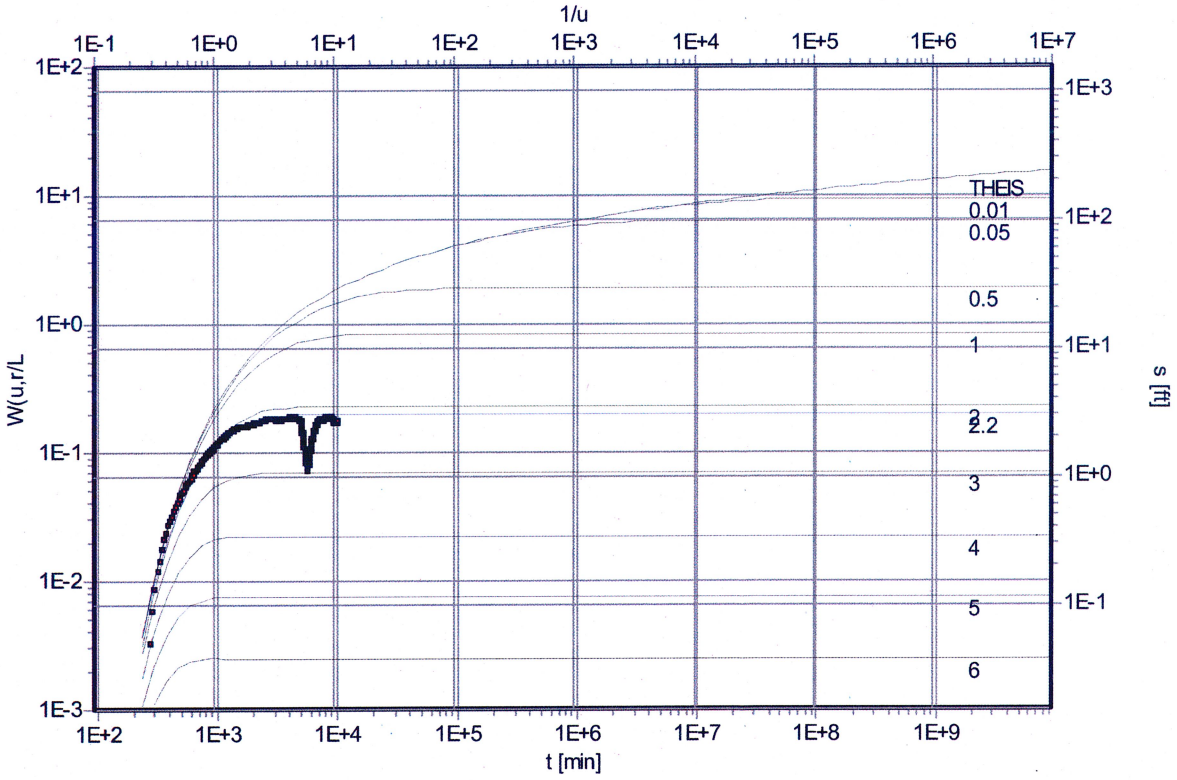
Project: Casella - Juniper Ridge Landfill

Number: 08097.03

Client: Casella

PW-08-01 7-Day Pump Test [Walton]

▪ MW-223A



Pumping Test: **PW-08-01 7-Day Pump Test**

Analysis Method: **Walton**

Analysis Results:				
	Transmissivity:	1.57E+0 [cm²/s]	Conductivity:	2.03E-4 [cm/s]
	Storativity:	8.06E-5	c:	9.59E+6 [min]

Test parameters:				
	Pumping Well:	PW-08-01	Aquifer Thickness:	254.67 [ft]
	Casing radius:	0.25 [ft]	r/L:	2.2
	Screen length:	196 [ft]		
	Boring radius:	0.25 [ft]		
	Discharge Rate:	145.28433 [U.S. gal/min]		

Comments:

- GW Drawdown from MW-223A during 7-Day Pump Test of PW-08-01 (3/23/09-3/30/09)
- Estimated Saturated Thickness of Till at MW-223A: b' = 17 feet
- Estimated Hydraulic Conductivity of Till at MW-223A: K' = 9.06E-7 cm/s

Evaluated by: APG

Evaluation Date: 5/5/2009

PAPADOPOULOS
ANISOTROPY CALCULATIONS

ANISOTROPIC TRANSMISSIVITY ESTIMATION

(after Papadopulis, 1965)

WEST OLD TOWN LANDFILL DATA FROM PUMP TEST ON PW-08-01

COMBINING WELLS P-04-12A, MW-223A, P-04-14A

$x_0 := 710$ ft $\quad y_0 := -1930$ ft $\quad Q := 29069$ ft^3/day

$x_1 := -1591 \quad y_1 := -1486$

$x_2 := 1960 \quad y_2 := -20$

$to_0 := \frac{550}{1440}$ day $\quad \Delta s := 1.83$ ft/ $\log_{10}$ cycle

$to_1 := \frac{330}{1440}$ day

$to_2 := \frac{910}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} (y_0)^2 & (x_0)^2 & -2 \cdot (x_0 \cdot y_0) \\ (y_1)^2 & (x_1)^2 & -2 \cdot (x_1 \cdot y_1) \\ (y_2)^2 & (x_2)^2 & -2 \cdot (x_2 \cdot y_2) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a}\cdot\sqrt{A\cdot B - C^2} \qquad S = 3.611 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 2.032 \times 10^{3}$$

$$Tyy := \frac{B}{S} \qquad Tyy = 8.613 \times 10^{3}$$

$$Txy := \frac{C}{S} \qquad Txy = 3.004 \times 10^{3}$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 9.778 \times 10^{3} \text{ ft}^2/\text{day}$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\eta = 866.705 \text{ ft}^2/\text{day}$$

$$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = 68.805 \text{ degrees}$$

COMBINING WELLS P-04-12A, PW-08-03, P-04-06A

$x_1 := 1270 \text{ ft}$ $y_1 := -1370$ ft

$x_0 := 710$ $y_0 := -1930$

$x_2 := -681$ $y_2 := -798$

$Q := 29069$ ft^3/day

$to_1 := \frac{290}{1440}$ day

$to_0 := \frac{550}{1440}$ day

$to_2 := \frac{170}{1440}$ day

$\Delta s := 3.93$ ft/ $\log_{10}$ cycle

$$a := \frac{2.303\cdot Q}{4\pi\cdot\Delta s} \text{ ft}^2/\text{day}$$

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 2.006 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 2.347 \times 10^3$$

$$Tyy := \frac{B}{S} \qquad Tyy = 882.69$$

$$Txy := \frac{C}{S} \qquad Txy = -483.87$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 2.492 \times 10^3 \ ft^2/day$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\eta = 737.248 \ ft^2/day$$

$$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = -16.73 \ degree$$

COMBINING WELLS P-04-14A, P-04-06A, PW-08-03

$x_0 := 1960 ft$ $\quad y_0 := -20 ft$ $\quad Q := 29069 \ ft^3/day$

$x_2 := -681$ $\quad y_2 := -798$

$x_1 := 1270$ $\quad y_1 := -1370$

$to_0 := \frac{910}{1440}$ day

$\Delta s := 3.81$ ft/ $\log_{10}$ cycle

$to_2 := \frac{170}{1440}$ day

$to_1 := \frac{290}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2}$ $S = 1.434 \times 10^{-4}$

$Txx := \frac{A}{S}$ $Txx = 532.196$

$Tyy := \frac{B}{S}$ $Tyy = 5.057 \times 10^3$

$Txy := \frac{C}{S}$ $Txy = -857.998$

$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $T\xi = 5.214 \times 10^3$ ft^2/day

$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $T\eta = 374.965$ ft^2/day

$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right)$ $\qquad \frac{\theta prime \cdot 180}{\pi} = -79.616$ degrees

---

COMBINING WELLS P-04-14A, MW-06-02, PW-08-02

$x_0 := 1960\text{ft}$ $\qquad y_0 := -20\text{ ft}$ $\qquad Q := 29069$ ft^3/day

$x_1 := 397$ $\qquad y_1 := -1322$

$x_2 := -581$ $\qquad y_2 := -1049$

$to_0 := \frac{910}{1440}$ day $\qquad \Delta s := 3.57$ ft/ $\log_{10}$ cycle

$to_1 := \frac{180}{1440}$ day

$to_2 := \frac{101}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} (y_0)^2 & (x_0)^2 & -2 \cdot (x_0 \cdot y_0) \\ (y_1)^2 & (x_1)^2 & -2 \cdot (x_1 \cdot y_1) \\ (y_2)^2 & (x_2)^2 & -2 \cdot (x_2 \cdot y_2) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2}$ $\qquad S = 2.633 \times 10^{-4}$

$Txx := \frac{A}{S}$ $\quad Txx = 788.982$

$Tyy := \frac{B}{S}$ $\quad Tyy = 3.117 \times 10^3$

$Txy := \frac{C}{S}$ $\quad Txy = 481.711$

$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\xi = 3.212 \times 10^3$ ft²/day

$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\eta = 693.227$ ft²/day

$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right)$ $\quad \frac{\theta prime \cdot 180}{\pi} = 78.757$ degree

---

COMBINING WELLS P-04-12A, P-04-14A, PW-08-02

$x_2 := -581$ ft $\quad y_2 := -1049$ft $\quad Q := 29069$ ft³/day

$x_1 := 1960 \quad y_1 := -20$

$x_0 := 710 \quad y_0 := -1930$

$to_2 := \frac{101}{1440}$ day $\quad \Delta s := 3.61$ ft/ $\log_{10}$ cycle

$to_1 := \frac{910}{1440}$ day

$to_0 := \frac{550}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft²/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 2.867 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 916.336$$

$$Tyy := \frac{B}{S} \qquad Tyy = 2.795 \times 10^{3}$$

$$Txy := \frac{C}{S} \qquad Txy = 619.128$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 2.981 \times 10^{3}\ ft^2/day$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\eta = 730.645\ ft^2/day$$

$$\theta prime := \operatorname{atan}\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = 73.305 \text{ degrees}$$

COMBINING WELLS P-04-07B, P-04-14A, MW-06-02

$x_0 := -1161\text{ft}$ $y_0 := -1560$ ft $Q := 29069$ ft^3/day

$x_1 := 1960$ $y_1 := -20$

$x_2 := 397$ $y_2 := -1322$

$to_0 := \frac{130}{1440}$ day $\Delta s := 2.81$ $ft/\log_{10}\text{ cycle}$

$to_1 := \frac{910}{1440}$ day

$to_2 := \frac{180}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2}$ $S = 1.547 \times 10^{-4}$

$Txx := \frac{A}{S}$ $Txx = 1.31 \times 10^3$

$Tyy := \frac{B}{S}$ $\quad Tyy = 8.53 \times 10^{3}$

$Txy := \frac{C}{S}$ $\quad Txy = 2.754 \times 10^{3}$

$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\xi = 9.46 \times 10^{3}\ ft^2/day$

$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right]$ $\quad T\eta = 379.937\ ft^2/day$

$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right)$ $\quad \frac{\theta prime \cdot 180}{\pi} = 71.332$ degrees

COMBINING WELLS P-04-06A, P-04-13A, PW-08-02

$x_0 := -681$ ft $\quad y_0 := -798$ ft $\quad Q := 29069$ ft^3/day

$x_1 := 156$ $\quad y_1 := 860$

$x_2 := -581$ $\quad y_2 := -1049$

$to_0 := \frac{170}{1440}$ day $\quad \Delta s := 5.45$ ft/ $\log_{10}$ cycle

$to_1 := \frac{610}{1440}$ day

$to_2 := \frac{101}{1440}$ day

$a := \frac{2.303 \cdot Q}{4\pi \cdot \Delta s}$ ft^2/day

$$time := \begin{bmatrix} \left(2.247 \cdot a^2 \cdot to_0\right) \\ \left(2.247 \cdot a^2 \cdot to_1\right) \\ \left(2.247 \cdot a^2 \cdot to_2\right) \end{bmatrix} \qquad coord := \begin{bmatrix} \left(y_0\right)^2 & \left(x_0\right)^2 & -2 \cdot \left(x_0 \cdot y_0\right) \\ \left(y_1\right)^2 & \left(x_1\right)^2 & -2 \cdot \left(x_1 \cdot y_1\right) \\ \left(y_2\right)^2 & \left(x_2\right)^2 & -2 \cdot \left(x_2 \cdot y_2\right) \end{bmatrix}$$

$$\begin{pmatrix} A \\ B \\ C \end{pmatrix} := coord^{-1} \cdot time$$

$$S := \frac{1}{a} \cdot \sqrt{A \cdot B - C^2} \qquad S = 7.958 \times 10^{-4}$$

$$Txx := \frac{A}{S} \qquad Txx = 2.929 \times 10^3$$

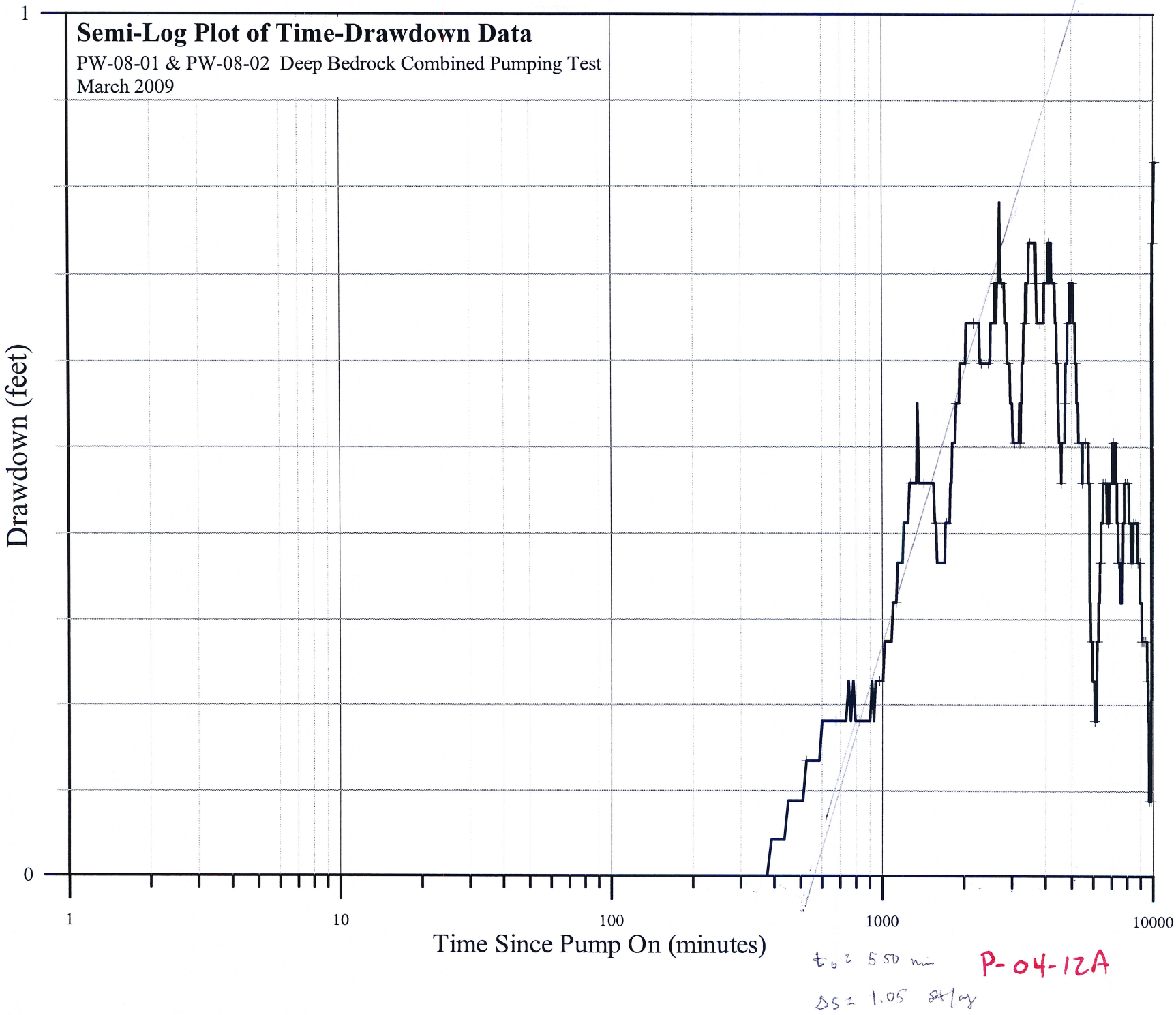
$$Tyy := \frac{B}{S} \qquad Tyy = 7.117 \times 10^3$$

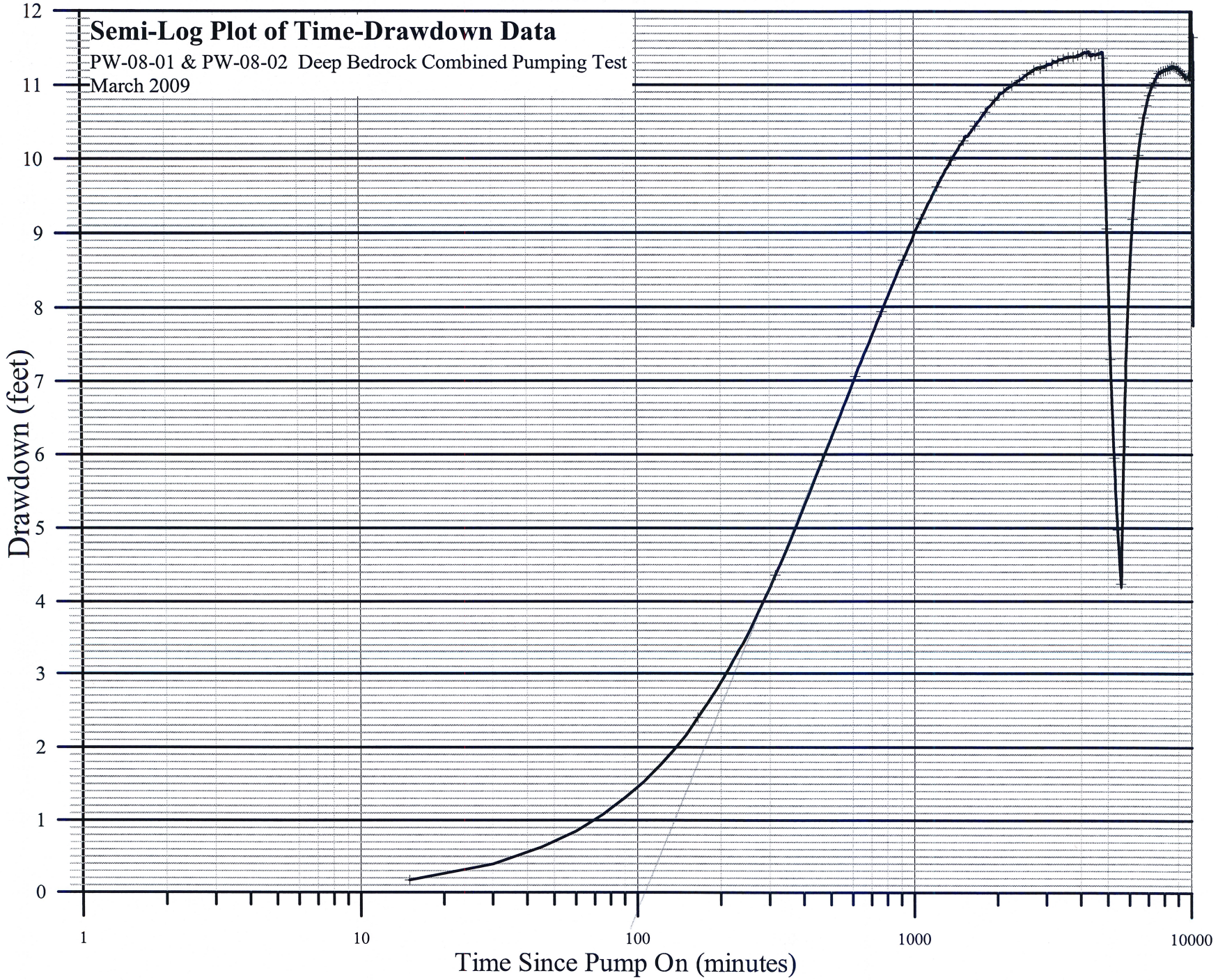
$$Txy := \frac{C}{S} \qquad Txy = 4.46 \times 10^3$$

$$T\xi := 0.5\left[(Txx + Tyy) + \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\xi = 9.95 \times 10^3 \text{ ft}^2\text{/day}$$

$$T\eta := 0.5\left[(Txx + Tyy) - \left[(Txx - Tyy)^2 + 4Txy^2\right]^{0.5}\right] \qquad T\eta = 96.03 \text{ ft}^2\text{/day}$$

$$\theta prime := atan\left(\frac{T\xi - Txx}{Txy}\right) \qquad \frac{\theta prime \cdot 180}{\pi} = 57.576 \text{ degrees}$$

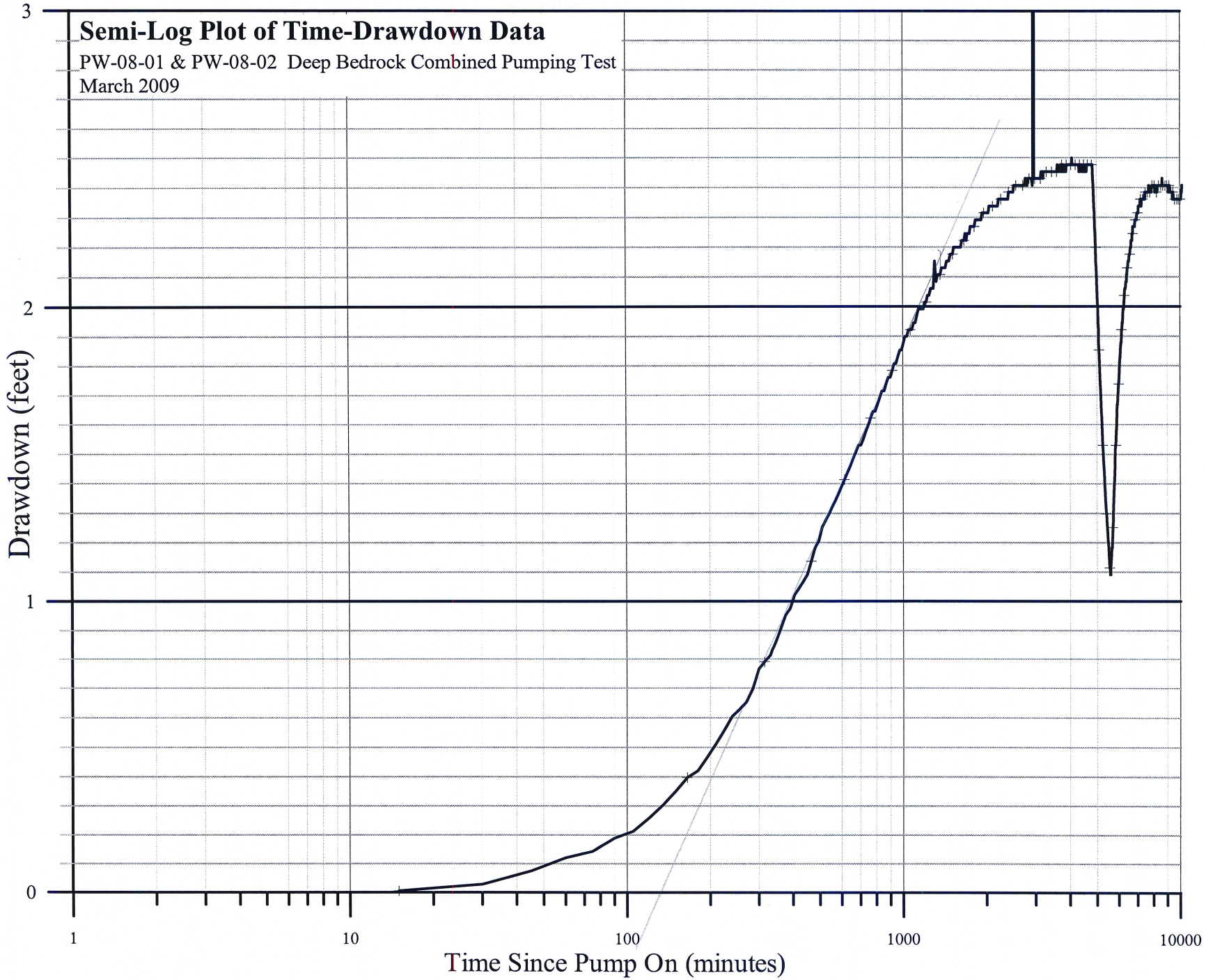

Semi-Log Plot of Time-Drawdown Data
PW-08-01 & PW-08-02 Deep Bedrock Combined Pumping Test
March 2009
Drawdown (feet)
1
0
1
10
100
1000
10000
Time Since Pump On (minutes)
t_0 = 550 min
P-04-12A
Δs = 1.05 ft/cy



$t_0 = 101$ mi

$DS = 9.1$ ft

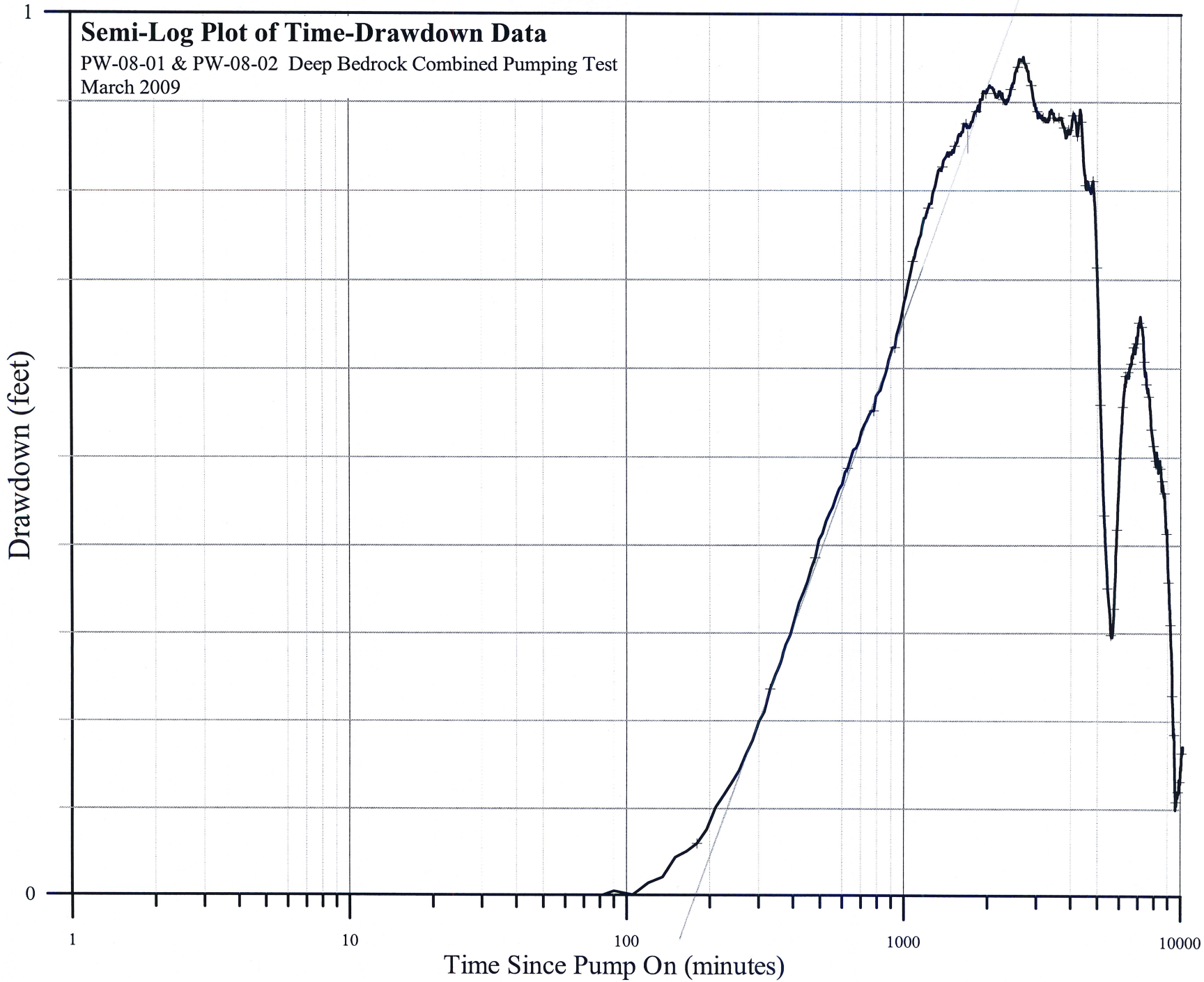
PW-08-02



$t_0 = 125$ min

$\Delta S = 2.18$ ft/cycle

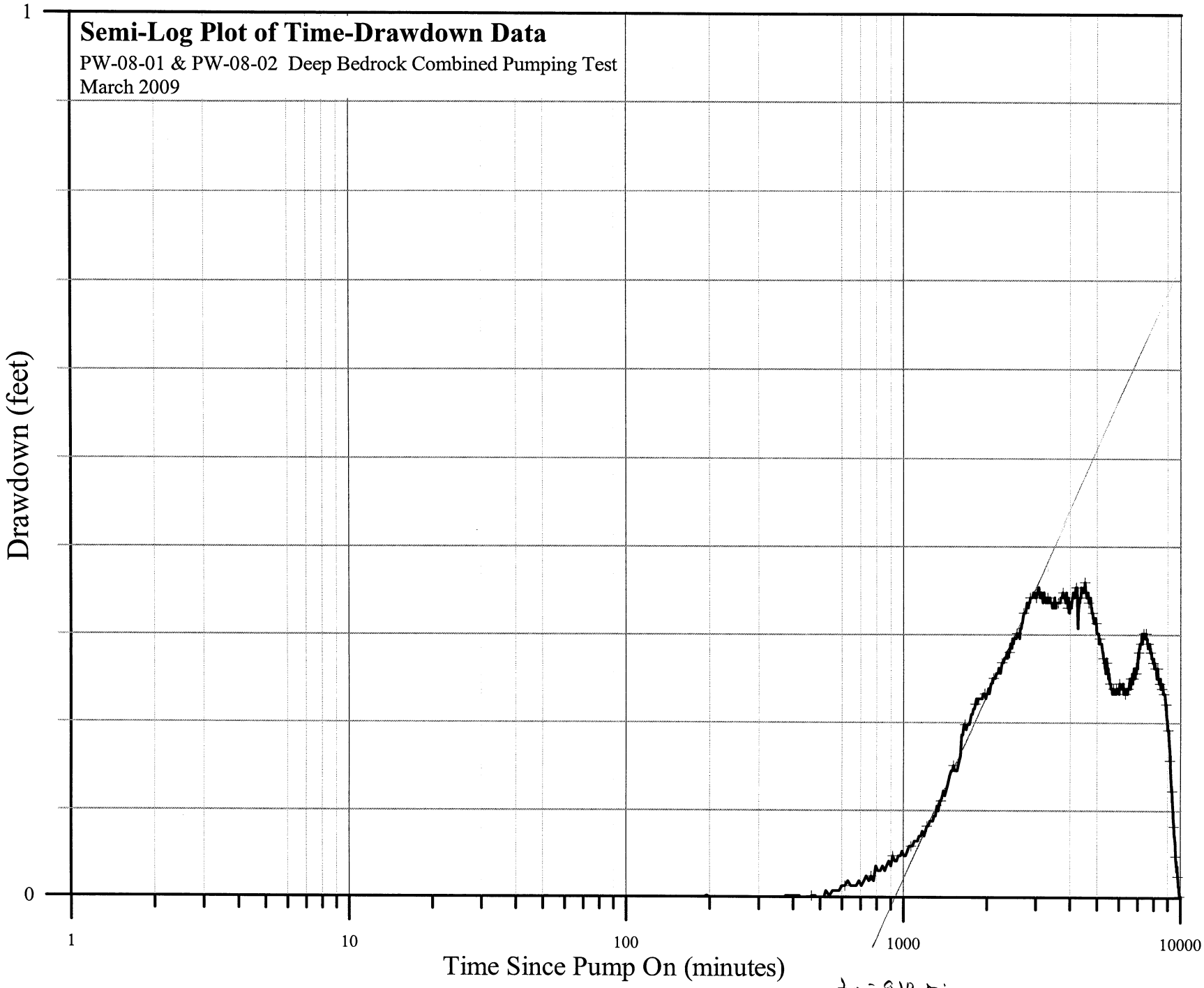
P-04-07A



$t_0 = 180$

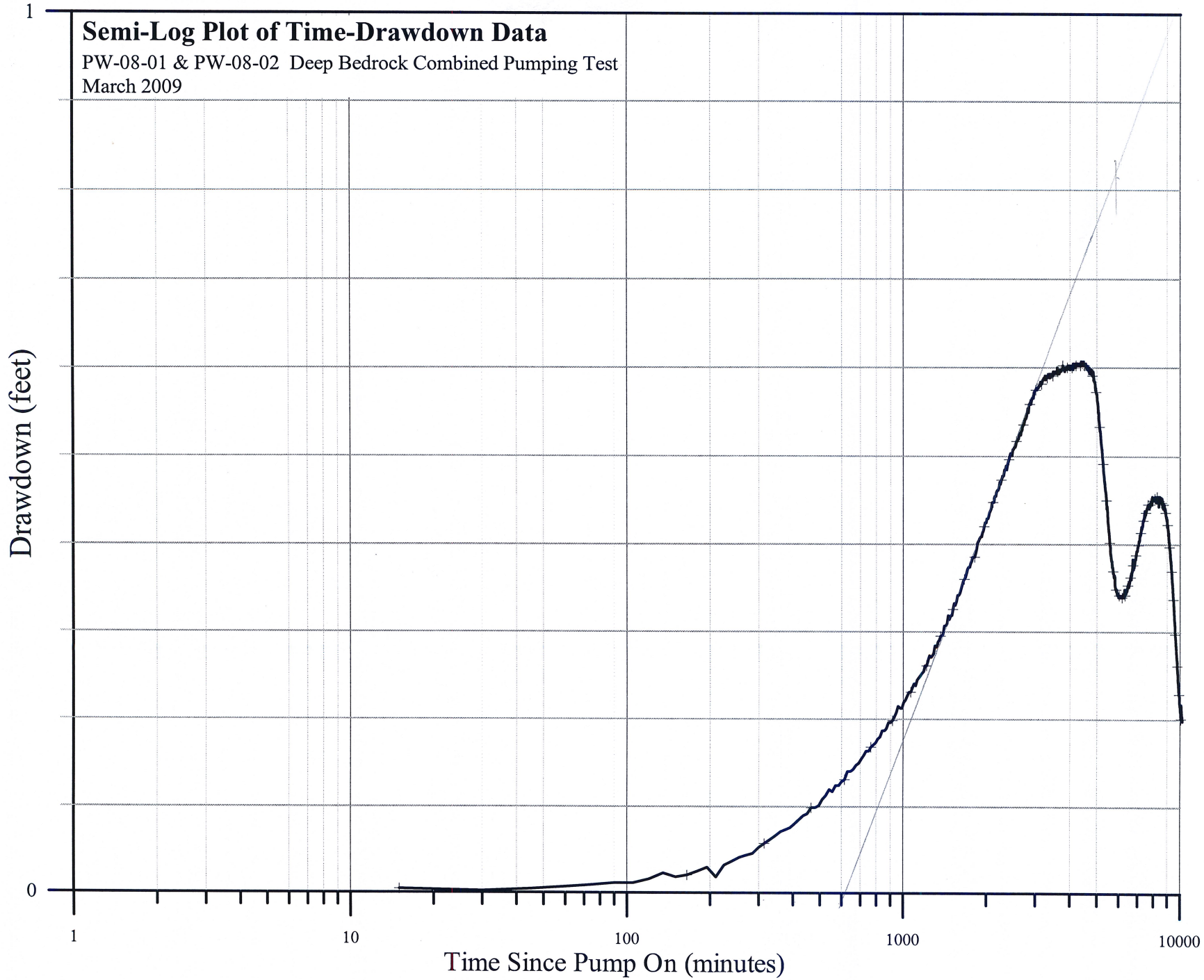
$\Delta S = 0.87$ ft/cyc

MW-06-02



$t_0 = 910$ min

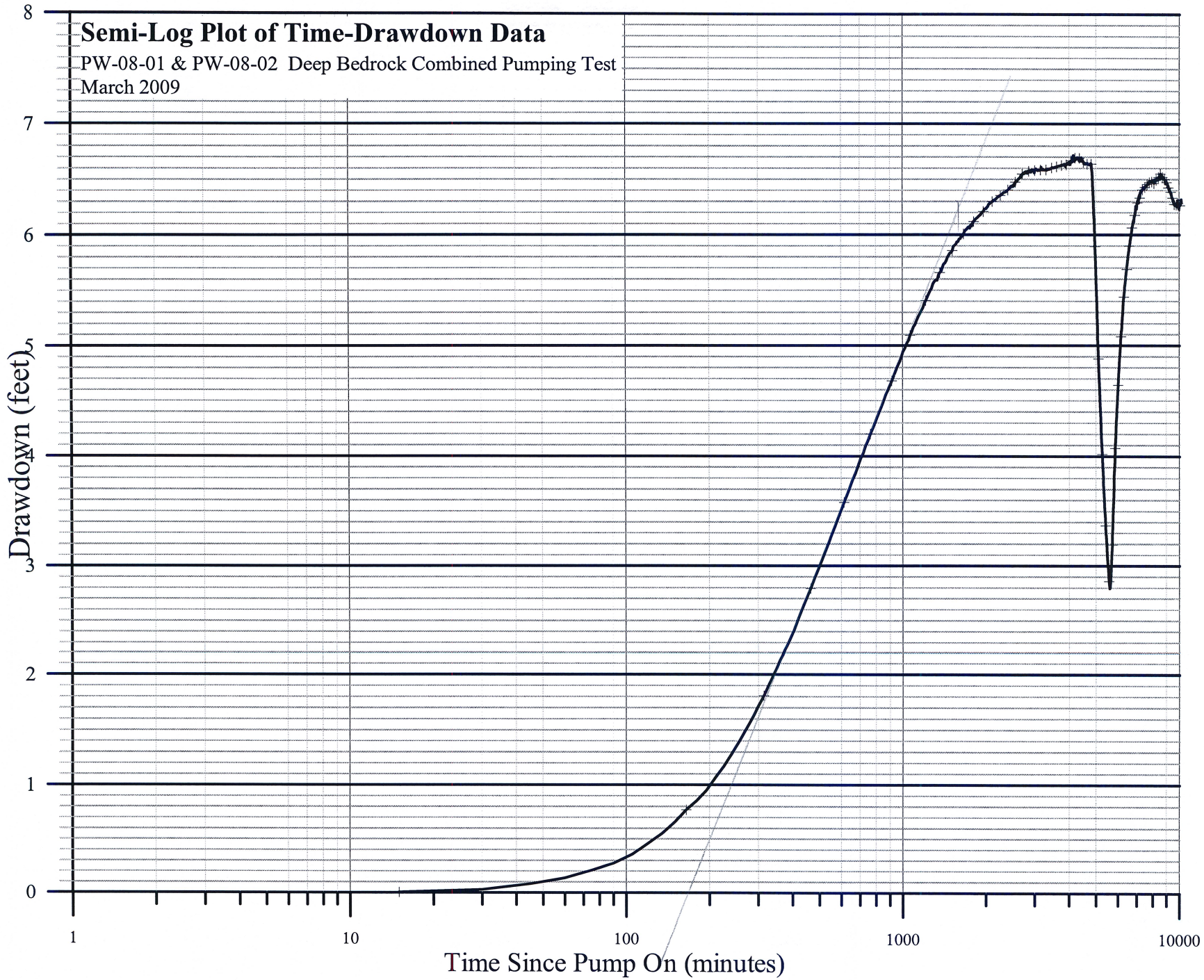
$\Delta S = 0.695$ ft/cy P-04-14A



$t_0 = 610$ min

$\Delta S = 0.82$ ft/cm

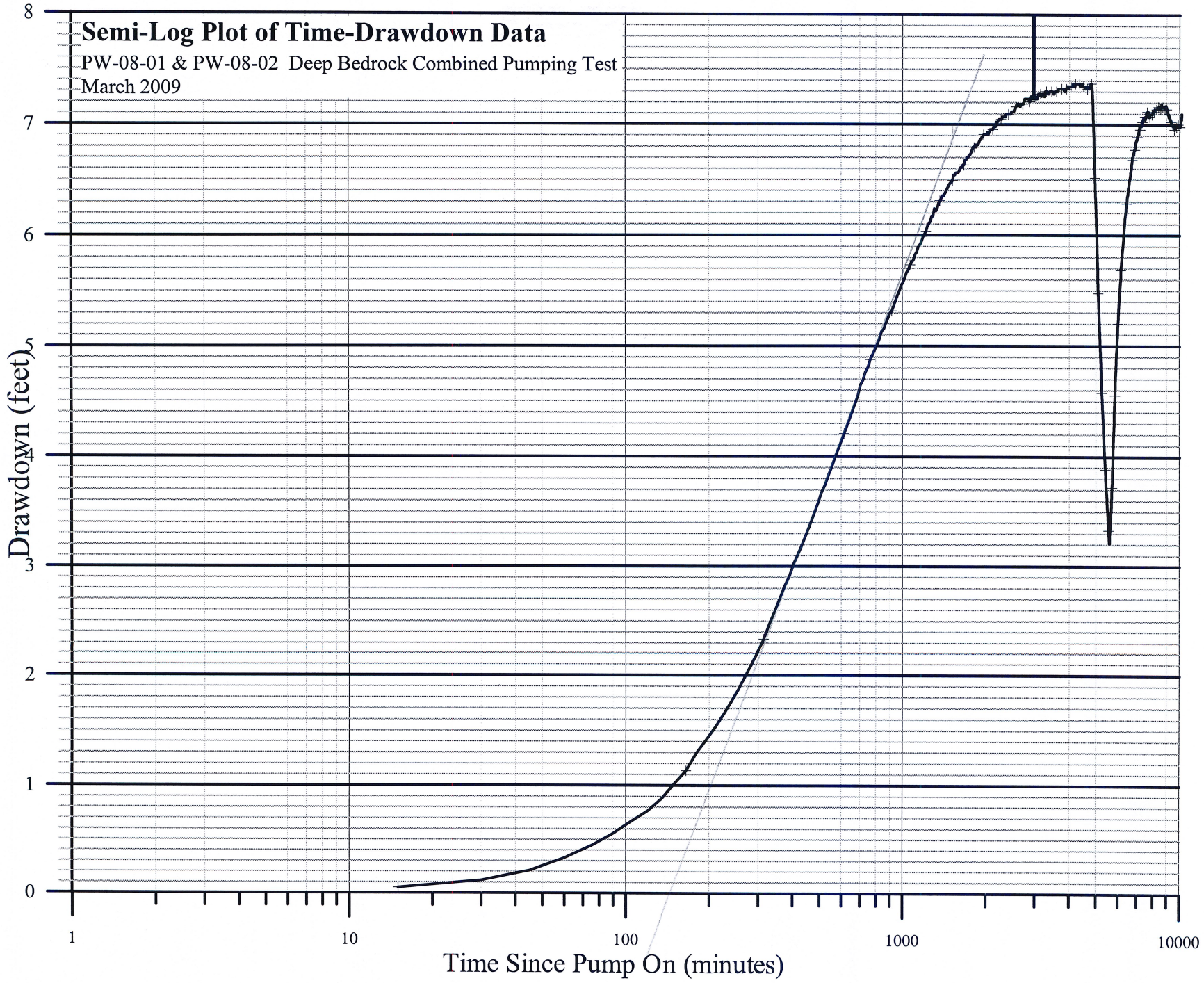
P-04-13A



$t_0 = 170$ min

$\Delta S = 6.45$ ft/cy

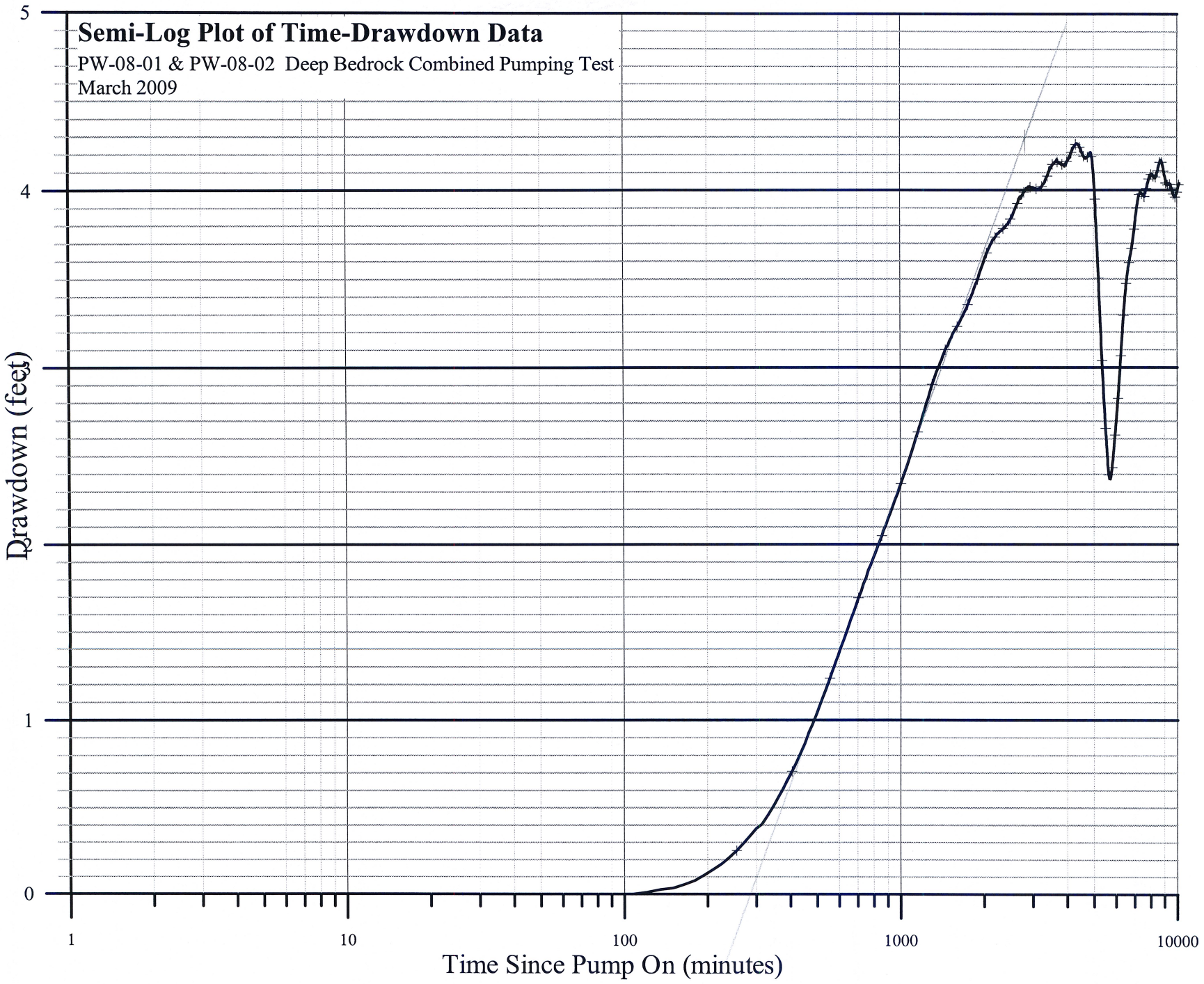
P-04-06A



t_0 = 130 min

ΔS = 6.9 ft/log cycle

P-04-07B



$t_0 = 290$ min

$\Delta s = 4.3$ ft/cycle

PW-08-03

APPENDIX Q

BEDROCK FRACTURE INTERCONNECTIVITY

SME
SEVEE & MAHER
ENGINEERS

BEDROCK FRACTURE INTERCONNECTIVITY

1.0 INTRODUCTION

Bedrock characterization at the Juniper Ridge Landfill (JRL) Expansion site followed multi-disciplinary methodology as outlined in hydrogeologic literature (Shapiro, et al, 1998). The purpose was to develop greater confidence in predicting the groundwater flow behavior in the bedrock by examining fracture interconnectivity. By having a better understanding of how groundwater moves through the bedrock, a groundwater monitoring approach that matches Site-specific conditions has been developed. Furthermore, the evaluation of bedrock characteristics and groundwater movement through the bedrock, which accounts for the observed degree of fracture interconnection, justifies a continuous medium approach for groundwater movement over a regional scale for this Site. The justification of a continuous medium approach justifies simulation of groundwater movement away from the landfill when evaluating potential impacts to sensitive receptors.

2.0 BACKGROUND

A key to the understanding of groundwater flow behavior in fractured bedrock is to define the scale of interest (Domenico and Schwartz, 1998; Bear, 1972; Desbarats and Bachu, 1994). Bedrock fracturing can have a fractal nature, that is, replicating fracture patterns at different scales. This is a result of the forces involved in the creation of the fractures, as well as the rock mineralogy and lithologic structure. Because the way groundwater flows through rock can be described differently depending on the scale of the fracturing, examination at the various geologic scales can be important. For instance, bedrock may behave heterogeneously on small scales, such that an average hydraulic parameter value may not be sufficient to describe the local groundwater behavior. However, due to fracture density and interconnectedness, an average parameter value may be adequate to describe regional groundwater flow behavior in the same rock. Even porous granular media at very small scales (e.g., the scale of individual grains) is

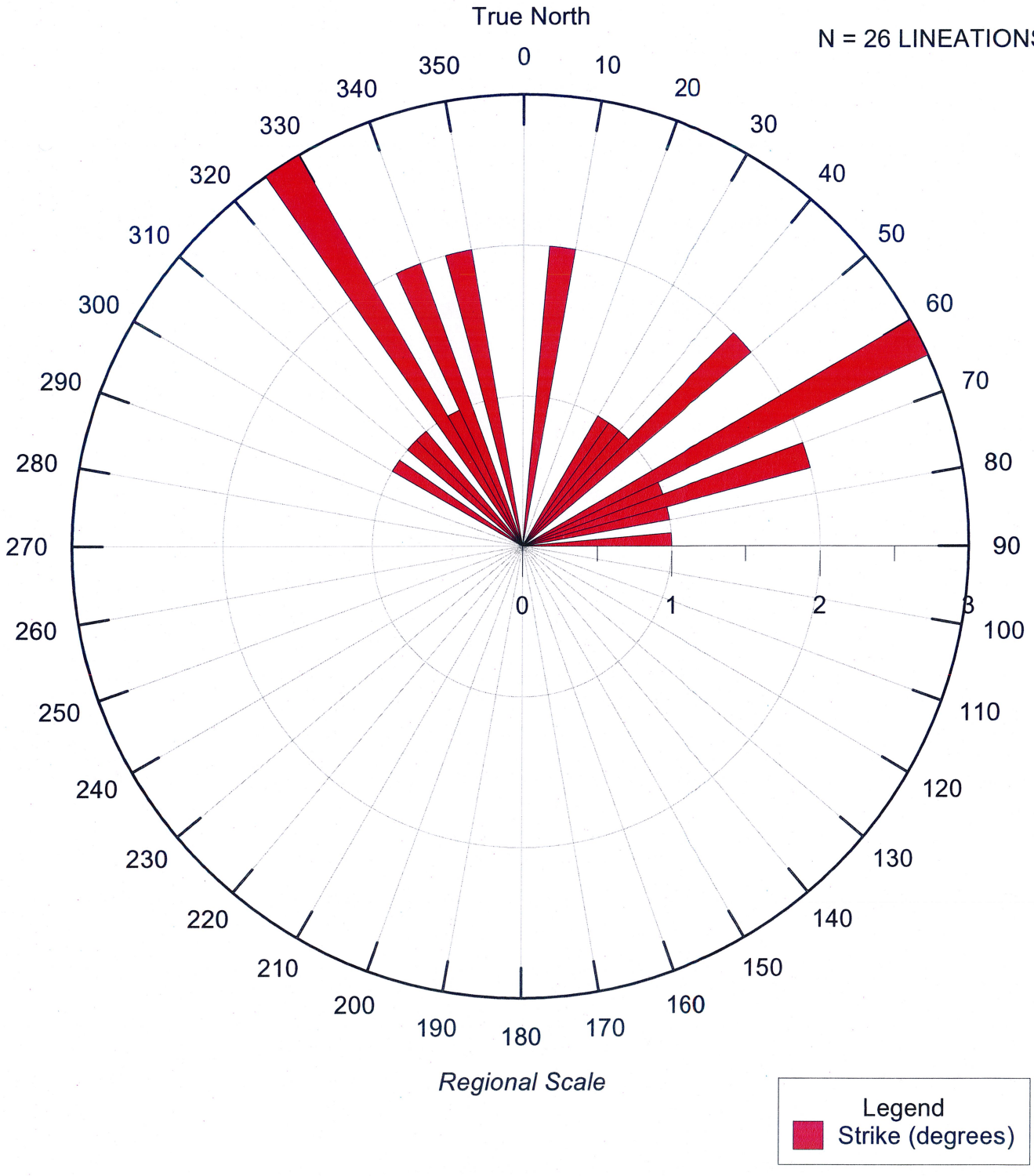
heterogeneous, but on larger, bulk scales (e.g., that of the laboratory or site-wide), a soil is often described with homogeneous or near-homogeneous properties. If there are numerous individual fractures (i.e., dense fracture network) that transmit water and interweave in all directions, then the bedrock will transmit water similar to the pores in a soil.

Data collected on the bedrock fracture characteristics creates a foundation for interpretation of the hydraulic integration or interconnectedness of individual fractures and how groundwater behaves throughout the bedrock formation. This generalized interpretation, based on the detailed fracture studies, can be tested by determining whether it is corroborated and reinforced by the results of groundwater pumping tests and tracer tests conducted within the bedrock. This is essentially the approach taken at the JRL Expansion Site.

3.0 REGIONAL SCALE TO LOCAL SCALE

Investigation of the fractured nature of the bedrock at JRL was implemented on different scales. Fractures that extend for significant distances may be found on the regional scale that are representative of the tectonic evolution of Maine bedrock (Bradley, 1983; Osberg, 1978; Ludman, et al, 1993; Rast and Skehan, 1993). This scale is associated with regional collisions of the continental plates, glacial loading and unloading, earthquakes, earth tides, and other large-scale tectonism. The fractures detectable on a regional scale can be associated with lithologic contacts and faulting. Regional scale fractures can have widths of tens or even hundreds of feet. In order to investigate for such regional fracture zones, aerial photographs of the JRL Expansion were examined for photolineaments. Figure U-1 shows a rose diagram of the orientation of the strikes of the identified photolineaments. From the rose diagram, it is apparent that the predominant strike orientations of the lineaments to the northeast are between N30°E and N80°E relative to True North (12 of 26 photolineaments). The predominant orientations of the photolineaments to the northwest strike between N60°W and N10°W (11 of 26 photolineaments). Because of their regular and nearly orthogonal pattern, these photolineaments

FIGURE U-1
STRIKE OF INTERPRETED PHOTOLINEAMENT FEATURES
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE



are presumably associated with ancient orogenic activities. Photolineament analysis of aerial photographs obtained from high and low altitudes is discussed in Section 3.2.10.

Regional studies can also include inspection of bedrock outcrops over a large region to map lithology. Foliation and bedding patterns, if present, can be recorded on a regional scale to allow for interpretation of folding, formation boundaries, and other structural features in the bedrock. For instance, Griffin, 1976 shows the predominant mineral cleavage (foliation) direction in the finer grained metasediments commonly strikes northeast/southwest for the region around the Expansion site. This cleavage is commonly steeply dipping (i.e., greater than 70 degrees to the northwest).

A more refined step is to examine individual fractures observed in bedrock exposures, bedrock core samples, and borehole geophysical surveys, and compare these to the regional setting (Barton and Hsieh, 1989). Unlike the regional survey, which is largely inferential to a particular location, individual fractures are mapped and examined at the site scale. Compatibility between the regional bedrock geology and the site geology provides a confidence level to formulate a hydraulic model of the bedrock. At the JRL Site, there are clear similarities in lithology, structure, and fracture orientation between the regional and site scales.

4.0 DETAILED DESCRIPTION OF BEDROCK FRACTURE FEATURES AT THE EXPANSION SITE

The following sections discuss the collected Expansion site bedrock fracture information: (1) the orientations of fractures, (2) the fracture spacing and density, (3) the fracture lengths, and (4) the ability of the fractures to transmit water. Site-specific information includes bedrock fracture feature measurements collected from five bedrock outcrops, four deep (i.e., 200 feet into bedrock) boreholes at different locations across the proposed Expansion, and bedrock cores collected from borings within the Expansion.

4.1 Bedrock Fracture Orientations

The orientations (i.e., strike and dip) of a few hundred bedrock fractures were measured at bedrock outcrops and through oriented-downhole geophysical logging. The measurements were accumulated and plotted on the rose diagram shown on Figure U-2. Figure U-2 includes strikes from outcrops OC-1, OC-2, OC-3, and OC-AG and boreholes PW-08-01, PW-08-02, PW-08-03, and PW-08-04. The results show that fracture orientations are essentially striking in all azimuthal directions with predominant fracture sets trending to the northeast/southwest and northwest/southeast. Approximately 48 percent of the measurements are striking between N25°E and N70°E. There is a less prominent fracture orientation set to the northwest striking between N75°W and N15°W. These two principal fracture sets agree with the regional photolineament mapping summarized in Figure U-1. The rose diagram in Figure U-2 also shows other less frequent orientations of bedrock fractures. These multiple fracture strikes facilitate interconnection of fractures across the site.

Dips are widely distributed, with a dominant frequency dipping steeply between 70° and 85°. This is particularly evident with the prominent fracture set to the northeast, where dip directions are split roughly even between southeast and northwest. This variation in dip direction facilitates the interconnection of fractures across the site.

Bedrock outcrop OC-AG was selected for detailed mapping of all observed fractures greater than one foot in length within a 6-foot by 4-foot area. Strikes and dips of fractures measured at outcrop OC-AG are shown on Figure U-3 and results from its study are discussed in Section 3.2.11. Eighty-one bedrock fracture orientations from the 6-foot by 4-foot area of outcrop OC-AG and supplemental fracture orientations located elsewhere on an expanded area of the same outcrop are plotted on the rose diagram shown on Figure U-3. The rose diagram in Figure U-3 also shows other, less-frequent, oriented bedrock fractures. The results show a fairly wide distribution of bedrock fracture orientations with notable trends of near orthogonal fracture sets to the northeast (striking between N35°E and N70°E) and to the northwest (striking between

FIGURE U-2
STRIKE AND DIP OF MEASURED FRACTURES AT OUTCROPS
OC-1, OC-2, OC-3, & OC-AG, AND BOREHOLES AT
PW-08-01, PW-08-02, PW-08-03, & PW-08-04
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

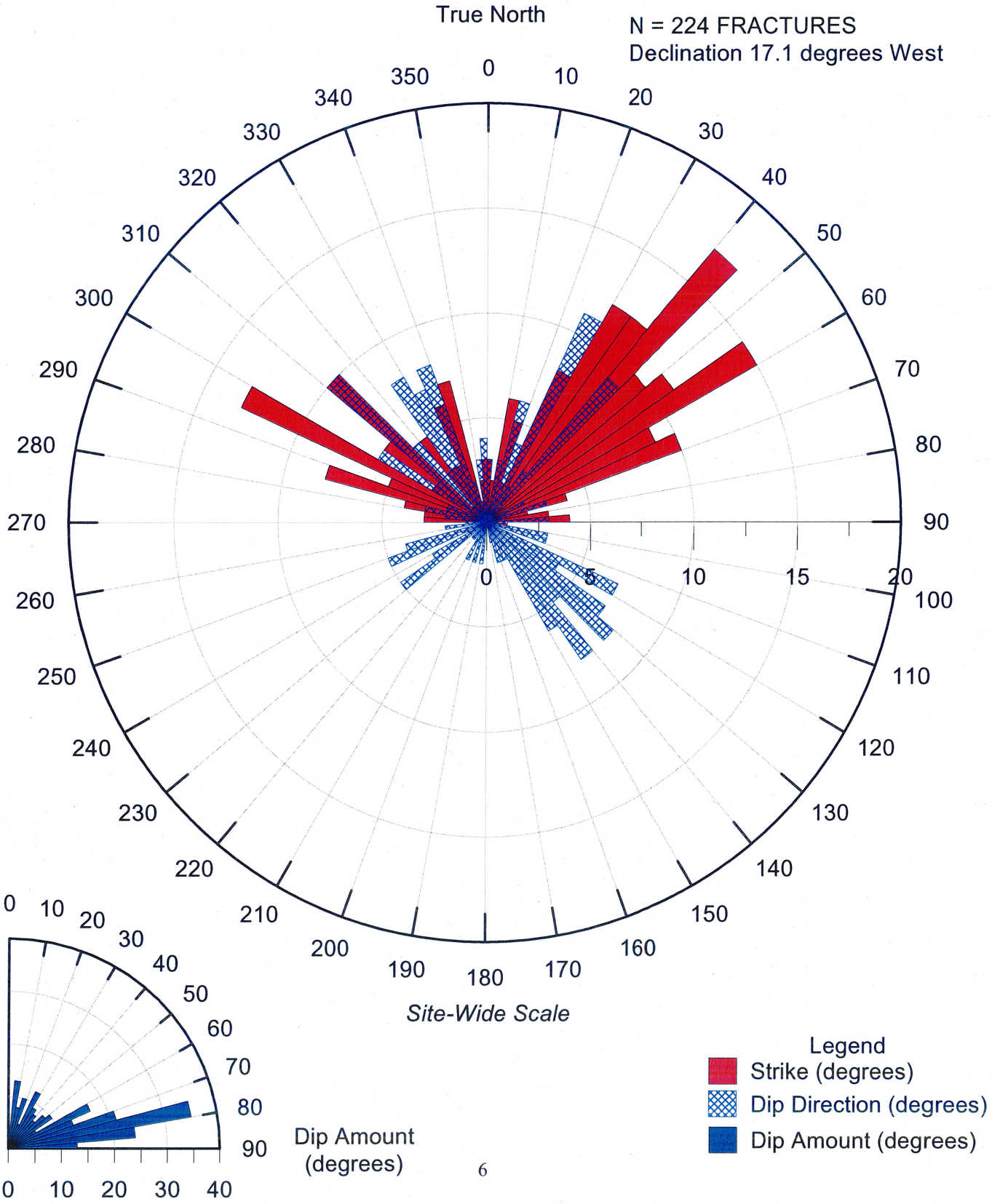
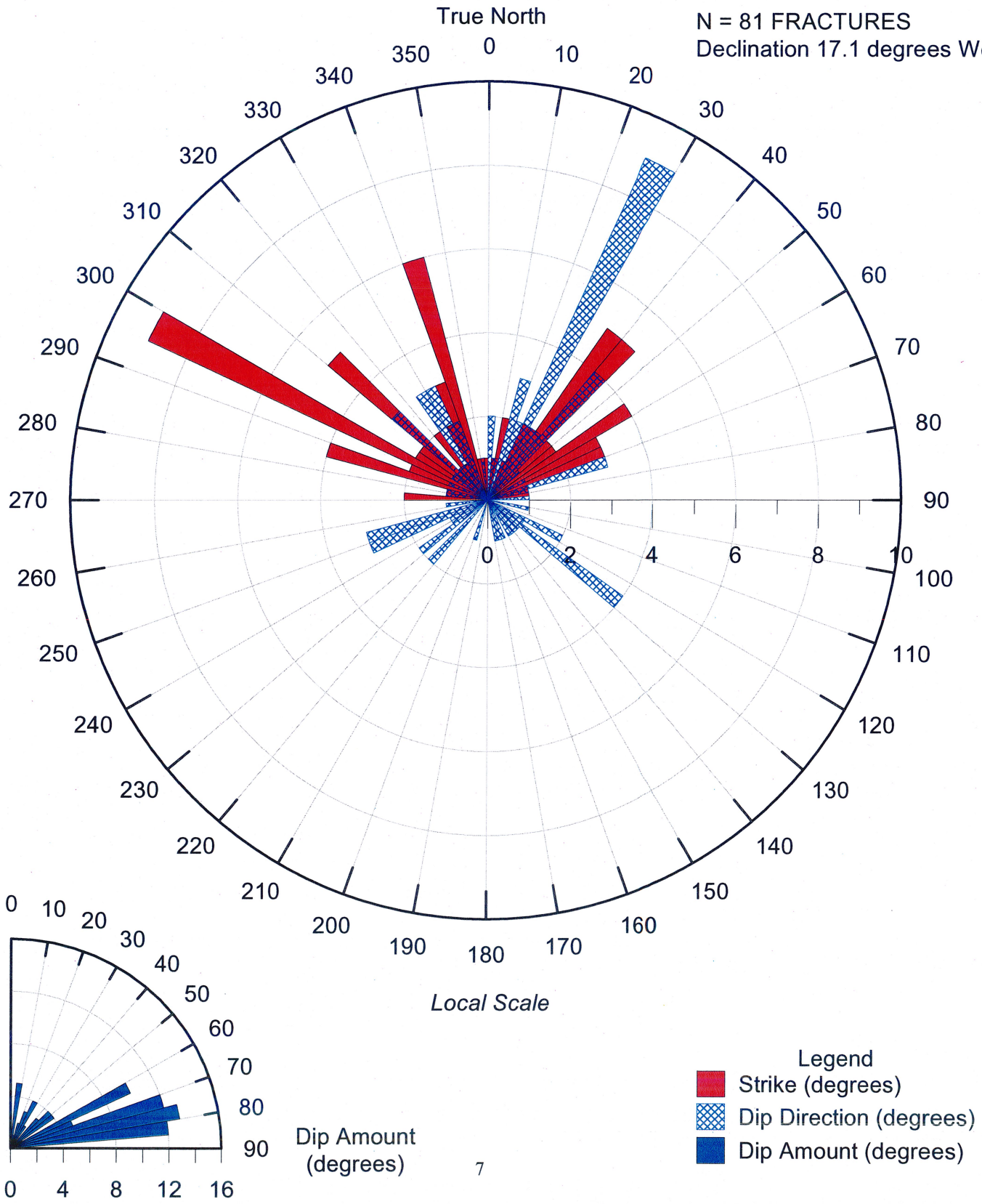


FIGURE U-3
STRIKE AND DIP OF MEASURED FRACTURES AT OUTCROP OC-AG
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE



N75°W and N15°W). The predominant trend to the northeast is not as strong in the data collected at outcrop OC-AG as it is at other locations or scales. This is presumably due to the northeast orientation of the outcrop (N42°E), which created a bias toward the fractures intersecting the outcrop face. Fracture dips at outcrop OC-AG are typically steep (i.e., between 60° and 85°).

The bedrock fracture orientations were identified and measured in PW-08-01, PW-08-02, PW-08-03, and PW-08-04 using optical televiewer images. These televiewer images are included in Appendix F. Since the bedrock fractures were identified indirectly, they should be considered as interpreted fractures. For the same reason, a number of fractures may have been missed in the interpretation, especially fractures with small apertures parallel to the planes of mineral foliation. The bedrock fracture orientations measured in PW-08-01, PW-08-02, PW-08-03, and PW-08-04 were each plotted on rose diagrams which are displayed on Figures U-4, U-5, U-6, and U-7, respectively. The bedrock fracture orientations at all four locations show a predominant fracture set to the northeast, ranging approximately between N25°E and N70°E.

Comparison of the regional photolineaments and local scale fracture orientations shows general support for the finding that there is a dominant fracture set oriented to the northeast/southwest, an approximately orthogonal secondary fracture set oriented to the northwest/southeast, as well as a wide distribution of less frequently oriented bedrock fractures.

It should be noted that while the compiled measurements are indicative of two principal, steeply dipping fracture sets, these two sets are comprised of fractures with varying orientation. For example, the northwest/southeast fracture set has an azimuth range of approximately 60°. Fractures within this set also vary in dip amount and dip direction. An example of this is shown on photographs of outcrop OC-AG in Figures U-8 and U-9. The two fracture planes shown cutting into this outcrop are striking N18°W (left fracture) and N65°W (right fracture). Hence, while these two northwest striking fracture planes have been grouped as part of the

FIGURE U-4
STRIKE AND DIP OF MEASURED FRACTURES
AT BOREHOLE PW-08-01
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

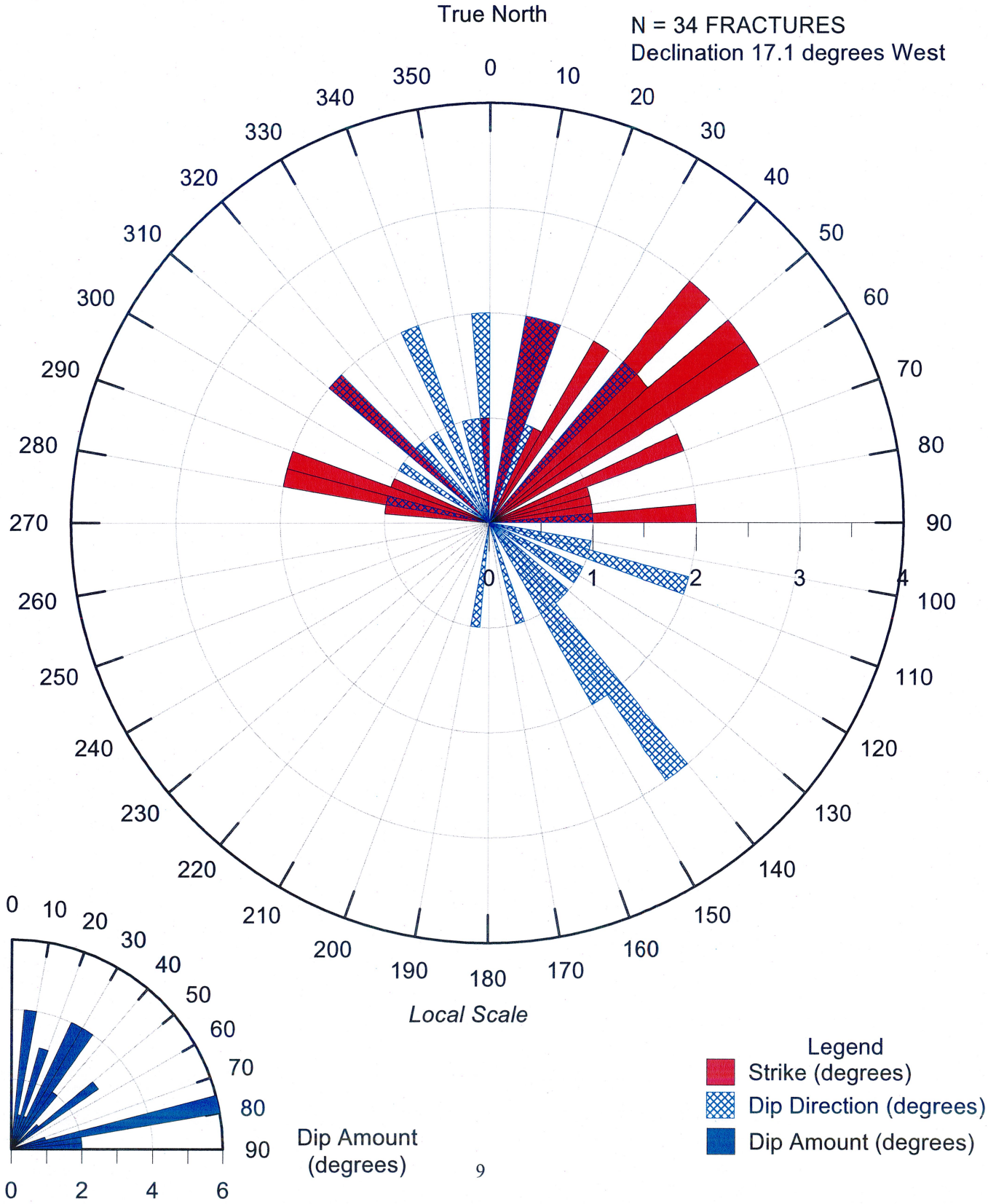


FIGURE U-5
STRIKE AND DIP OF MEASURED FRACTURES
AT BOREHOLE PW-08-02
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

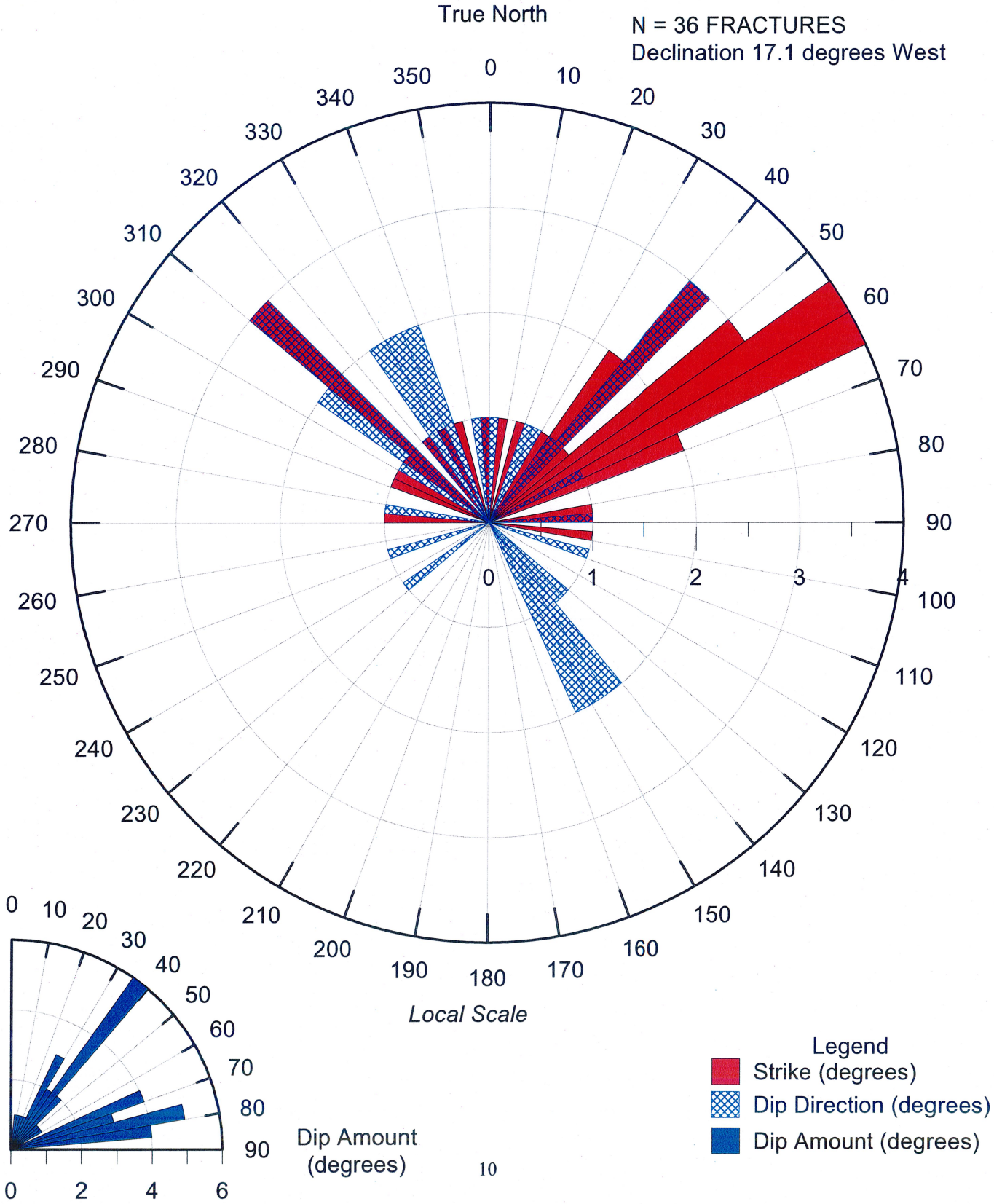


FIGURE U-6
STRIKE AND DIP OF MEASURED FRACTURES
AT BOREHOLE PW-08-03
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

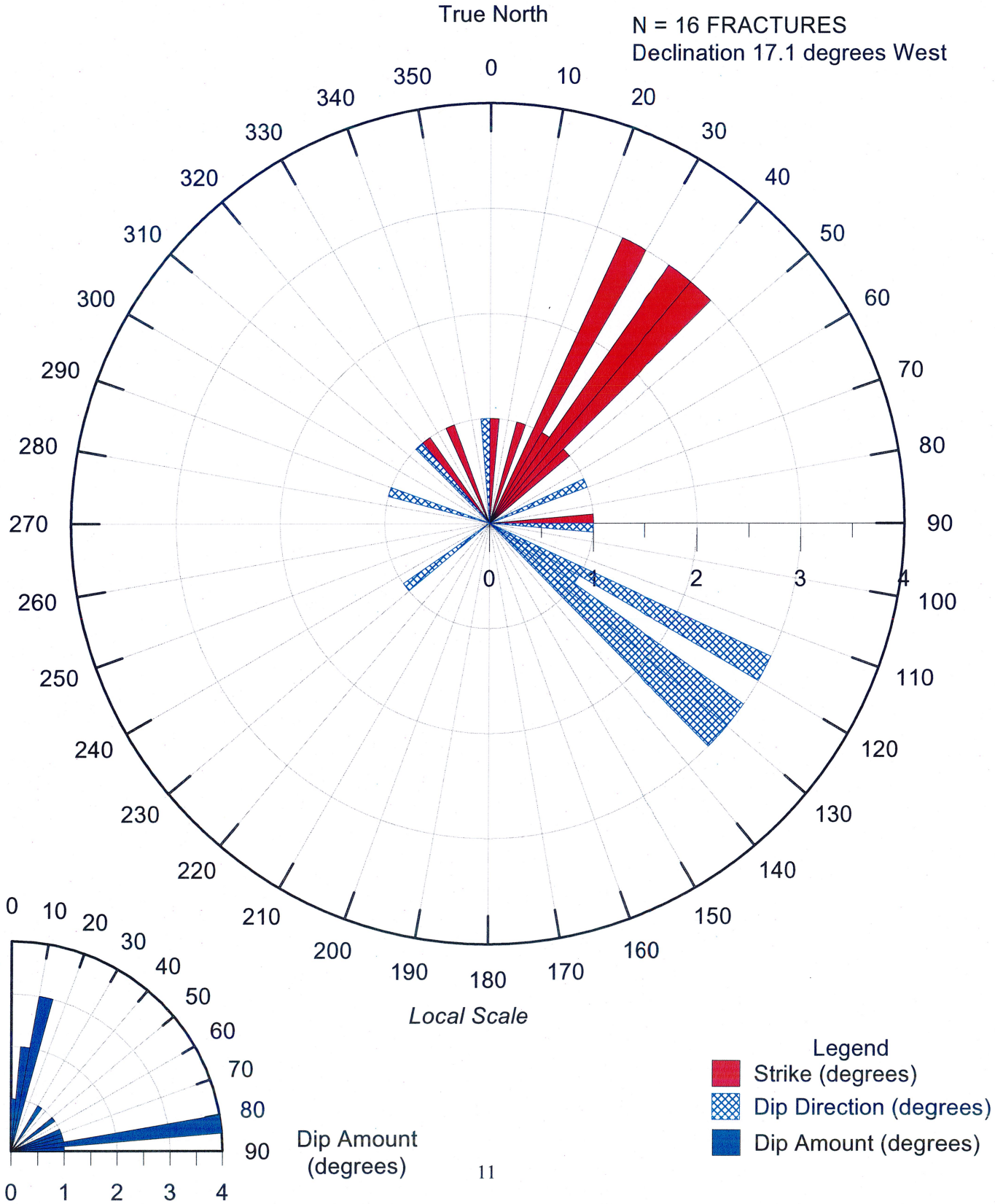
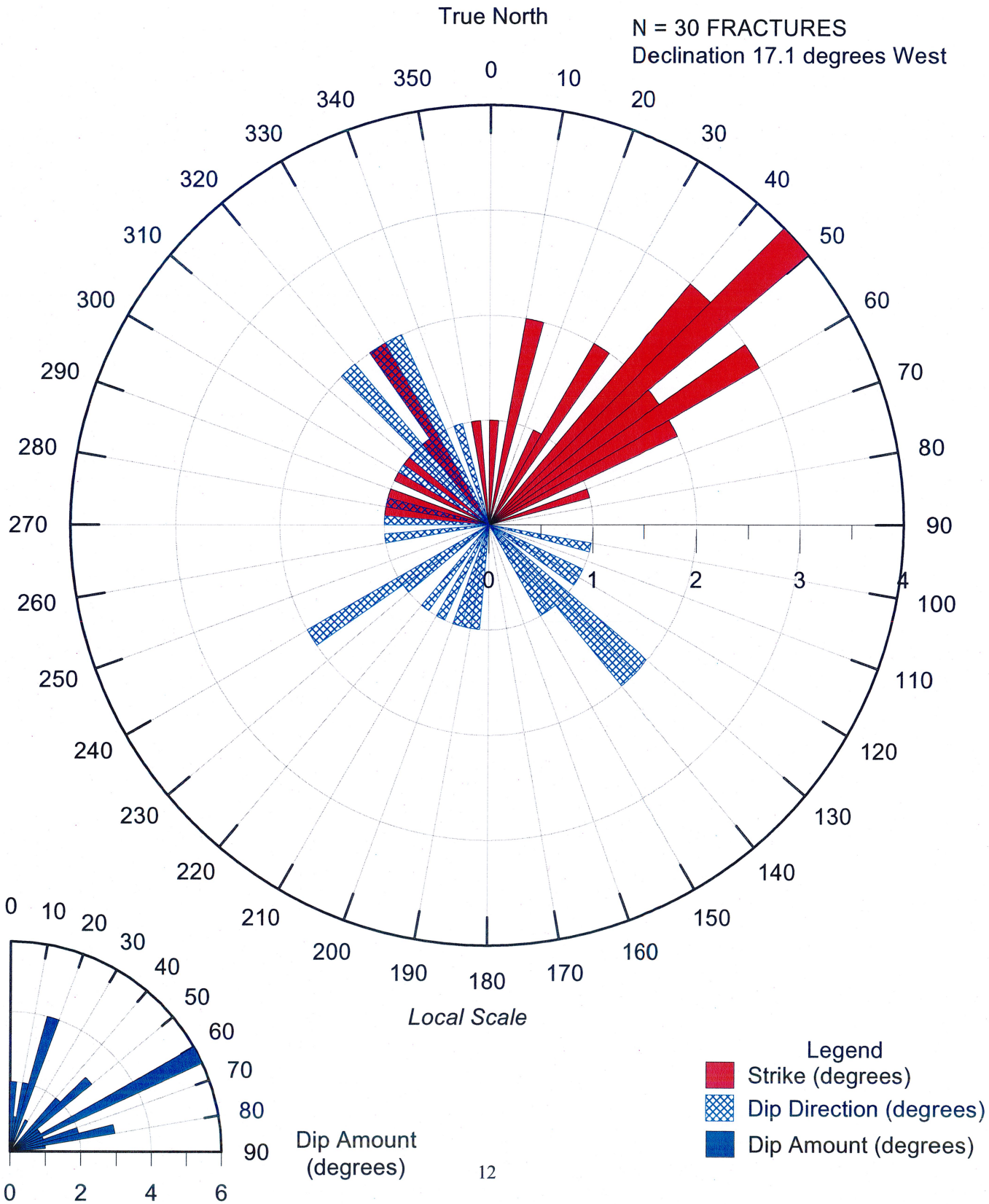


FIGURE U-7
STRIKE AND DIP OF MEASURED FRACTURES
AT BOREHOLE PW-08-04
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE



northwest/southeast set of fractures, a detailed inspection shows that they are interconnected both through their variations in strike and dip. Similarly, the most prominent trend of northeast oriented bedrock fractures has an azimuth range of approximately 45° with a near equal split of easterly and westerly dip directions. This "fanning" of fractures within a set and the different dip directions enhance the interconnection of the bedrock fractures and the ability of groundwater moving along one bedrock fracture and into another to follow the local hydraulic gradient. Add to this feature the intersection of the many fractures in two nearly orthogonal fracture sets and fracture interconnection becomes inevitable.

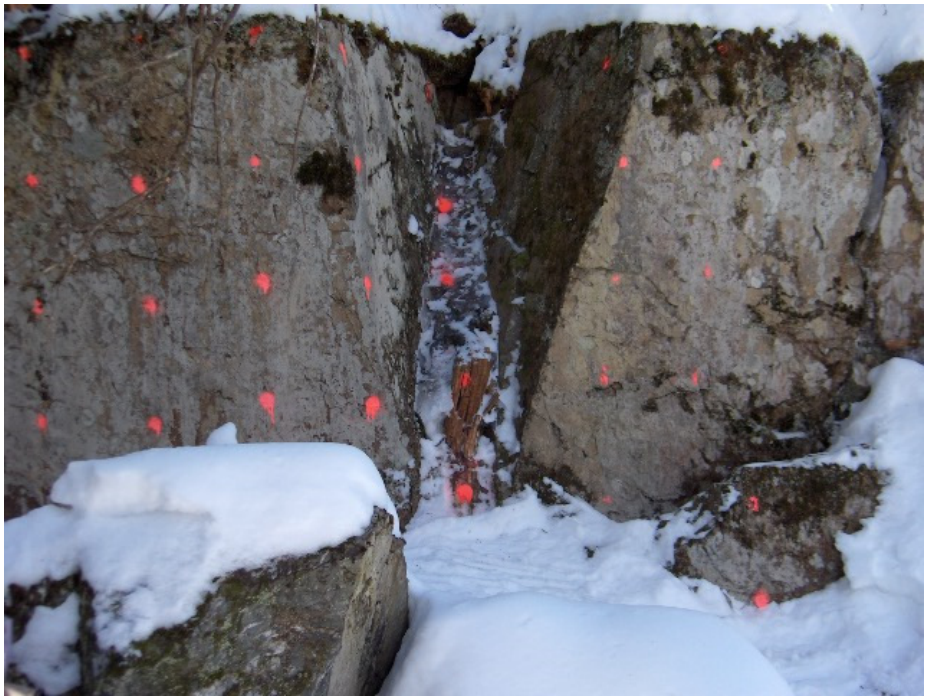


FIGURE U-8

TWO NORTHWEST STRIKING FRACTURES WITH A 47° ORIENTATION DIFFERENCE DIPPING STEEPLY IN OPPOSITE DIRECTIONS. THE OUTCROP FACE IS ROUGHLY STRIKING N42°E.



FIGURE U-9

CLOSE-UP OF SAME AREA SHOWING THE INTERSECTION OF THE NORTHWEST STRIKING FRACTURES WITH TWO CLOSELY SPACED NORTHEAST STRIKING FRACTURES.

4.2 Bedrock Fracture Spacing and Density

Bedrock fracture spacing was measured directly at bedrock outcrop OC-AG and within bedrock cores. Bedrock fracture spacing was also measured indirectly at the four bedrock boreholes logged with the downhole optical televiewer.

At outcrop OC-AG, mean bedrock fracture spacing was analyzed by transecting the outcrop with three straight vertical lines and two straight horizontal lines (see Figure 3-3 in Section 3.2.11) and counting the number of fractures crossing the lines. The mean spacing was calculated by dividing the line lengths by the number of transecting bedrock fractures. The mean fracture spacing for each line ranged from 0.22 to 0.55 feet, with an overall mean of 0.39 feet. Sixty-seven bedrock fractures with lengths greater than one foot were identified in the 6-foot by 4-foot

detailed study area at outcrop OC-AG. Thus, the density of bedrock fractures greater than one foot in length in this area is about 2.8 fractures per square foot.

The spacing of naturally occurring fractures was measured in bedrock cores. The bedrock cores are from vertically oriented borings identified as B-04-07, B-04-12, B-04-13, and B-04-14. Continuous bedrock core samples up to a depth of approximately 100 feet below the bedrock surface were observed for each of the four borings. Visible staining along the fractures provides an indication of continuous water movement within the fracture systems. The fracture spacings were plotted versus the depths at which they were identified, as illustrated in Figure U-10. Figure U-11 shows the fracture spacings to be log-normally distributed for the bedrock cores. The fracture spacings are occasionally clustered, but on a whole tend to be relatively consistent to a depth of 80 feet below the bedrock surface. More fractures appear to occur near the surface where weathering and glacial ice effects are the greatest. A significant decrease in bedrock fracture spacing was observed in all four core holes from approximately 80 feet to 100 feet below the bedrock surface. The mean fracture spacings calculated from bedrock core samples collected at boring locations B-04-07, B-04-12, B-04-13, and B-04-14 were 1.2 feet, 1.2 feet, 0.8 feet, and 0.8 feet, respectively. These mean fracture spacings are slightly greater than for OC-AC, possibly due to weathering which can enhance the degree of fracturing in an outcrop.

Bedrock fractures were identified in boreholes at the four six-inch diameter bedrock wells using optical televiewer images. Each boring extends approximately 200 feet into bedrock. These images are included as part of Appendix F. Again, since the bedrock fractures were identified indirectly, they should be considered as interpreted fractures. Fractures with small apertures may have been missed in the interpretation, especially seams along the planes of mineral foliation. Often with images, it is difficult to distinguish fractures from lithologic boundaries, calcite and quartz fillings, and drill bit marks. Only those features that could be confidently identified as an opening were included for the geophysical logging. The calculated mean fracture spacing at bedrock boreholes at PW-08-01, PW-08-02, PW-08-03, and PW-08-04 were 4.8 feet, 5.1 feet,

FIGURE U-10
FRACTURE SPACING VERSUS DEPTH BELOW SURFACE OF BEDROCK BASED ON BEDROCK CORE SAMPLES FROM BORINGS B-04-07, B-04-12, B-04-13, AND B-04-14
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

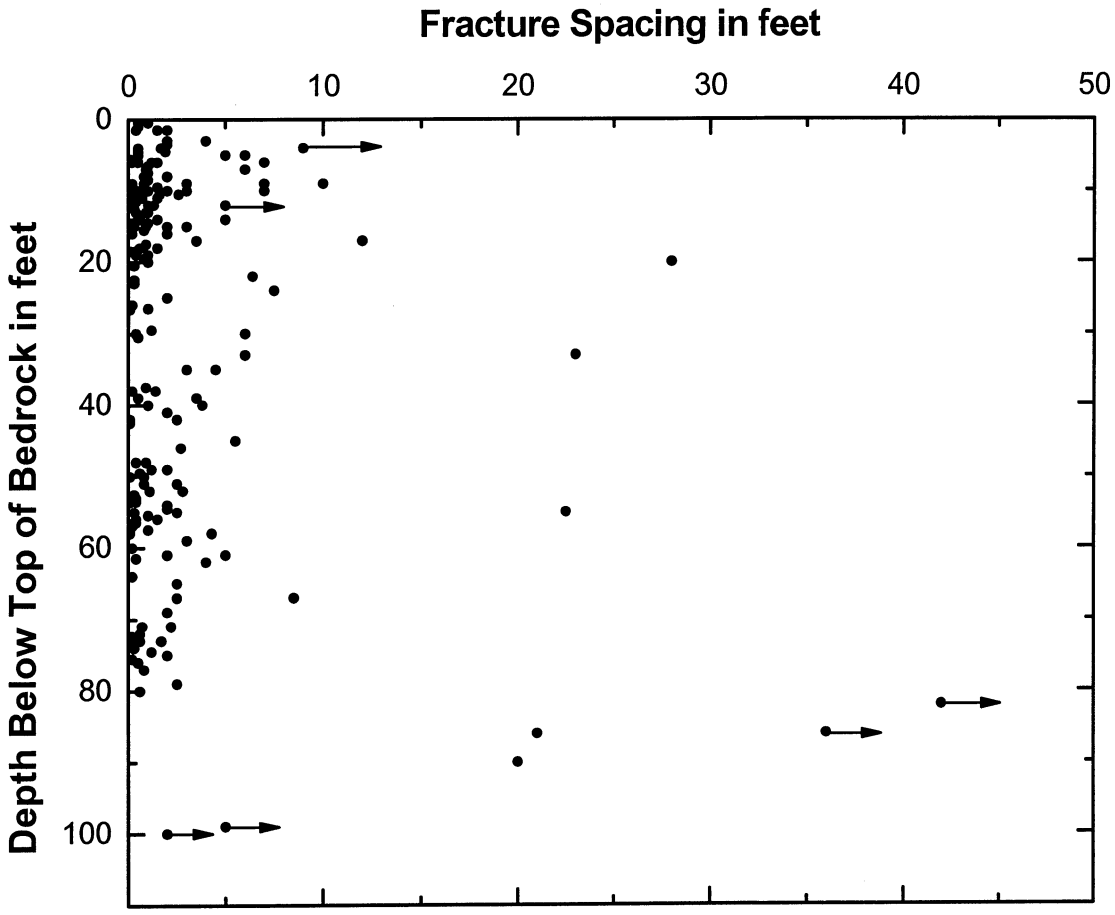
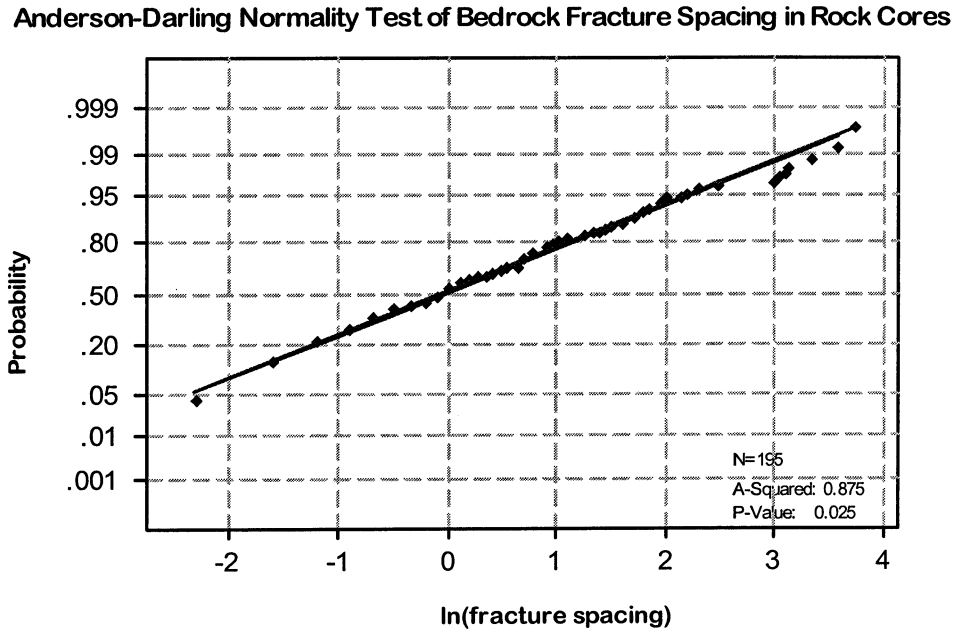


FIGURE U-11
ANDERSON-DARLING NORMALITY TEST OF BEDROCK FRACTURE SPACING IN ROCK CORES AT BORINGS B-04-07, B-04-12, B-04-13, AND B-04-14
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE



8.5 feet, and 5.3 feet, respectively. These spacings are greater than for the cores and outcrop OC-AG.

As a generalization, fracture spacing is in the order of a few tenths of a foot to a few feet. This range is a small fraction of the landfill Expansion footprint and SPO site. It's important to recognize that these fracture spacings ignore the individual fracture orientations. However, this does not effect our evaluation of fracture interconnection since the fracture density is so great.

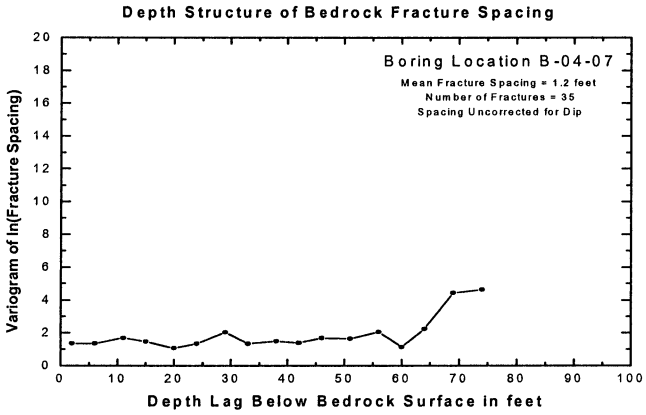
To examine structure of the fracture spacing, the measured bedrock core fracture spacings were plotted on a variogram (Kitanidis, 1993; deMarsily, 1985). Figure U-12 represents variograms of the fracture spacings with depth used as the parameter for each of the four bedrock core borings. This figure shows that there is variability of fracture spacing with depth, suggesting some fracture clustering. This is consistent with the bedrock electrical resistivity profiles, which show resistivity variability in the bedrock, both with depth and horizontally. It is not unexpected that fracture densities vary over the rock mass. Local increases in fracture density will locally increase bedrock hydraulic conductivity, but since the average fracture spacings are relatively close, fracture density variability should not affect bulk fracture interconnectivity.

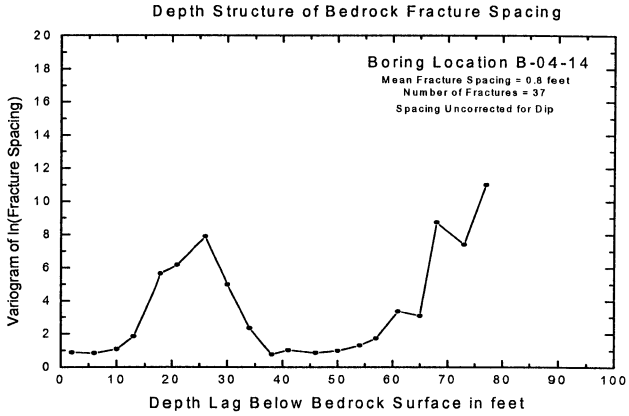
4.3 Bedrock Fracture Lengths

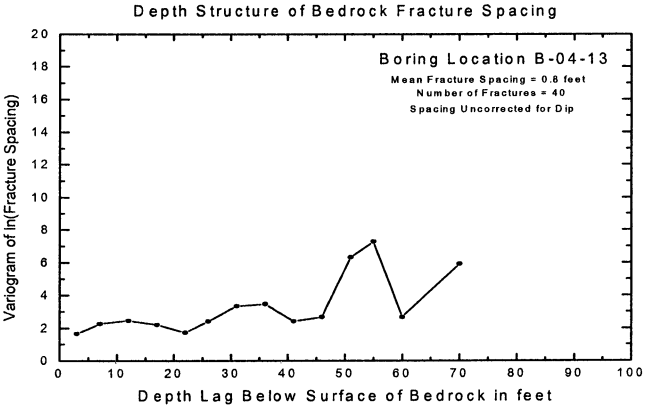
Bedrock fracture lengths were measured as part of detailed mapping of outcrop OC-AG. Sixty-seven bedrock fractures were identified in this area that were equal to or greater than 1 foot in length. The lengths of the fractures are illustrated on a histogram in Figure U-13. The fracture lengths in the 4-foot by 6-foot area ranged from less than 1 foot to greater than 5 feet. The mean fracture length was estimated to be approximately two feet. The maximum measured fractured length for the entire outcrop was about 21 feet.

The fracture lengths at bedrock outcrops OC-1, OC-2, OC-3, and OC-4 were not specifically measured, but many fracture lengths exceed the size of the exposed bedrock outcrops (SME,

FIGURE U-12
VARIOGRAM OF FRACTURE SPACING OF ROCK CORES
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE







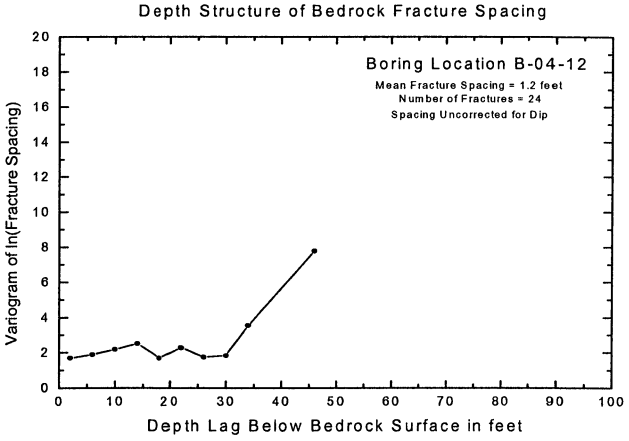
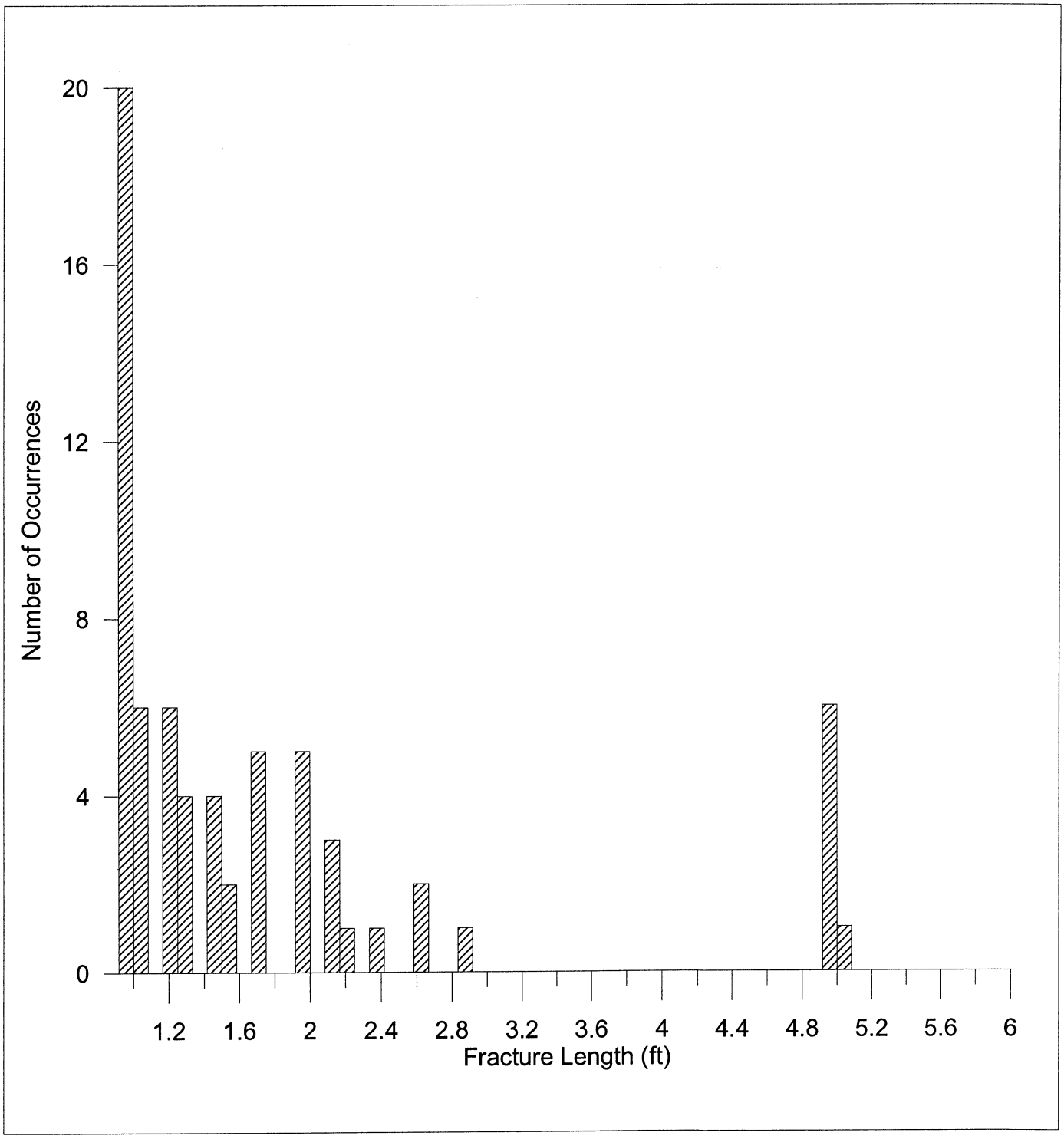


FIGURE U-13
HISTOGRAM OF BEDROCK FRACTURE
LENGTHS MEASURED AT OUTCROP OC-AG
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE



N = 67 FRACTURES

1991). This is true for both the principal fracture set striking northeast/southwest and the fracture set striking northwest/southeast. Fracture lengths of up to 20 feet were observed. Thus, there are fractures with lengths that well exceed the average fracture spacing. Therefore, a significant degree of fracture intersection is expected (Long, et al, 1982).

4.4 Permeability of Bedrock Fractures

Proof of the hydraulic capabilities of the bedrock fractures was demonstrated through the following methods:

- Slug Tests. Slug tests were performed at twenty-four bedrock monitoring wells or piezometers in order to estimate the hydraulic conductivities of the bedrock fractures at those locations. This testing showed how groups of multiple fractures allowed for the movement of water.

- Downhole Flowmeter Measurements. Flowmeter measurements were made as part of the downhole geophysical logging of PW-08-01, PW-08-02, PW-08-03, and PW-08-04. These measurements demonstrated individual fracture flow.

- Pump Tests. Pump tests were performed at PW-08-01, PW-08-02, PW-08-03, PW-08-04, and MW-06-02. The drawdowns of groundwater levels at varying distances required groundwater to flow from those remote fractures towards the pumping well.

4.5 Summary

These data collected for individual fractures demonstrate a significant degree of fracture interconnectedness. Fracture orientations are extremely variable leading to many fracture intersections. Fracture lengths are greater than fracture spacings, indicating that fracture intersections must occur. Finally, fractures are open and capable of transmitting groundwater.

5.0 PUMP TEST PROOF OF BEDROCK FRACTURE INTERCONNECTIVITY

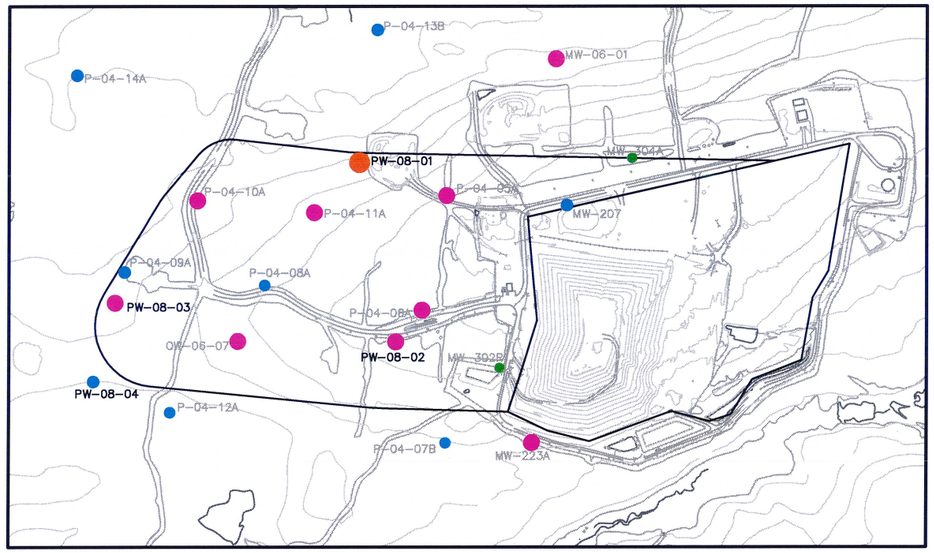
There appear to be greater fracture lengths in the northeast/southwest striking fracture set than in the northwest/southeast fracture set. This observation by itself can suggest a greater bulk bedrock hydraulic conductivity to the northeast/southwest than in other directions. Fracture spacing is in the order of a few feet or less, which when combined with fracture lengths of tens of feet, allows for frequent fracture intersections. Conceptually, because there are two sets of nearly orthogonal fractures, dipping at various angles from the horizontal, some fractures of both sets will be interconnected. There are frequent fracture intersections or interconnections based on visual evidence at the bedrock outcrops. Although there may be preferential pathways along the fracture set orientations (i.e., northeast/southwest and northwest/southeast), groundwater seepage through the bedrock in other directions, over site-wide scales, appears possible based on the available information documenting observed fractures from bedrock outcrops, cores, and downhole geophysical logging. This was confirmed by the pump testing. Groundwater pump tests were conducted at pump wells PW-08-01, PW-08-02, PW-08-03, and PW-08-04 between January 2009 and April 2009, and at monitoring well MW-06-02 in July 2006. The details of the pump test operations are discussed in Section 3.2.9 and Section 3.2.13.

The pump tests were invaluable in confirming the fracture integration and interconnectivity suggested by the bedrock fracture mapping. In addition, it confirmed the value of the earth resistivity survey, which was useful in locating zones of higher rock fracture density or frequency. Thus, it demonstrated the value of this technique if, in the future, additional bedrock

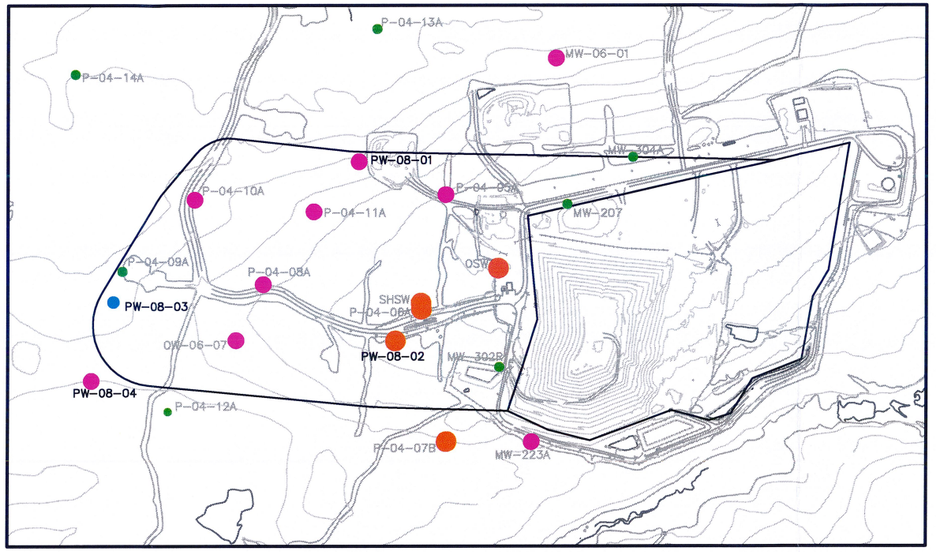
wells need to be drilled into areas of the rock where fractures are likely to be present. Because of fracture interconnectivity, the pumping tests demonstrated that drawdown of groundwater extended up to 2,000 feet away from the pumping well depending on the pumping rates. This degree of drawdown allowed downward groundwater leakage to occur into the bedrock from the overlying glacial till. Although temporary, this till leakage was able to balance the groundwater extraction rates in the bedrock pumping wells because of the integrated fracture system and was able to satisfy the demand of the wells, at least in the short-term of the pumping period.

Bedrock groundwater drawdowns are illustrated by ranges at the end of each short-term pump test and at the end of the long-term combined pump test in Figure U-14 and Figure U-15, respectively. Spatial distribution of the groundwater drawdown across the site at the bedrock monitoring locations signifies that bedrock fractures are hydraulically interconnected throughout the Expansion footprint. During the long-term combined pump test, groundwater drawdown of several feet was observed in multiple groundwater monitoring locations ranging from approximately 1,100 feet to 2,300 feet from the pumping locations and in multiple radial directions from the pumping wells. Closer to the pumping wells groundwater drawdowns of tens of feet were observed in several wells. Drawdown of groundwater levels at distance from the pumping wells demonstrates interconnection of fractures between the pumping wells and observation wells. Drawdowns generally decreased with distance from the pumping wells. This behavior is consistent with typical continuum aquifer hydraulics. In all tests, there are some monitoring locations in bedrock that have little to no observable drawdown. This is a sign that there are some smaller isolated bedrock fracture networks.

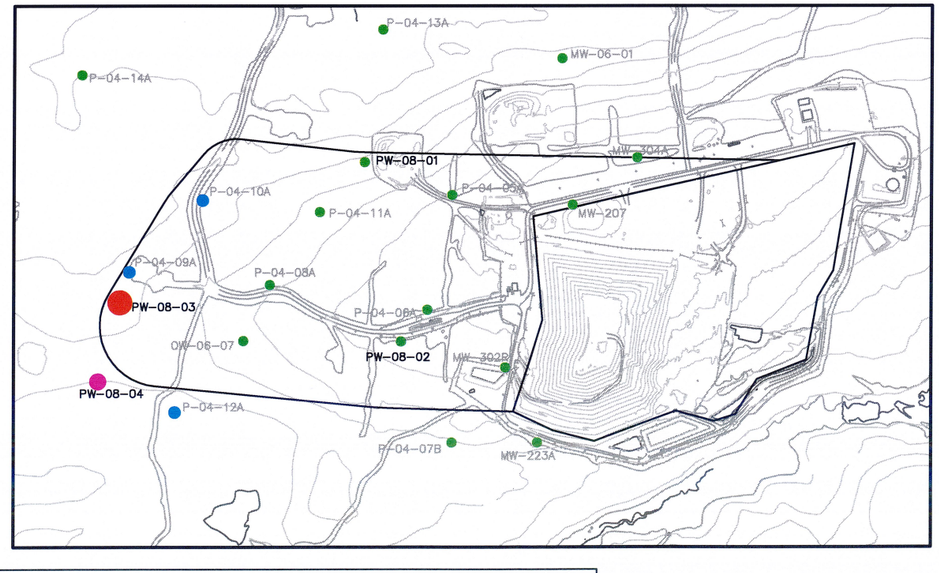
PW-08-01
24-HOUR PUMP TEST
JAN 29, 2009 TO JAN 30, 2009
AVERAGE 96 gpm



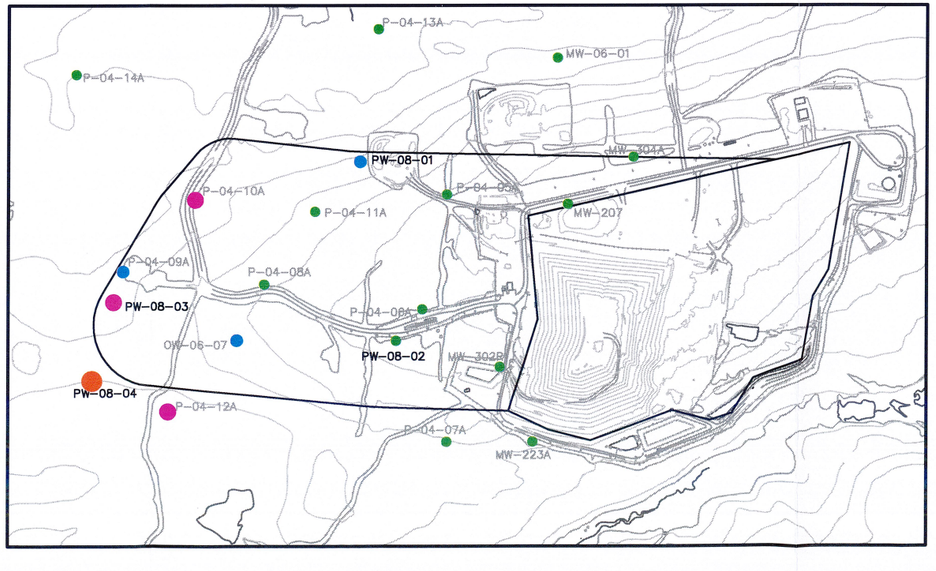
PW-08-02
50-HOUR PUMP TEST
MARCH 17, 2009 TO MARCH 19, 2009
AVERAGE 93 gpm



PW-08-03
26.5-HOUR PUMP TEST
FEB 5, 2009 TO FEB 6, 2009
AVERAGE 8 gpm



PW-08-04
26.5-HOUR PUMP TEST
FEB 2, 2009 TO FEB 3, 2009
AVERAGE 32 gpm



MEASURED DRAWDOWNS (FEET)

- <0.1
- 0.1 TO 1
- 1 TO 10
- 10 TO 100
- >100

500 0 1000 FEET

FIGURE U-14
DRAWDOWN INTERCONNECTIVITY
IN BEDROCK AT COMPLETION OF
SHORT-TERM PUMP TESTS
SITE ASSESSMENT REPORT
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

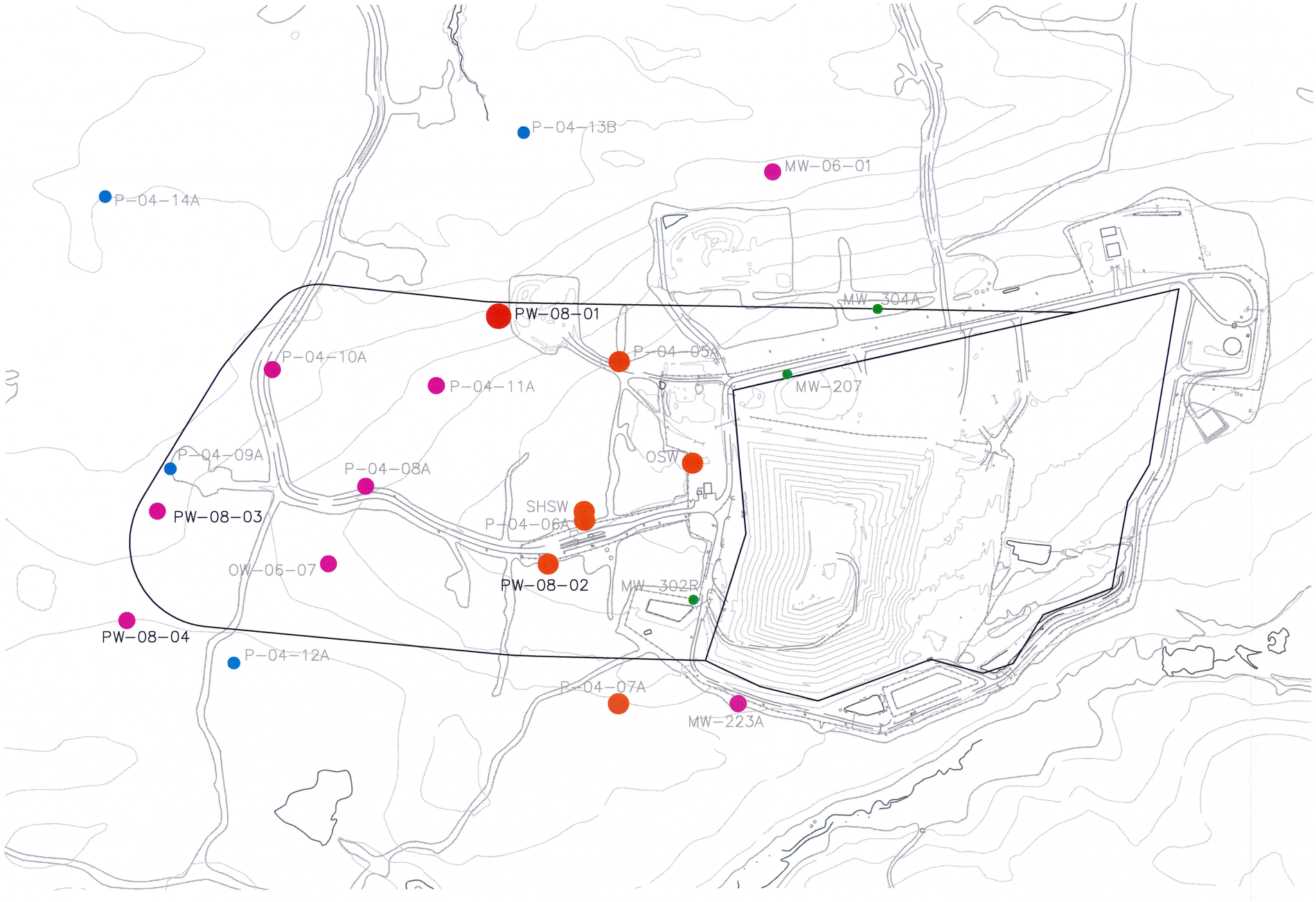
SME
Sevee & Maher Engineers, Inc.

DWG: PumpTests LMN: PT-Short Term CTB: PumpTests REV: 6/11/09

\\Aserver\cfs\Casella\OldTownLandfillExpansion\Acad\Figures\PumpTests.dwg, 6/18/2009 3:11:12 PM, paf

PW–08–01
337–HOUR PUMP TEST
MARCH 23, 2009 TO APRIL 6, 2009
AVERAGE 149 gpm

PW–08–02
167–HOUR PUMP TEST
MARCH 30, 2009 TO APRIL 6, 2009
AVERAGE 81 gpm



MEASURED DRAWDOWNS (FEET)

- <0.1
- 0.1 TO 1
- 1 TO 10
- 10 TO 100
- >100

250 0 500 FEET

FIGURE U–15
DRAWDOWN INTERCONNECTIVITY
IN BEDROCK AT COMPLETION
OF LONG–TERM
COMBINED PUMP TEST
SITE ASSESSMENT REPORT
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
Sevee & Maher Engineers, Inc.

DWG: PumpTests LMN: PT–Long Term CTB: PumpTests REV: 6/11/09

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- During the 24-hour pump test at PW-08-01, 24 bedrock monitoring locations and 25 till monitoring locations across the site were observed. Monitoring locations ranged from 141 feet to 2,501 feet from PW-08-01. At the bedrock monitoring locations, four wells had less than 0.1 foot of drawdown, eleven wells had between 0.1 foot and 1 foot of drawdown, eight wells had between 1 foot and 10 feet of drawdown, and one well (pump well PW-08-01) had between 10 feet and 100 feet of drawdown. At the till monitoring locations, seventeen wells had less than 0.1 foot of drawdown, five wells had between 0.1 foot and 1 foot of drawdown, and three wells had between 1 foot and 10 feet of drawdown.

- During the 26.5-hour pump test at PW-08-04, 25 bedrock monitoring locations and 28 till monitoring locations across the site were observed. Monitoring locations ranged from 540 feet to 3,862 feet from PW-08-04. At the bedrock monitoring locations, sixteen wells had less than 0.1 foot of drawdown, five wells had between 0.1 foot and 1 foot of drawdown, three wells had between 1 foot and 10 feet of drawdown, and one well (pump well PW-08-04) had between 10 feet and 100 feet of drawdown. At the till monitoring locations, twenty-seven wells had less than 0.1 foot of drawdown, and one well had between 0.1 foot and 1 foot of drawdown.

- During the 26.5-hour pump test at PW-08-03, 25 bedrock monitoring locations and 26 till monitoring locations across the site were observed. Monitoring locations ranged from 211 feet to 3,555 feet from PW-08-03. At the bedrock monitoring locations, twenty wells had less than 0.1 foot of drawdown, three wells had between 0.1 foot and 1 foot of drawdown, one well had between 1 foot and 10 feet of drawdown, no wells had between 10 feet and 100 feet of drawdown, and one well (pump well PW-08-03) had greater than 100 feet of

drawdown. At the till monitoring locations, twenty-four wells had less than 0.1 foot of drawdown, and two wells had between 0.1 foot and 1 foot of drawdown.

- During the 50-hour pump test at PW-08-02, 27 bedrock monitoring locations and 14 till monitoring locations across the site were observed. Monitoring locations ranged from 271 feet to 2,749 feet from PW-08-02. At the bedrock monitoring locations, ten wells had less than 0.1 foot of drawdown, six wells had between 0.1 foot and 1 foot of drawdown, six wells had between 1 foot and 10 feet of drawdown, and five wells had between 10 feet and 100 feet of drawdown. At the till monitoring locations, six wells had less than 0.1 foot of drawdown, two wells had between 0.1 foot and 1 foot of drawdown, and six wells had between 1 foot and 10 feet of drawdown.

- During the long-term pump test at PW-08-01 and PW-08-02, 28 bedrock monitoring locations and 25 till monitoring locations across the site were observed. Monitoring locations ranged from 141 feet to 2,756 feet from PW-08-01. Monitoring locations ranged from 271 feet to 2,948 feet from PW-08-02. At the bedrock monitoring locations, five wells had less than 0.1 foot of drawdown, eight wells had between 0.1 foot and 1 foot of drawdown, eight wells had between 1 foot and 10 feet of drawdown, six wells had between 10 feet and 100 feet of drawdown, and one well (pump well PW-08-01) had greater than 100 feet of drawdown. At the till monitoring locations, seventeen wells had less than 0.1 foot of drawdown, two wells had between 0.1 foot and 1 foot of drawdown, five wells had between 1 foot and 10 feet of drawdown, and one well had between 10 feet and 100 feet of drawdown.

Table U-1 summarizes the ranges of drawdowns for individual pump tests. The pumping tests confirmed the hydraulic interconnectivity of bedrock fractures at the JRL Site and the ability of groundwater to move through the bedrock.

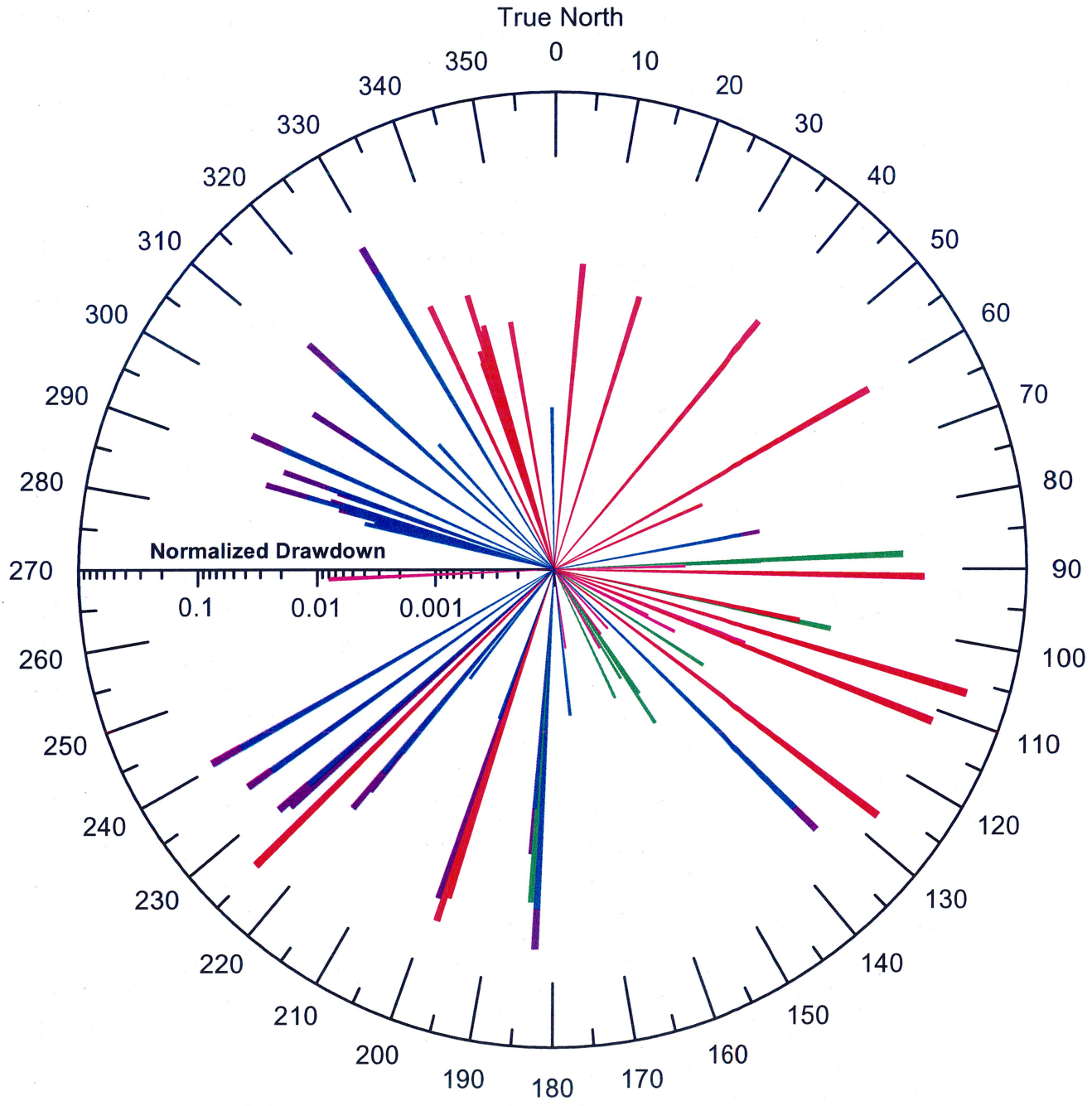
TABLE U-1

MAGNITUDE OF DRAWDOWN AT MONITORING LOCATIONS AT COMPLETION OF PUMP TESTS

		PW-08-01 24-hour test Avg. 96 gpm		PW-08-04 26.5-hour test Avg. 32 gpm		PW-08-03 26.5-hour test Avg. 8.2 gpm		PW-08-02 50-hour test Avg. 92 gpm		PW-08-01 (149 gpm) and PW-08-02 (81 gpm)	
Bedrock Wells	<0.1 foot	4 of 24	16.7%	16 of 25	64%	20 of 25	80%	10 of 27	37%	5 of 28	17.9%
	0.1 to 1 foot	11 of 24	45.8%	5 of 25	20%	3 of 25	12%	6 of 27	22.2%	8 of 28	28.6%
	1 to 10 feet	8 of 24	33.3%	3 of 25	12%	1 of 25	4%	6 of 27	22.2%	8 of 28	28.6%
	10 to 100 feet	1 of 24	4.2%	1 of 25	4%	0 of 25	0%	5 of 27	18.5%	6 of 28	21.4%
	<100 feet	0 of 24	0%	0 of 25	0%	1 of 25	4%	0 of 27	0%	1 of 28	3.6%
Overburden Wells	<0.1 foot	17 of 25	68%	27 of 28	96.4%	24 of 26	92.3%	6 of 14	42.9%	17 of 25	68%
	0.1 to 1 foot	5 of 25	20%	1 of 28	3.6%	2 of 26	7.7%	2 of 14	14.3%	2 of 25	8%
	1 to 10 feet	3 of 25	12%	0 of 28	0%	0 of 26	0%	6 of 14	42.9%	5 of 25	20%
	10 to 100 feet	0 of 25	0%	0 of 28	0%	0 of 26	0%	0 of 14	0%	1 of 25	4%
	<100 feet	0 of 25	0%	0 of 28	0%	0 of 26	0%	0 of 14	0%	0 of 25	0%

Drawdowns occurred in various azimuthal directions surrounding each pumping well. However, in some directions, groundwater monitoring points were not available. Since groundwater monitoring wells and piezometers were absent in some radial directions for each particular pump test, the results of each of these pump tests were included on one graph to demonstrate that interconnectivity of bedrock fractures essentially occurs in all azimuthal directions across the site. Figure U-16 summarizes the normalized drawdowns; that is, end-of-test drawdowns at a particular monitoring point divided by the drawdown at the pumping well, for various azimuths around each of the individual well pumping tests. It is important to note that the plot combines the results of the various tests since the origin of each test (the respective pump well) varies, and since the values of normalized drawdown for the different pump tests are not directly comparable to one another due to varied pumping rates and pump well characteristics. The results do show, however, that drawdowns occur essentially at all directions away from the various pump wells.

FIGURE U-16
LOG OF NORMALIZED DRAWDOWN VERSUS AZIMUTH FROM PUMPING WELLS



Legend
- PW-08-01 - End of 24-Hour Pump Test
- PW-08-02 - End of 50 Hour Pump Test
- PW-08-03 - End of 26.5-Hour Pump Test
- PW-08-04 - End of 26.5-Hour Pump Test
- PW-08-01 - End of First 7-Days of Combined Pump Test

This graph presents normalized drawdown (observation well drawdown:pumping well drawdown) versus azimuth direction from pumping wells. The origin of azimuth directions for each pump test is from its respective pumping well.

6.0 THEORETICAL CONFIRMATION OF BEDROCK FRACTURE INTERCONNECTIVITY

Using the measured fractured features described above, an interpretation of the degree of interconnectedness of these fractures is possible. Interconnectedness of bedrock fractures allows the fractures to transmit groundwater from one location to another through a network of fractures. That is, enough fractures intersecting one another allow groundwater to move through the bedrock. This evaluation leads to defining two important characteristics that describe groundwater flow behavior in a fractured rock mass: first, is whether enough fractures are interconnected to allow groundwater to move between two points; and, second, is the degree of interconnection, which determines whether the formation will behave discretely or as a near-continuum.

Individual fractures are not infinite in extent. Therefore, where flow is supported, fracture density must be high enough to ensure connectivity through the system. The fracture density required to sustain advective flow is termed the "percolation threshold." Below that threshold, fractures may be connected, but only in small localized regions. Above the threshold, localized regions become interconnected and flow can take place through the bulk rock mass. With an increase in fracture density, the system becomes increasingly pervious. Theoretical studies have been completed by Robinson (1982) to determine whether or not a fractured media has the ability to transmit groundwater as a function of the average number of intersections that a single fracture has with others in a fracture network. Robinson used numerical simulations to determine that when the average number of fracture intersections for a particular domain divided by the number of individual fractures in that domain exceeds approximately 3.2 to 3.8, a percolation threshold is reached where the fractures are effectively connected hydraulically. Based on the data collected in the detailed bedrock fracture survey at outcrop OC-AG, each of the sixty-seven bedrock fractures identified that have lengths greater than one foot are intersected an average of 4.2 times each. This would suggest that Robinson's percolation threshold for a

fractured media has been exceeded for the JRL site, inferring an interconnected bedrock fracture network.

Robinson (1982) also found that the percolation threshold can be estimated for randomly oriented fractures when the number of fractures and their lengths are known for a given area. Robinson determined that the percolation threshold is reached when the product of the areal fracture density (the number of fractures per unit area) and the average square length of the fractures exceeds approximately 1.5. A similar study by Quintanilla and Ziff (2007) determined the percolation threshold to be approximately 1.12. Based on the measurements made inside the 6-foot by 4-foot area at outcrop OC-AG (a correction of lengths of fractures crossing the survey area perimeter has been made to only include the portion of the fractures inside the survey area perimeter for this calculation), the fracture density is 2.8 fractures per square foot and the average square length of the fractures is 3.7 square feet. The product of the two values is 10.24, which exceeds the suggested percolation thresholds of 1.5 or 1.12.

The most relevant observation relative to fracture interconnectedness at the Expansion site is the mapping of the intersection of the fractures at outcrop OC-AG. Any one particular fracture that is greater than one foot in length has been shown to be interconnected with all of the fractures mapped on that outcrop. That is to say that beginning at any one particular fracture, following the trace of the fractures on the outcrop face, any other fracture can be reached without entering the rock mass and without moving off of a recorded fracture. This is further evidence of the ability of the bedrock beneath the Expansion site to have the ability to move groundwater along fracture pathways within the bedrock over regional scales.

7.0 CONCEPTUALIZATION OF THE BULK BEDROCK GROUNDWATER FLOW

Freeze and Cherry (1975) and Domenico and Schwartz (1998) describe a continuum or equivalent porous media approach for treating fractured bedrock. In this method, the flow of groundwater through individual fractures is not analyzed, but rather the bulk or average

groundwater flow through the bedrock formation. This means fractures must be numerous, the distance between fractures should be small in comparison to the size of the area being studied, and fractures should be well connected (Bradbury, et al, 1991). Lipfert (2002) found justification for using the continuum approach with Maine bedrock for large-scale wellhead protection area delineation. Some authors have recommended that in order to evaluate fracture interconnectedness on a regional or site-wide scale, beginning the evaluation on a local scale may lead to a concept similar to porous media at larger scales. Lipfert, et al, 2005 agreed that a uniformly fractured Maine bedrock could be approximated as a hydraulic continuum for groundwater on a regional scale that was at least 100 times the average fracture spacing. This would imply, since fracture spacing for the Expansion site is less than a few feet, that for distances or scales of a few hundred feet or more, the bedrock can be conceptualized as a continuum. In a similar way, Long, et al, 1982 suggests a fractured rock will behave increasingly as a continuum as fracture density, scale of interest, and distributions of fracture strikes and dips increase; and as the variation or distribution of fracture aperture sizes decreases. Requisite to these approaches is detailed structural characterization of the fracture network; that is, measurement of fracture orientation, spacing, aperture, density, porosity, and hydraulic conductivity. Furthermore, the continuum approach can be applied for fractured bedrock groundwater flow modeling with favorable results when the appropriate conditions are met. This approach is supported by various authors (Tiedeman, et al, 1997, Hsieh, et al, 1999, Pankow, et al, 1986; and Endo, et al, 1984) and is recognized by the U.S.EPA (Schmelling and Ross, 1989).

Based on all the observations of the fracture features and the corroboration from the pump testing, the bedrock fractures beneath the JRL Site appear to be hydraulically interconnected over scales of a few hundred feet or less. Furthermore, this bedrock can be conceptually treated as a continuum at distances larger than a few hundred feet. This behavior is the result of the relative fracture spacing compared to the fracture lengths, as well as the broad range of fracture strikes and dips. The value of the detailed investigation of the bedrock lies in the increased confidence level developed in terms of interpreting the groundwater flow behavior in the rock over site-wide

or regional scales. The ability to treat the bedrock as a continuum, hydraulically, justifies the regional groundwater simulation in Appendix V.

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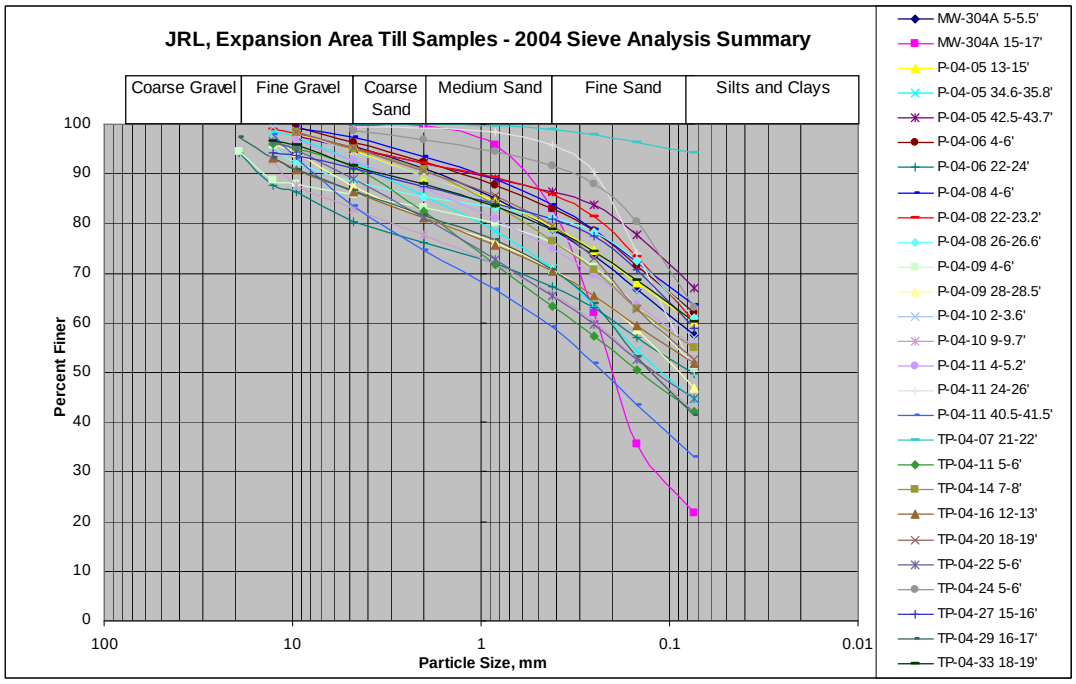
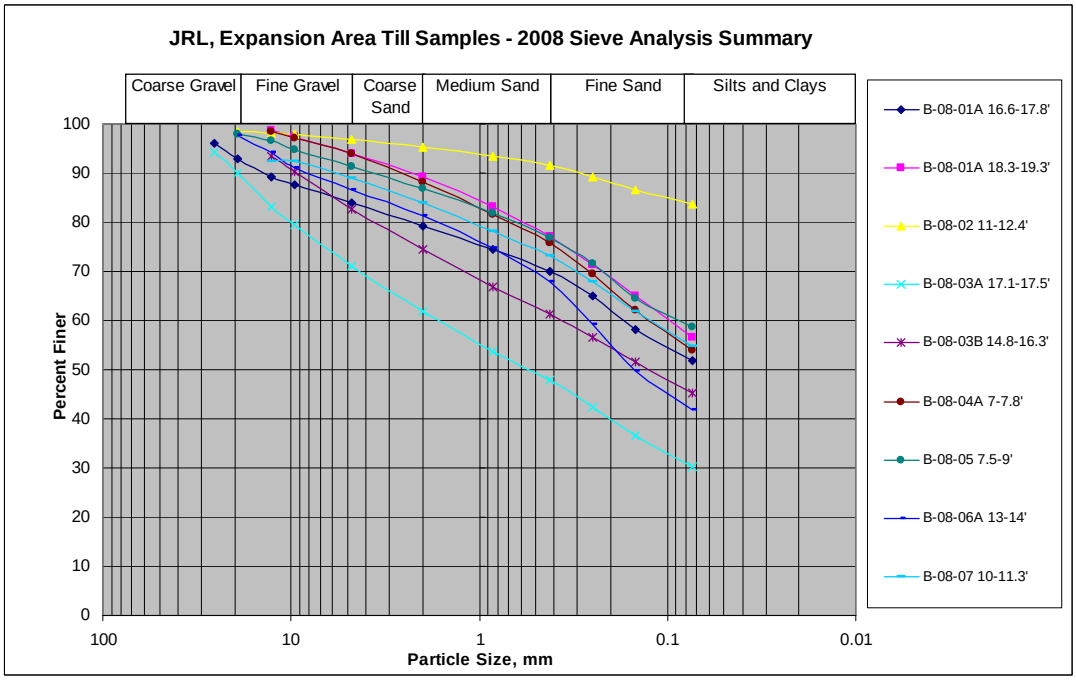
APPENDIX R

GRAIN SIZE TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS


JRL, Expansion Area Till Samples - 2004 Sieve Analysis Summary
Coarse Gravel
Fine Gravel
Coarse Sand
Medium Sand
Fine Sand
Silts and Clays
Percent Finer
Particle Size, mm
MW-304A 5-5.5'
MW-304A 15-17'
P-04-05 13-15'
P-04-05 34.6-35.8'
P-04-05 42.5-43.7'
P-04-06 4-6'
P-04-06 22-24'
P-04-08 4-6'
P-04-08 22-23.2'
P-04-08 26-26.6'
P-04-09 4-6'
P-04-09 28-28.5'
P-04-10 2-3.6'
P-04-10 9-9.7'
P-04-11 4-5.2'
P-04-11 24-26'
P-04-11 40.5-41.5'
TP-04-07 21-22'
TP-04-11 5-6'
TP-04-14 7-8'
TP-04-16 12-13'
TP-04-20 18-19'
TP-04-22 5-6'
TP-04-24 5-6'
TP-04-27 15-16'
TP-04-29 16-17'
TP-04-33 18-19'


JRL, Expansion Area Till Samples - 2008 Sieve Analysis Summary
Coarse Gravel
Fine Gravel
Coarse Sand
Medium Sand
Fine Sand
Silts and Clays
Percent Finer
Particle Size, mm
B-08-01A 16.6-17.8'
B-08-01A 18.3-19.3'
B-08-02 11-12.4'
B-08-03A 17.1-17.5'
B-08-03B 14.8-16.3'
B-08-04A 7-7.8'
B-08-05 7.5-9'
B-08-06A 13-14'
B-08-07 10-11.3'

APPENDIX S

WATER CONTENT AND SPECIFIC GRAVITY TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS

SOIL WATER CONTENTS
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

Location	Unit	Sample No.	Sample Depth (ft)	Water Content (%)	Total Porosity[1]
B-207	Basal Till	6D	10 – 11	12	0.25
	Basal Till	8D	15.5 – 16.8	13	0.26
B-212	Basal Till	6D	12 – 13.5	11	0.23
	Basal Till	9D	20 – 21.5	16	0.31
	Basal Till	11D	25 – 25.5	11	0.23
B-213	Basal Till	6D	10 – 11	12	0.25
	Basal Till	8D	14 – 15.5	11	0.23
	Basal Till	11D	20 – 21.5	12	0.25
B-222	Basal Till	7D	10 – 11.5	9	0.20
	Basal Till	9D	16.5 – 18	16	0.31
B-223	Basal Till	5D	7.5 – 9	10	0.22
	Basal Till	9D	15.5 – 17	12	0.25
B-225	Basal Till	3D	10 – 11	10	0.22
B-226	Basal Till	3D	10 – 11.5	10	0.22
	Basal Till	4D	15 – 16	9	0.20
	Basal Till	5D	20 – 21.5	11	0.23
MW-304A	Basal Till	2D	5 – 5.5	11.6	0.24
	Basal Till	4D	15 – 16.5	18.2	0.34
P-04-05	Basal Till	3D	10 – 11.5	10.2	0.22
	Basal Till	1R	35 – 36	9.6	0.21
	Basal Till	17D	42.5 – 44	14.3	0.28
P-04-06	Basal Till	3D	4 – 6	12	0.25
	Basal Till	12D	22 – 24	12.4	0.26
P-04-07	Basal Till	1D	1 – 2	11.6	0.24
	Basal Till	3D	4 – 5	11.4	0.24
P-04-08	Basal Till	3D	4 – 6	13.3	0.27
	Basal Till	12D	22 – 23.5	13	0.26
	Basal Till	13D	25 – 25.5	14.3	0.28
P-04-09	Basal Till	3D	4 – 6	11.4	0.24
	Basal Till	14D	28 – 28.5	13	0.26
P-04-10	Basal Till	2D	2 – 3.5	12.4	0.26
	Basal Till	5D	9.5 – 10	12.2	0.25
P-04-11	Basal Till	3D	4 – 5	13.2	0.27
	Basal Till	12D	24 – 26	20.6	0.36
	Basal Till	19D	40.5 – 41.5	10.4	0.22
P-04-12	Basal Till	4D	6 – 7	13.3	0.27
	Basal Till	8D	16 – 17	10.9	0.23
	Basal Till	8D	16 – 17	10.3	0.22
P-04-13	Basal Till	12D	24 – 26	10.4	0.22
TP-302	Basal Till		5	12	0.25
	Basal Till		10	12	0.25
TP-04-01	Basal Till		16.5	22.2	0.38
TP-04-02	Basal Till		19.5	11.1	0.24
TP-04-03	Basal Till		5.5	12.9	0.26
	Basal Till		7.5	9.1	0.20
	Basal Till		12.5	9.1	0.20
	Basal Till		15.5	19.2	0.35
	Basal Till		20.5	16.6	0.31

SOIL WATER CONTENTS (cont'd)

Location	Unit	Sample No.	Sample Depth (ft)	Water Content (%)	Total Porosity[1]
TP-04-06	Basal Till		4.5	10.6	0.23
	Basal Till		8.5	12.6	0.26
	Basal Till		12.5	13.1	0.27
	Basal Till		18.5	10.8	0.23
TP-04-07	Basal Till		13.5	12.4	0.26
	Basal Till		15.5	13	0.26
	Basal Till		16.5	19	0.34
	Basal Till		21.5	22.6	0.39
TP-04-11	Basal Till		5.5	12.7	0.26
TP-04-14	Basal Till		7.5	12.6	0.26
TP-04-16	Basal Till		12.5	10.8	0.23
TP-04-20	Basal Till		4.5	11.2	0.24
TP-04-22	Basal Till		5.5	13.6	0.27
TP-04-24	Basal Till		5.5	14.2	0.28
TP-04-27	Basal Till		15.5	14.3	0.28
TP-04-29	Basal Till		16.5	10	0.22
TP-04-33	Basal Till		18.5	13.7	0.28
TP-04-34	Basal Till		16.5	12.1	0.25

Notes:
1. Specific gravity basal till measured at 2.77.

SPECIFIC GRAVITY OF SOIL SOLIDS (G_s)

Project CASELLA Job No. 08097.03

Location of Project JUNIPER RIDGE LANDFILL Boring No. SB-10 Sample No. 1S

Description of Soil Br/gr sandy clayey SILT Depth of Sample 11.5

Tested By EJL Date of Testing 7 JAN 09

Test no.	1	2		
Vol. of flask at 20°C	200 ml →			
Method of air removal[a]	VACUUM →			
Wt. flask + water + soil = W_{bws}	495.2	490.1		
Temperature, °C	23.8	24.1		
Wt. flask + water[b] = W_{bw}	418.8	419.7		
Evap. dish no.	A-4	A-36		
Wt. evap. dish + dry soil	345.67	331.84		
Wt. of evap. dish	226.30	221.90		
Wt. of dry soil = W_s	119.37	109.94		
$W_w = W_s + W_{bw} - W_{bws}$	42.97	39.54		
$G_s = \alpha W_s / W_w$	2.77[1]	2.77[3]		

[a]Indicate vacuum or aspirator for air removal.

[b]W_{bw} is the weight of the flask filled with water at same temp. ± 1°C as for W_{bws} or value from calibration curve at T of W_{bws}.

Remarks

Average specific gravity of soil solids (G_s) = 2.77

Typical values of the correction factor,

T, °C	α	γ_w, g/cm³
16	1.0007	0.99897
18	1.0004	0.99862
20	1.0000	0.99823
22	0.9996	0.99780
24	0.9991	0.99732
26	0.9986	0.99681

Typical values of G_s

Type of soil	G_s
Sand	2.65-2.67
Silty sand	2.67-2.70
Inorganic clay	2.70-2.80
Soils with micas or iron	2.75-3.00
Organic soils	Variable but may be under 2.00

APPENDIX T

LABORATORY HYDRAULIC CONDUCTIVITY TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Brown silt, litle sand

Exploration: B08-02

Sample No.: 1S

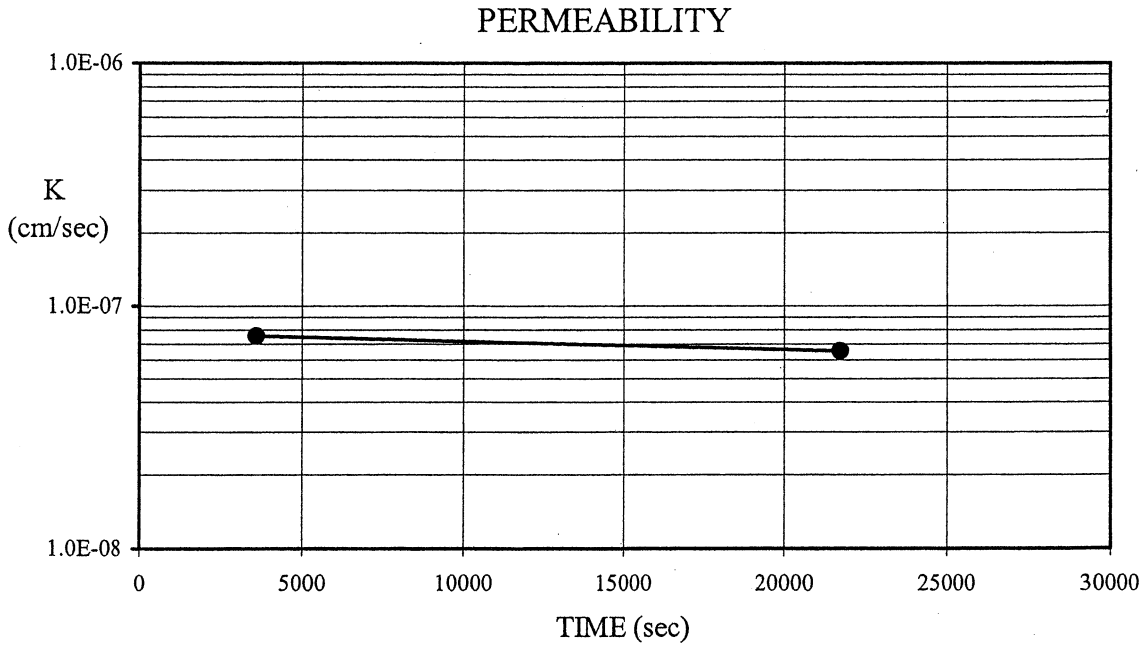
Depth (ft.): 11-12.4

(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.027	7.264
Length (cm)=	5.868	5.762
Moist. Cont. (%)=	n/a	3.6
Wet Wt. Soil (gms)=	484	496.6
Wet Density (pcf)=	132.8	129.8
Dry Density (pcf)=	n/a	125.3

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.98
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	24.4



Average Permeability (cm/sec)= 7.0E-08

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy SILT, little gravel

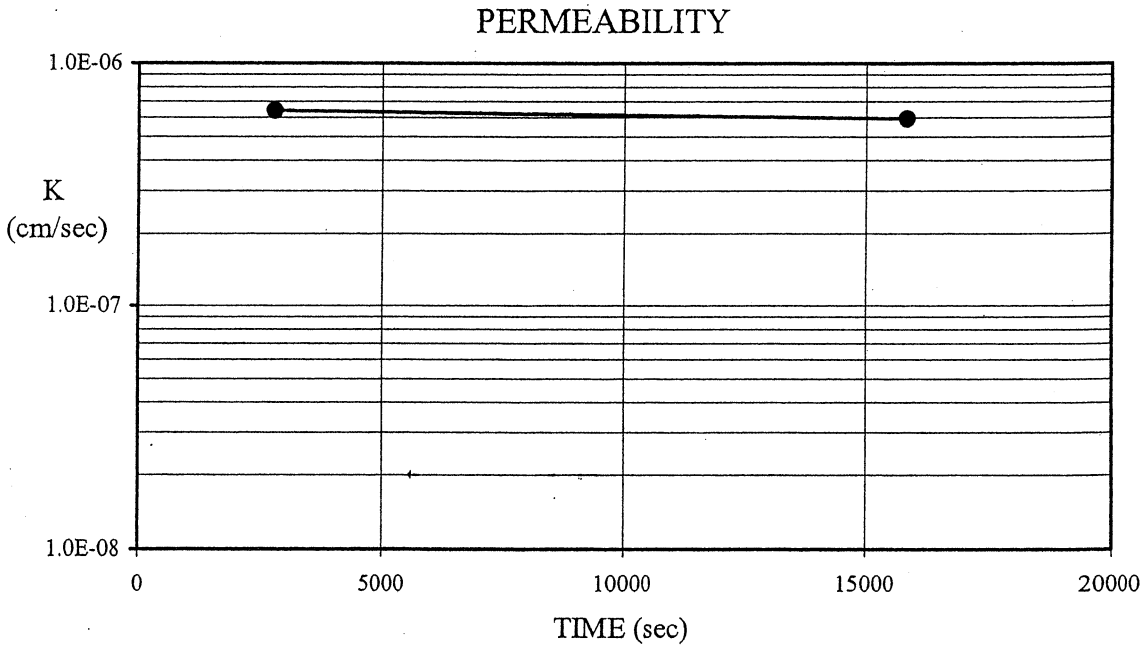
Exploration: B08-03

Sample No.: 2S (X) Undisturbed

Depth (ft.): 14.8-~~16.3~~ 15.5 ( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.006	6.989
Length (cm)=	6.327	6.194
Moist. Cont. (%)=	n/a	9.8
Wet Wt. Soil (gms)=	548	548.8
Wet Density (pcf)=	140.2	144.2
Dry Density (pcf)=	n/a	131.3

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.94
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	22.7



Average Permeability (cm/sec)= 6.2E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy SILT, little gravel

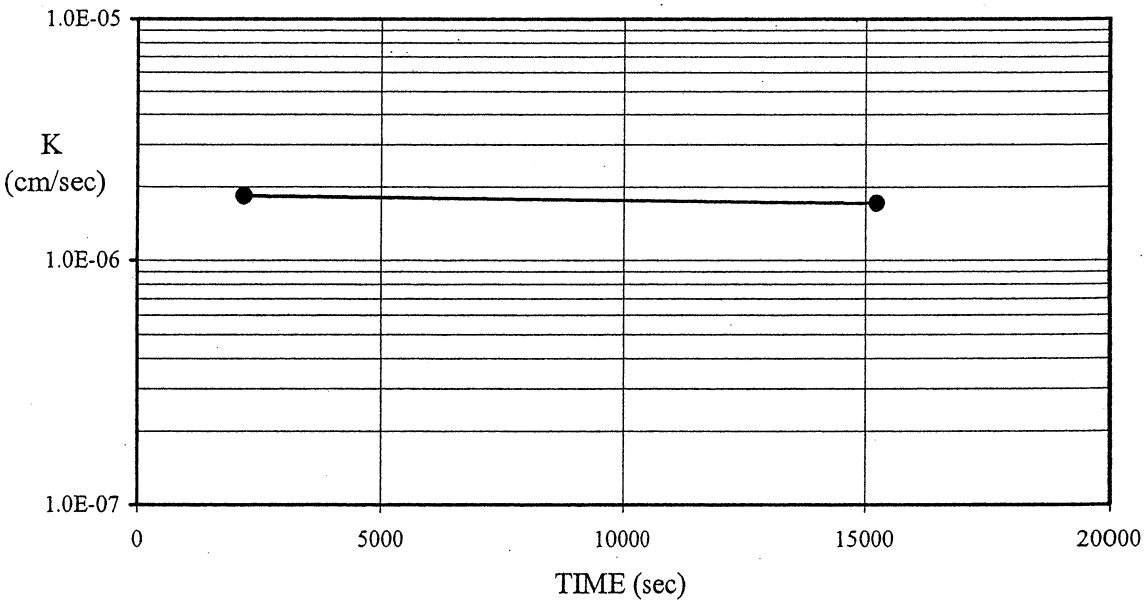
Exploration: B08-04
Sample No.: 1S
Depth (ft.): 7-7.8

(X) Undisturbed
( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.985	6.985
Length (cm)=	15.431	15.240
Moist. Cont. (%)=	n/a	14.2
Wet Wt. Soil (gms)=	1261.5	1244.3
Wet Density (pcf)=	133.2	133.0
Dry Density (pcf)=	n/a	116.5

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.96
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	9.2

PERMEABILITY



Average Permeability (cm/sec)= 1.8E-06

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Brown sandy SILT, little gravel

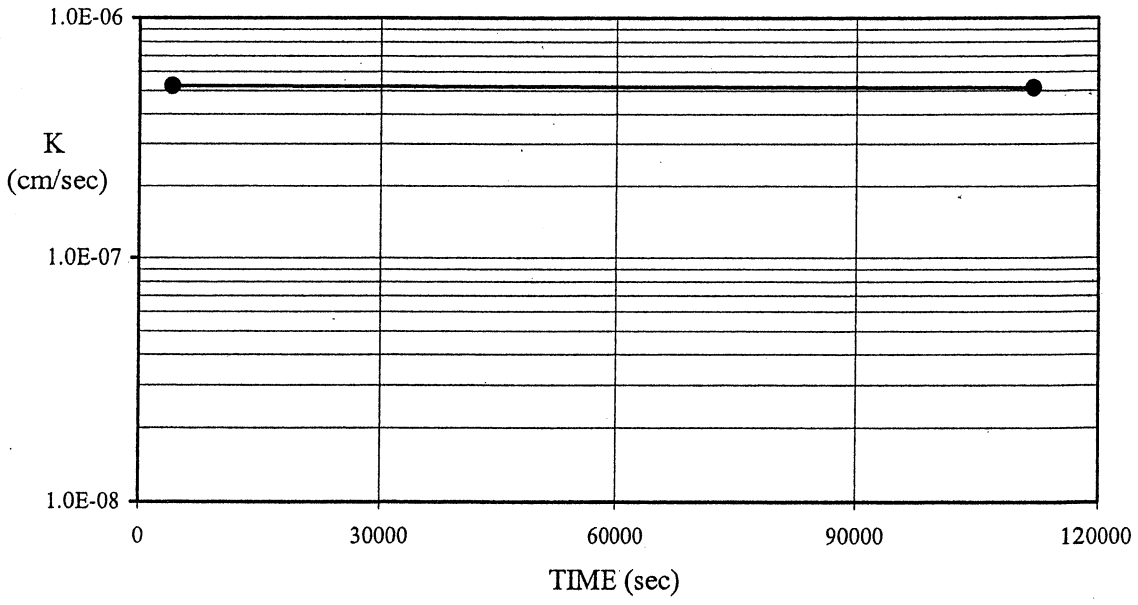
Exploration: B08-05
Sample No.: 1S
Depth (ft.): 7.5-9.0

(X) Undisturbed
( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.011	7.004
Length (cm)=	16.669	16.510
Moist. Cont. (%)=	n/a	12.4
Wet Wt. Soil (gms)=	1452	1457.7
Wet Density (pcf)=	140.8	143.1
Dry Density (pcf)=	n/a	127.3

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.98
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	8.5

PERMEABILITY



Average Permeability (cm/sec)= 5.2E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy SILT, little gravel

Exploration: B08-06

Sample No.: 1S

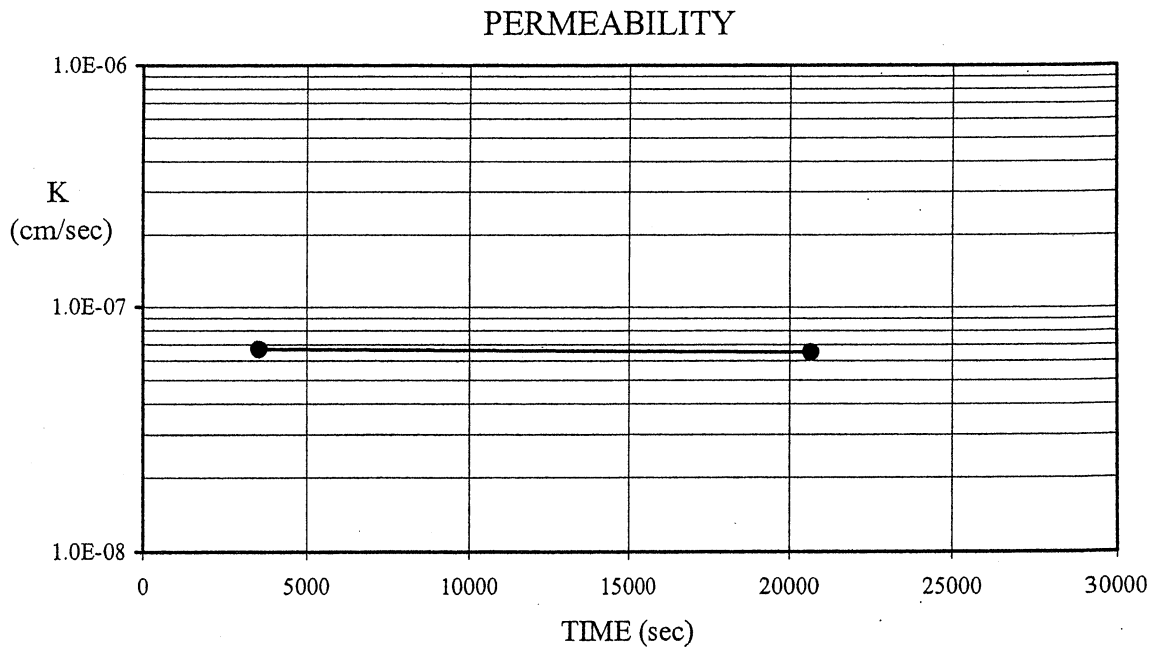
Depth (ft.): 13-14

(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.038	7.010
Length (cm)=	17.145	17.145
Moist. Cont. (%)=	n/a	11.0
Wet Wt. Soil (gms)=	1510.7	1500.5
Wet Density (pcf)=	141.4	141.5
Dry Density (pcf)=	n/a	127.5

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.96
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	8.2



Average Permeability (cm/sec)= 6.6E-08

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Brown sandy SILT, little gravel

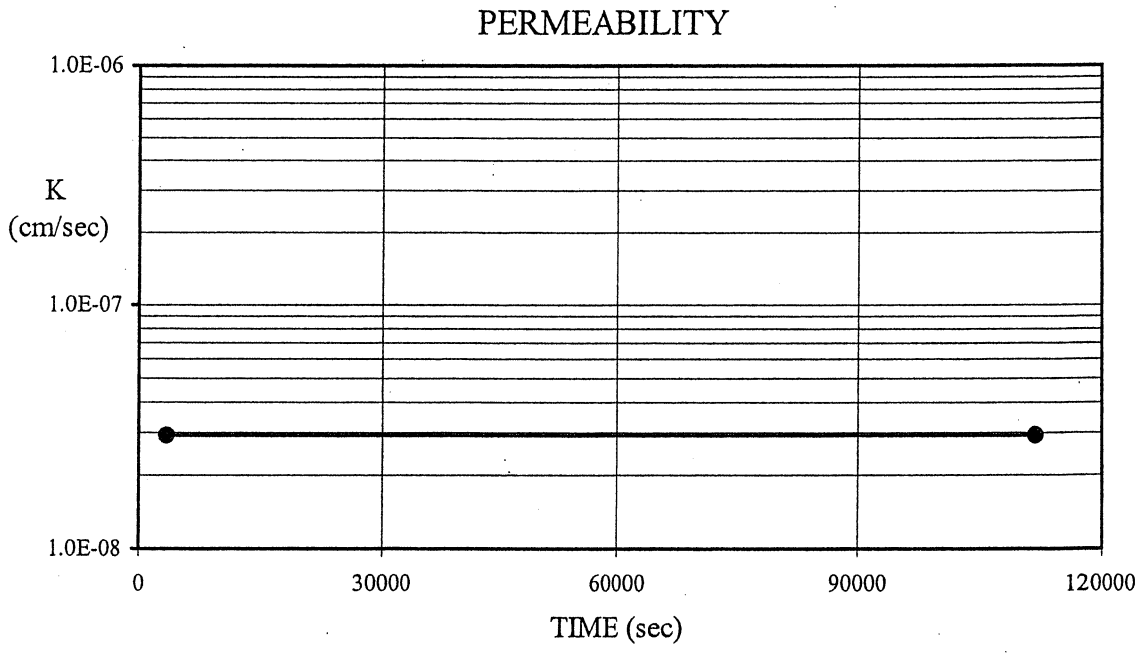
Exploration: B08-07

Sample No.: 1S (X) Undisturbed

Depth (ft.): 10-11.3 ( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.004	6.990
Length (cm)=	7.383	7.303
Moist. Cont. (%)=	n/a	11.0
Wet Wt. Soil (gms)=	641.7	642.1
Wet Density (pcf)=	140.8	143.0
Dry Density (pcf)=	n/a	128.9

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.94
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	19.3



Average Permeability (cm/sec)= 2.9E-08

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray silty SAND, some gravel

Exploration: B08-09

Sample No.: 1S

Depth (ft.): 10.8-11.3

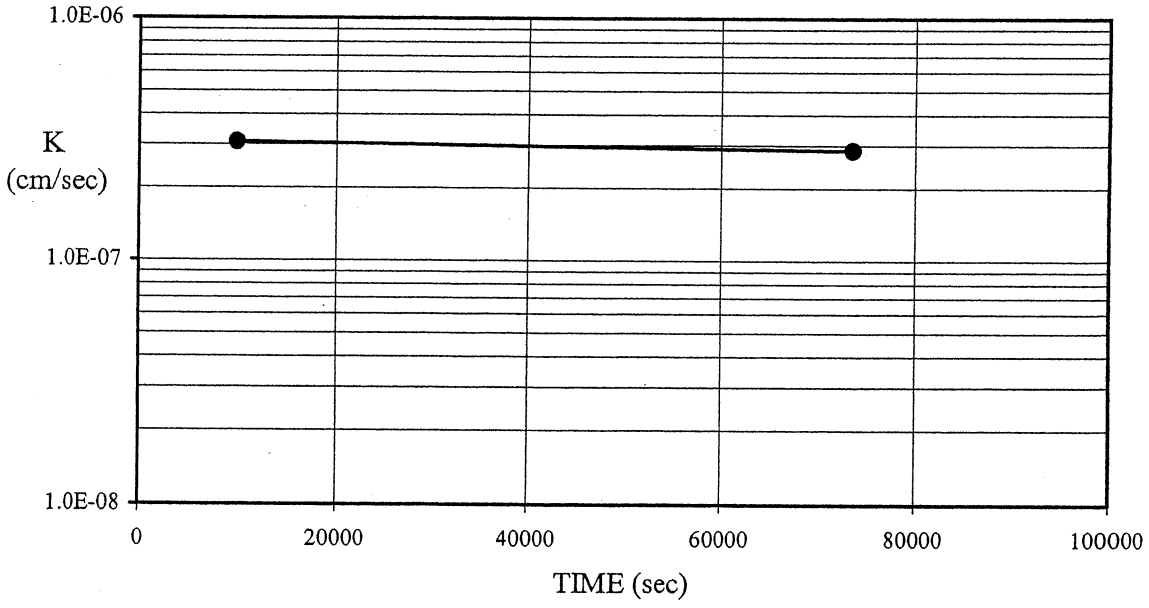
(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.975	6.985
Length (cm)=	10.550	10.283
Moist. Cont. (%)=	n/a	12.8
Wet Wt. Soil (gms)=	896.7	895.2
Wet Density (pcf)=	138.9	141.8
Dry Density (pcf)=	n/a	125.7

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.94
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	13.7

PERMEABILITY



Average Permeability (cm/sec)= 3.0E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy clayey SILT, little gravel

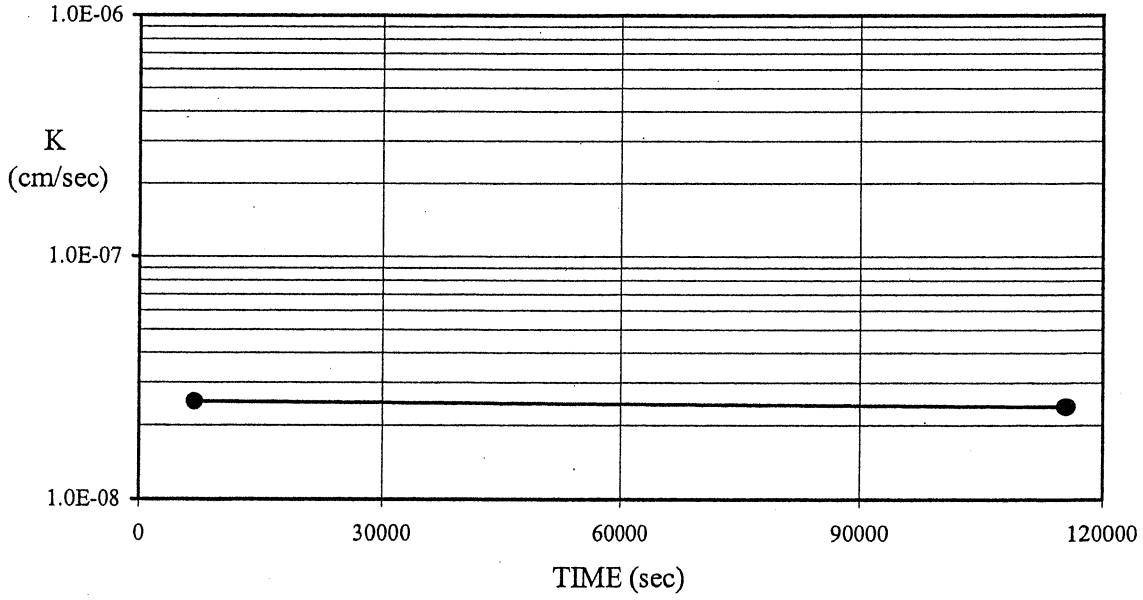
Exploration: B08-10
Sample No.: 1S
Depth (ft.): 11-12.5

(X) Undisturbed
( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.987	6.985
Length (cm)=	14.656	14.623
Moist. Cont. (%)=	n/a	13.7
Wet Wt. Soil (gms)=	1257.7	1259.7
Wet Density (pcf)=	139.7	140.3
Dry Density (pcf)=	n/a	123.4

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	1
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	9.6

PERMEABILITY



Average Permeability (cm/sec)= 2.4E-08

Hydraulic Conductivity- ASTM D 5084

Project: Casella WOTLF Expansion

Job No.: 03076.09

Description: Brown sandy SILT with gravel

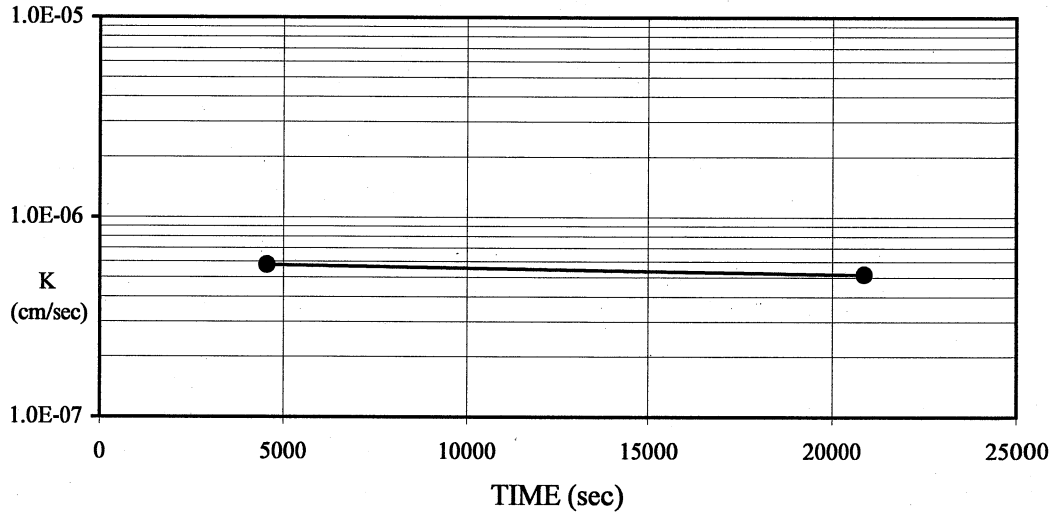
Exploration: B04-05
Sample No.: ^1R
Depth (ft.): 34.6-35.8

(X) Undisturbed
( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.617	6.617
Length (cm)=	5.104	5.104
Moist. Cont. (%)=	n/a	9.6
Wet Wt. Soil (gms)=	376.23	378.5
Wet Density (pcf)=	133.8	134.6
Dry Density (pcf)=	n/a	122.8

TEST CONDITIONS	
Cell Press. (psi)=	115.0
Influent Press. (psi)=	110.0
Effluent Press. (psi)=	109.0
B-Value=	0.95
Head (cm)=	70.3
Hyd. Gradient (cm/cm)=	13.8

PERMEABILITY



Average Permeability (cm/sec)= 5.5E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy clayey SILT, little gravel

Exploration: B08-01

Sample No.: 1S

Depth (ft.): 16.6-17.8

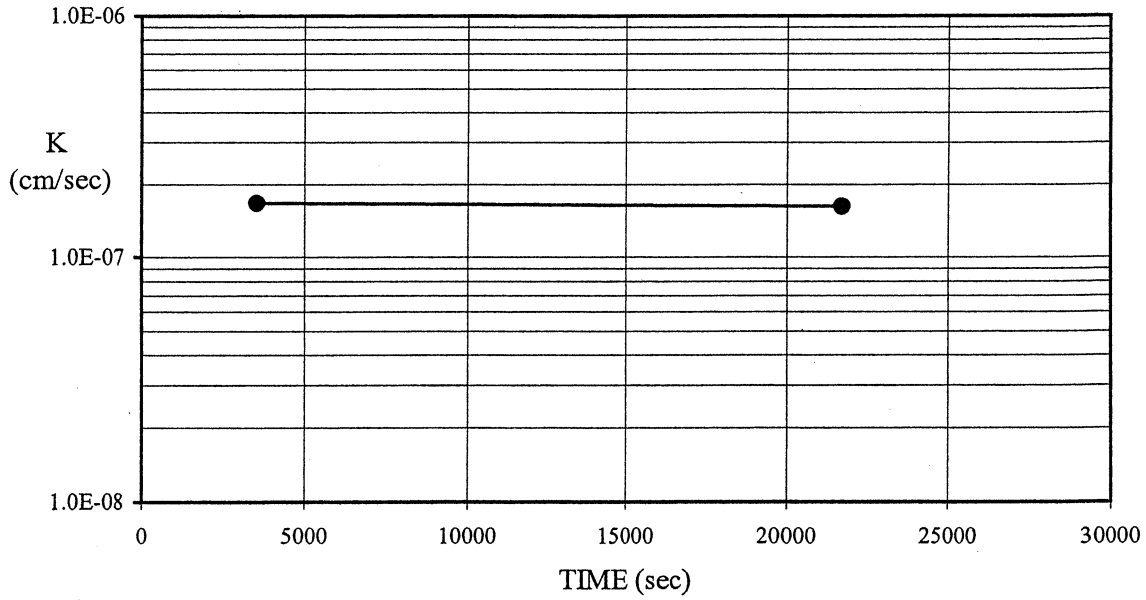
(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	7.120	7.286
Length (cm)=	18.415	18.415
Moist. Cont. (%)=	n/a	11.9
Wet Wt. Soil (gms)=	1586.8	1577.8
Wet Density (pcf)=	135.1	128.3
Dry Density (pcf)=	n/a	114.7

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.92
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	7.6

PERMEABILITY



Average Permeability (cm/sec)= 1.6E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy clayey SILT, trace gravel

Exploration: B08-01

Sample No.: 2S

Depth (ft.): 18.3-19.3

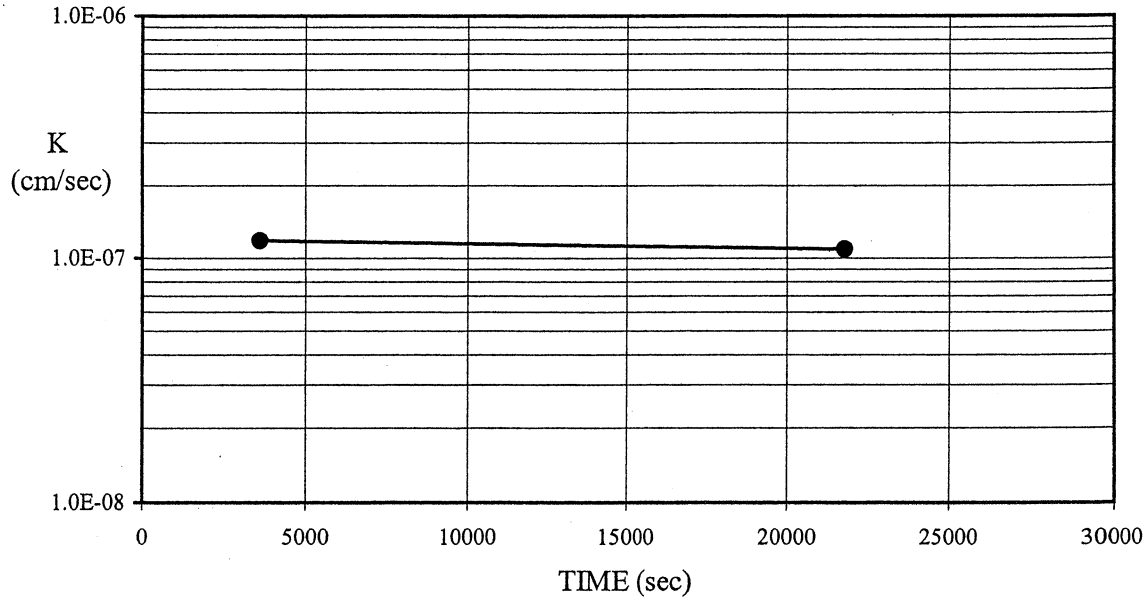
(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.993	6.968
Length (cm)=	5.784	5.538
Moist. Cont. (%)=	n/a	11.9
Wet Wt. Soil (gms)=	469.9	467.6
Wet Density (pcf)=	132.0	138.2
Dry Density (pcf)=	n/a	123.5

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.92
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	25.4

PERMEABILITY



Average Permeability (cm/sec)= 1.1E-07

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray sandy clayey SILT, little gravel

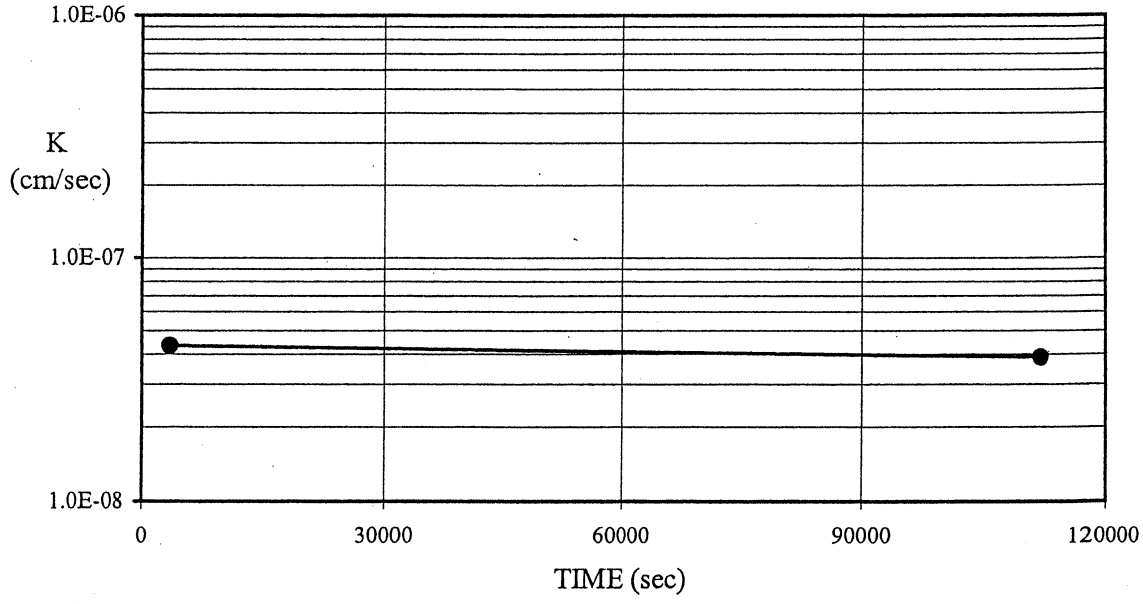
Exploration: B08-10
Sample No.: 3S
Depth (ft.): 15.5-17.0

(X) Undisturbed
( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.989	7.009
Length (cm)=	7.487	7.295
Moist. Cont. (%)=	n/a	12.9
Wet Wt. Soil (gms)=	609.3	608.9
Wet Density (pcf)=	132.4	135.1
Dry Density (pcf)=	n/a	119.7

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	0.96
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	19.3

PERMEABILITY



Average Permeability (cm/sec)= 4.1E-08

Hydraulic Conductivity- ASTM D 5084

Project: Casella - JRL Expansion

Job No.: 08097.03

Description: Gray silty SAND, some gravel

Exploration: B08-03

Sample No.: 2 ~~1~~S

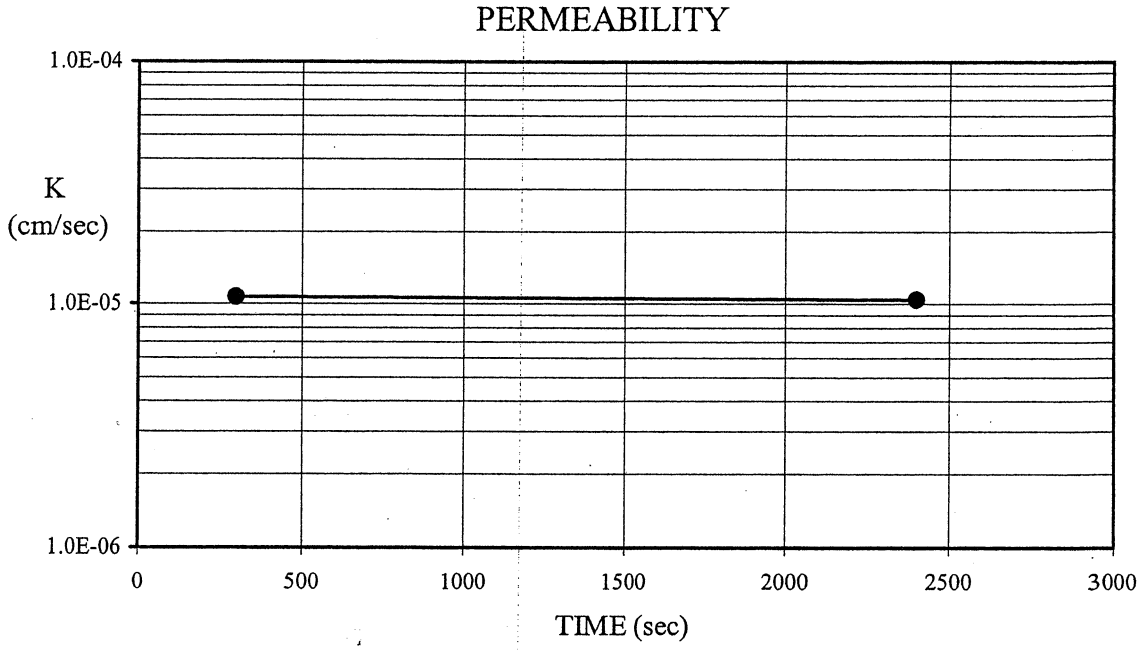
Depth (ft.): ~~17.1-17.5~~ 15.5-16.3

(X) Undisturbed

( ) Remolded

SAMPLE	INITIAL	FINAL
Diameter (cm)=	6.930	6.951
Length (cm)=	7.779	7.583
Moist. Cont. (%)=	n/a	7.9
Wet Wt. Soil (gms)=	651.7	647.3
Wet Density (pcf)=	138.7	140.4
Dry Density (pcf)=	n/a	130.2

TEST CONDITIONS	
Cell Press. (psi)=	105.0
Influent Press. (psi)=	100.0
Effluent Press. (psi)=	98.0
B-Value=	1
Head (cm)=	140.7
Hyd. Gradient (cm/cm)=	18.6



Average Permeability (cm/sec)= 1.1E-05

APPENDIX U

BASAL TILL LABORATORY COLUMN TRACER TEST RESULTS

SME
SEVEE & MAHER
ENGINEERS

LABORATORY COLUMN TRACER TESTING
OF BASAL TILL
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

To determine the effective porosity of the basal till for the groundwater time-of-travel analyses, a laboratory column tracer test was conducted on a remolded sample of silty till collected from the proposed Expansion.

A solute breakthrough curve (BTC) for transport of a nonreactive tracer through a remolded cylindrical soil specimen was generated. A continuous reservoir of a solution of sodium bromide was applied to the soil column input, and the concentration of bromide in the column effluent was measured periodically thereafter. Effluent bromide concentrations were compared to a predicted BTC expressed in terms of relative tracer concentrations and pore volumes. The predicted BTC was determined using the van Genuchten and Parker, 1984 analytical solution to the convection-dispersion equation. Although originally developed to incorporate a semi-infinite soil profile boundary condition, the van Genuchten and Parker solution has been applied to soil columns of finite length. All the variables in the advection-dispersion equation were measured prior to the column test, except effective porosity, solute retardation, and dispersivity. Retardation of the bromide was assumed to be 1.0 and was checked using mass balance of the bromide. Dispersivity was estimated using information from Bear (1972) and Selim and Amacher (1997). Through an iterative process, a series of predicted BTCs were generated reflecting successive refinements to the estimates for the effective porosity and dispersivity. The effective porosity was selected from the predicted BTC that "best fit" the measured effluent bromide concentrations over time.

The column tracer test yielded an effective porosity of 0.255 for the basal till versus a total porosity of 0.245. From this testing, an effective porosity approximately equal to the total porosity appears to be reasonable for the basal till.

References:

Bear, J., 1972. Dynamics of Fluid in Porous Media; American Elsevier, New York, N.Y.

Selim, H.M. and M.C. Amacher, 1997. Reactivity and Transport of Heavy Metals in Soils; CRC Press, Inc., Lewis Publishers, New York.

van Genuchten, M.T. and J.C. Parker, 1984. Boundary Conditions for Displacement Experiments Through Short Laboratory Soil Columns, Soil Science Society of America Journal, Vol. 48, pp.703-708.

SEVEE & MAHER ENGINEERS
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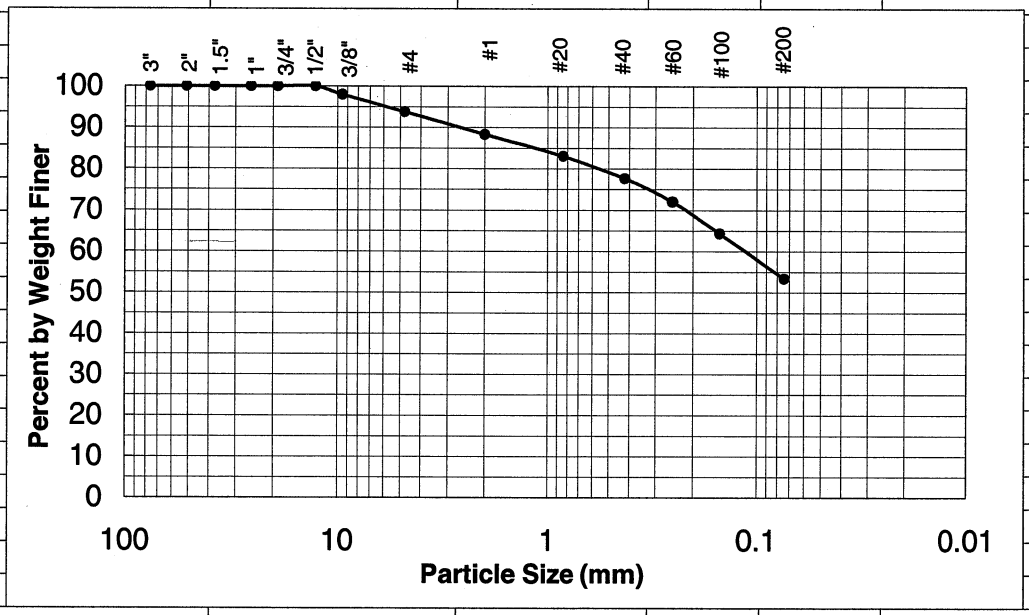
GRAIN SIZE ANALYSIS - ASTM D422

PROJECT NAME:	Casella		PROJECT No:		05055
	WOTLF		DATE:		JUNE 05
SAMPLE SOURCE:	TRACER TEST		SAMPLE No:		Composite
SAMPLE DESCRIP:	Brown sandy SILT, trace gravel				
		DATA			
			SPECIFICATION		
U.S Std SIEVE (in.)	PARTICLE SIZE (mm)	% by WT. FINER	Min	Max	P / F
3	76.2	**100.0**			
2	50.8	**100.0**			
1.5	37.5	**100.0**			
1	25.4	**100.0**			
3/4	19.1	**100.0**			
1/2	12.7	**100.0**			
3/8	9.5	**97.9**			
#4	4.76	**93.7**			
#10	2.0	**88.3**			
#20	0.84	**83.1**			
#40	0.42	**77.6**			
#60	0.25	**72.0**			
#100	0.149	**64.3**			
#200	0.074	**53.3**			



Water Content (%) =	11.2

SPECIFIC GRAVITY OF SOIL SOLIDS (G_s)

Project CASELLA Job No. _____

Location of Project JUNIPER RIDGE LANDFILL Boring No. B08-10 Sample No. 1S

Description of Soil Br/gr sandy clayey SILT Depth of Sample 11.5

Tested By EJL Date of Testing 7 JAN 09

Test no.	1	2		
Vol. of flask at 20°C	200ml			
Method of air removal[a]				
Wt. flask + water + soil = W_{bws}	495.2	490.1		
Temperature, °C	23.8	24.1		
Wt. flask + water[b] = W_{bw}	418.8	419.7		
Evap. dish no.	A-4	A-36		
Wt. evap. dish + dry soil	345.67	331.84		
Wt. of evap. dish	226.30	221.90		
Wt. of dry soil = W_s	119.37	109.94		
$W_w = W_s + W_{bw} - W_{bws}$	42.97	39.54		
$G_s = \alpha W_s / W_w$	2.77[1]	2.77[3]		

[a]Indicate vacuum or aspirator for air removal.

[b]W_{bw} is the weight of the flask filled with water at same temp. ± 1°C as for W_{bws} or value from calibration curve at T of W_{bws}.

Remarks _____

Average specific gravity of soil solids (G_s) = 2.77

Typical values of the correction factor, α

T, °C	α	γ_w, g/cm³
16	1.0007	0.99897
18	1.0004	0.99862
20	1.0000	0.99823
22	0.9996	0.99780
24	0.9991	0.99732
26	0.9986	0.99681

Typical values of G_s

Type of soil	G_s
Sand	2.65-2.67
Silty sand	2.67-2.70
Inorganic clay	2.70-2.80
Soils with micas or iron	2.75-3.00
Organic soils	Variable but may be under 2.00

Hydraulic Conductivity - ASTM D 5084

Project:	Casella -WOTLF Expansion		Job No.:	05055	
Exploration:	MW04-1,2,4	( ) Undisturbed	Description:	Brown sandy SILT	
Sample No.:	composite	(X) Remolded			
Depth (ft.):	5-10.7			331.714	Vt
				247.807	Vs
				83.907	Vv

Initial Specimen Conditions

Diameter (in)	Length (in)	Moisture Content (%)		
2.825	3.282	148.28	Wet Wt. of Soil=	766.9
2.827	3.280	139.25	Wet Density (pcf)=	141.8
2.828	3.290	51.16	Dry Density (pcf)=	128.5
7.180 cm	8.341 cm	10.3 %	% Compaction (%)=	111.8

Final Specimen Conditions

Diameter (in)	Length (in)	Moisture Content (%)		
2.815	3.231	985.80	Wet Wt. of Soil=	771.5
2.821	3.225	908.20	Wet Density (pcf)=	145.2
2.827	3.260	214.70	Dry Density (pcf)=	130.6
7.165 cm	8.226 cm	11.2 %	% Compaction (%)=	113.5

Test Conditions

Cell Pressure (psi)=	115.0
Infuent Pressure (psi)=	110.0
Effluent Pressure (psi)=	109.0
Head (cm)=	70.3
Hydraulic Gradient (cm/cm)=	8.55
B-Value=	0.96

Permeability

	TIME	El. Time (sec)	IN (cc)	OUT (cc)	AVE	Q (cc/sec)	K (cm/sec)
start	6/2/2004 13:45	0	9.20	13.80	0.00		
reading	6/2/2004 17:48	14580	9.65	13.30	0.48	3.3E-05	9.4E-08
stop	6/3/2004 19:43	107880	12.60	9.90	3.65	3.4E-05	9.8E-08
	6/4/2004 11:04	148560	14.30	8.05	4.95	3.3E-05	9.7E-08
	6/6/2004 9:07	221040	19.00	2.90	6.70	3.0E-05	8.8E-08
	6/7/2004 10:05	255660	21.40	0.30	7.43	2.9E-05	8.4E-08

Exploration: MW04-1,2,4
Sample No.: composite
Depth (ft.): 5-10.7

CASELLA - COLUMN TRACER STUDY #1

BROWN SANDY SILT

							Volume to bottom of sample (cc)=		10.9								
	Length (cm)=	8.22621					Pore Volume (cc)=		83.907				Tot. Porosity=	0.25			
	Area (sq.cm)=	40.3241				Volume from top of sample to sampling port (cc)=			14.3				Eff. Porosity=	0.27			
	Head (cm)=	70.338					Initial concentration (Co)=		4076				Dispersion=	.35 * V			
		Elasped		Wt.	Temp	Volume	Volume	Ave. Total	Pore	Chloride							
	Time	Time	Sample	sample	Sample	IN	OUT	Volume	Volume	Reading	Diluted	C	C/Co	k	BTCPV	BTC(C)	BTC(C/Co)
Date	(min)	(min)	No.	(gms)	(degree C)	(ml)	(ml)	(ml)	(cc)	(ppm)	(ppm)	(ppm)	(%)	(cm/sec)			
6/2/2005 10:04																	
6/2/2005 17:23	439	439	1	3.22	23	4.9	4.75	-6.08	-0.07	3.0	6.8	48.9	0.01	5.3E-07	0.1	1.00E-03	0.00
6/2/2005 17:34																	
6/3/2005 8:39	905	1344	2	3.23	21.9	9.5	9.6	3.48	0.04	2.8	6.3	45.7	0.01	5.1E-07	0.2	4.7	0.00
6/3/2005 9:07																	
6/3/2005 15:12	365	1709	3	3.27	22.2	4.05	4	7.50	0.09	3.0	6.8	48.9	0.01	5.3E-07	0.3	71.2	0.02
6/3/2005 15:36																	
6/4/2005 9:14	1058	2767	4	3.28	23.5	9.2	9.35	16.78	0.20	2.9	6.5	47.3	0.01	4.2E-07	0.4	270.8	0.07
6/4/2005 9:28																	
6/4/2005 20:15	647	3414	5	3.26	23.2	6.45	6.55	23.28	0.28	3.0	6.8	48.9	0.01	4.9E-07	0.5	591.3	0.15
6/4/2005 20:29																	
6/5/2005 9:29	780	4194	6	3.3	23.2	8.85	8.8	32.10	0.38	3.1	7.0	50.5	0.01	5.5E-07	0.6	977.5	0.24
6/5/2005 9:41																	
6/5/2005 19:18	577	4771	7	3.26	22.4	5.15	5	37.18	0.44	4.2	9.5	68.5	0.02	4.3E-07	0.7	1,379.0	0.34
6/5/2005 19:28																	
6/6/2005 8:52	804	5575	8	3.15	22.3	7.65	7.7	44.85	0.53	10.0	22.5	163.0	0.04	4.6E-07	0.8	1,763	0.43
6/6/2005 9:08																	
6/6/2005 16:21	433	6008	9	3.15	22.3	4	4	48.85	0.58	12.0	27.0	195.7	0.05	4.5E-07	0.9	2,111	0.52
6/6/2005 16:31																	
6/7/2005 8:51	980	6988	10	3.23	22.6	9.15	8.75	57.80	0.69	25.0	56.3	407.6	0.10	4.4E-07	1	2,418	0.59
6/7/2005 9:02																	
6/7/2005 18:28	566	7554	11	3.27	22.9	5.55	5.55	63.35	0.76	44.0	99.0	717.4	0.18	4.7E-07	1.1	2,682	0.66
6/7/2005 18:33																	
6/8/2005 8:32	839	8393	12	3.21	22.7	8.1	8.15	71.48	0.85	70.0	157.5	1141.3	0.28	4.7E-07	1.2	2,906	0.71
6/8/2005 9:31																	
6/8/2005 18:12	521	8914	13	3.31	22.7	5.5	5.5	76.98	0.92	92.0	207.0	1500.0	0.37	5.1E-07	1.3	3,095	0.76
6/8/2005 18:23																	
6/9/2005 8:49	866	9780	14	3.14	22.3	9.25	9.3	86.25	1.03	120	270.0	1956.5	0.48	5.2E-07	1.4	3,252	0.80
6/9/2005 8:58																	
6/9/2005 19:42	644	10424	15	3.26	22.7	6.2	6.1	92.40	1.10	150	337.5	2445.7	0.60	4.6E-07	1.5	3,383	0.83
6/9/2005 19:50																	
6/10/2005 9:18	808	11232	16	3.23	22.6	8.4	8.5	100.85	1.20	175	393.8	2853.3	0.70	5.1E-07	1.6	3,491	0.86
6/10/2005 9:39																	
6/10/2005 20:03	624	11856	17	3.28	23.3	5.9	6	106.80	1.27	190	427.5	3097.8	0.76	4.6E-07	1.7	3,581	0.88
6/10/2005 20:25																	

Exploration: MW04-1,2,4
Sample No.: composite
Depth (ft.): 5-10.7

CASELLA - COLUMN TRACER STUDY #1

BROWN SANDY SILT

								Volume to bottom of sample (cc)=		10.9							
	Length (cm)=		8.22621					Pore Volume (cc)=		83.907				Tot. Porosity=	0.25		
	Area (sq.cm)=		40.3241				Volume from top of sample to sampling port (cc)=			14.3				Eff. Porosity=	0.27		
	Head (cm)=		70.338					Initial concentration (Co)=		4076				Dispersion=	.35 * V		
		Elasped		Wt.	Temp	Volume	Volume	Ave. Total	Pore	Chloride							
	Time	Time	Sample	sample	Sample	IN	OUT	Volume	Volume	Reading	Diluted	C	C/Co	k	BTCPV	BTC(C)	BTC(C/Co)
Date	(min)	(min)	No.	(gms)	(degree C)	(ml)	(ml)	(ml)	(cc)	(ppm)	(ppm)	(ppm)	(%)	(cm/sec)			
6/11/2005 8:45	740	12596	18	3.25	23.3	8.5	8.65	115.38	1.38	220	495.0	3587.0	0.88	5.6E-07	1.8	3,655	0.90
6/11/2005 19:59																	
6/12/2005 10:45	886	13482	19	3.26	23.3	10	10.15	125.45	1.50	235	528.8	3831.5	0.94	5.5E-07	1.9	3,715	0.91
6/12/2005 10:50																	
6/12/2005 19:53	543	14025	20	3.3	23.4	6.4	6.4	131.85	1.57	240	540.0	3913.0	0.96	5.7E-07	2	3,766	0.92
6/12/2005 20:07																	
6/13/2005 8:28	741	14766	21	3.25	22.4	8.3	8	140.00	1.67	250	562.5	4076.1	1.00	5.3E-07			
6/13/2005 8:35																	
6/13/2005 20:13	698	15464	22	3.27	22.5	6.9	7	146.95	1.75	255	573.8	4157.6	1.02	4.8E-07			
6/13/2005 20:22																	
6/14/2005 15:16	1134	16598	23	3.26	22.3	10.25	10.3	157.23	1.87	250	562.5	4076.1	1.00	4.4E-07			
6/14/2005 15:27																	
6/15/2005 17:02	1535	18133	24	3.32	23.1	12.95	13.05	170.23	2.03	250	562.5	4076.1	1.00	4.1E-07			
6/15/2005 17:11																	
6/16/2005 17:05	1434	19567	25	3.26	23	12.2	12.2	182.43	2.17	250	562.5	4076.1	1.00	4.1E-07			
			Average	3.25	22.8									4.9E-07			

Van Genuchten and Parker Column Tracer Test Solution-JRL

remolded sample of brown sandy silt till

solution to one-dimensional solute transport equation after van genuchten and parker 1984. finite column which assumes concentration grad at L is equal to zero. flux into column preserves dispersive and advective qualities thru use of type 3 boundary condition.

for $\alpha < L$

note: burette volumes in cc, conc of tracer in mg/l, and elapsed time in min.

temperature during test varied from 21.9 to 23.5 °C.

number of data points: $ndp := 24$

$cndp := ndp - 2$

$$M := \begin{pmatrix} 3.47 & 0 & 1344 \\ 7.49 & 0 & 1709 \\ 16.78 & 0 & 2767 \\ 23.28 & 0 & 3414 \\ 32.1 & 50.5 & 4194 \\ 37.18 & 68.5 & 4771 \\ 44.85 & 163 & 5575 \\ 48.85 & 195.7 & 6008 \\ 57.8 & 407.6 & 6988 \\ 63.35 & 717.4 & 7554 \\ 71.48 & 1141.3 & 8393 \\ 76.98 & 1500 & 8914 \\ 86.25 & 1956.5 & 9780 \\ 92.4 & 2445.7 & 10424 \\ 100.85 & 2853.3 & 11232 \\ 106.8 & 3097.8 & 11856 \\ 115.38 & 3587 & 12596 \\ 125.45 & 3831.5 & 13482 \\ 131.85 & 3913 & 14025 \\ 140 & 4076.1 & 14766 \\ 146.95 & 4157.6 & 15464 \\ 157.23 & 4076.1 & 16598 \\ 170.23 & 4076.1 & 18133 \\ 182.43 & 4076.1 & 19567 \end{pmatrix}$$

$xx := M^{\langle 0 \rangle}$ $\quad yy := M^{\langle 1 \rangle}$ $\quad zz := M^{\langle 2 \rangle}$

$i := 0, 1 .. cndp$

$$q_i := \frac{xx_{i+1} - xx_i}{zz_{i+1} - zz_i} \cdot \frac{1}{60}$$

$indp := ndp - 1$

$$avgq := \frac{\sum_{l=0}^{cndp} q_l}{indp}$$

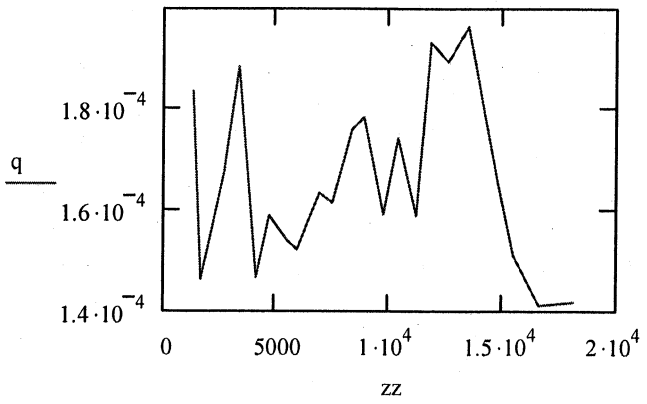
$avgq = 1.666 \times 10^{-4}$ cc/s

$$qavg := \frac{xx_{indp} - xx_0}{zz_{indp} - zz_0} \frac{1}{60}$$

$qavg = 1.637 \times 10^{-4}$ cc/s

$$\frac{avgq}{qavg} = 1.018$$

note: within 2%



a few checks before we calculate theoretical breakthru curve:

fixed parameters(cgs units):

$H := 70.338$ $Co := 4076.$ $L := 8.226$ $\tau := 1.2$

$Dm := 20.1 \cdot 10^{-6}$ $sg := 2.77$ $d := 7.165$ $nt := .245$

$$k := \frac{avgq \cdot 4 \cdot L}{H \cdot d^2 \cdot \pi} \qquad k = 4.832 \times 10^{-7} \quad cm/s$$

Dm from table 10.1 domenico and schwartz, 1990 for bromide at 25 deg C , τ from page 368 ibid

adjustible variables(cgs units):

$ne := .255$ $\alpha := .25$

Is α/L less than 1? $\frac{\alpha}{L} = 0.03$

calculated parameters(cgs units):

$$v := \frac{avgq \cdot 4}{\pi \cdot d^2 \cdot ne} \qquad v = 1.62 \times 10^{-5} \quad cm/s$$

$$D := \alpha \cdot v + Dm \cdot \frac{ne}{\tau} \qquad PV := \frac{L \cdot ne \cdot \pi \cdot d^2}{4} \qquad PV = 84.577$$

$$\frac{D}{Dm} = 0.414$$

travel time check thru column of length L: $\frac{L}{v \cdot 3600 \cdot 24} = 5.876$ days

less than test length

peclet number check:

$\frac{L \cdot v}{D} = 16.016$ note the use of L and not grain size

advective dispersion over-rides molecular diffusion

Reynolds number check(cgs units):

$\rho w := .99762$ gm/cc average density at 23^0 C and average salinity

$\mu := .00933$ gm/cm-s average viscosity of water at 23^0 C

$deff := .003$ cm assumed effective particle size

$\frac{v \cdot ne \cdot deff \cdot \rho w}{\mu} = 1.325 \times 10^{-6}$ laminar flow (less than 1 to 10)

recalculate hydraulic conductivity for 10° C:

$\mu 10 := .01308$ $\rho w10 := 0.99977$

$k \cdot \frac{\mu}{\mu 10} \cdot \frac{\rho w10}{\rho w} = 3.454 \times 10^{-7}$ cm/s

check on retardation coefficent(R) based on tracer mass balance in/thru column::

volume of tubing and stone before soil specimen (v1) and after soil specimen up to sampling port (v2).

$v1 := 10.9$ cc $v2 := 14.3$ cc volume zero offset: $v3 := 10.9$ cc

$\rho := (1 - nt) \cdot sg \cdot \rho w$

$indp := ndp - 1$

assume conc at specimen exit (C_{out}) is about the same as at sampling port ($M_{x,1}$)

$Cout := M_{indp,1}$

$$A := \left[\left[\sum_{m=0}^{cndp} \frac{\left(M_{m+1,0} - M_{m,0}\right)\cdot\left(M_{m,1} + M_{m+1,1}\right)}{2000}\right] + \frac{Co + Cout}{2}\cdot\frac{PV}{1000}\right] + \frac{v2\cdot\left(M_{indp,1} + Cout\right)}{2000}$$

$A = 792.468$ mg Br

$$B := \frac{\left(M_{indp,0} + v3\right)\cdot Co}{1000}$$

$B = 788.013$ mg Br

$CC := B - A$

$$Kd := \frac{CC\cdot 8}{\rho\cdot L\cdot\pi\cdot d^2}\cdot\frac{1000}{Co + M_{indp,1}}$$

$Kd = -1.579 \times 10^{-3}$

$$RC := 1 + \frac{\rho\cdot Kd}{ne}$$

$RC = 0.987$

$$\frac{CC}{B}\cdot 100 = -0.565\ \%$$

the above difference is within the variability of the test kit for tracer concentration measurement. assume R=1.

theoretical breakthru curve:

solve for roots of iterative expression in solution:

$R := 1.$

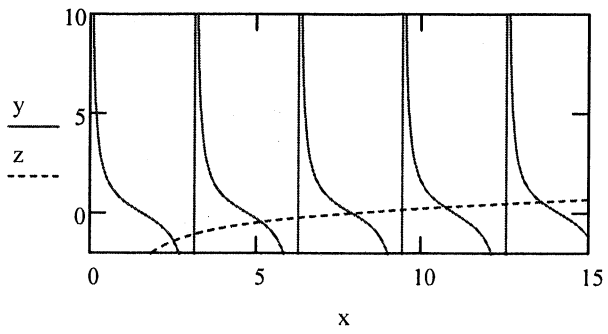
$i := 1, 2 .. 1500$ $\quad x_i := \frac{i}{100}$

$y_i := \cot\left(x_i\right)$ $\quad a := \frac{D}{L\cdot v}$ $\quad b := \frac{L\cdot v}{4\cdot D}$

$a = 0.062$

$b = 4.004$

$$z_i := a\cdot x_i - \frac{b}{x_i}$$



$x := 2.5$

$\beta_1 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_1 = 2.53$

$x := 5.2$

$\beta_2 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_2 = 5.142$

$\pi \cdot 2 = 6.283$

$x := 8$

$\beta_3 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_3 = 7.871$

$x := 9.9$

$\beta_4 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_4 = 10.709$

$\pi \cdot 4 = 12.566$

$x := 13.6$

$\beta_5 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$

$\beta_5 = 13.629$

$\pi \cdot 5 = 15.708$

$x := 16.8$

$\beta_6 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_6 = 16.607$

$\pi \cdot 6 = 18.85$

$x := 18.9$

$\beta_7 := \text{root}\left[\left(x \cdot \cot(x) - x^2 \cdot a + b\right), x\right]$ $\beta_7 = 19.624$

$\pi \cdot 7 = 21.991$

$x := 22$

$\beta_8 := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_8 = 22.67$

$\pi\cdot 8 = 25.133$

$x := 25.17$

$\beta_9 := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_9 = 25.736$

$\pi\cdot 9 = 28.274$

$x := 28.3$

$\beta_{10} := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_{10} = 28.816$

$\pi\cdot 10 = 31.416$

$x := 31.4$

$\beta_{11} := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_{11} = 31.908$

$\pi\cdot 11 = 34.558$

$x := 34.58$

$\beta_{12} := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_{12} = 35.007$

$\pi\cdot 12 = 37.699$

$x := 37.7$

$\beta_{13} := \text{root}\left[\left(x\cdot\cot(x) - x^2\cdot a + b\right), x\right]$ $\beta_{13} = 38.113$

$i := 14, 15 .. 200$

$\beta_i := (i - 1)\cdot\pi$ $\beta_{14} = 40.841$

note that this approximation at large i will change with slope "a"

$j := 1, 2 .. 30$

$P_j := \frac{j}{10}$ $P_0 := 0$ $C_0 := 0$

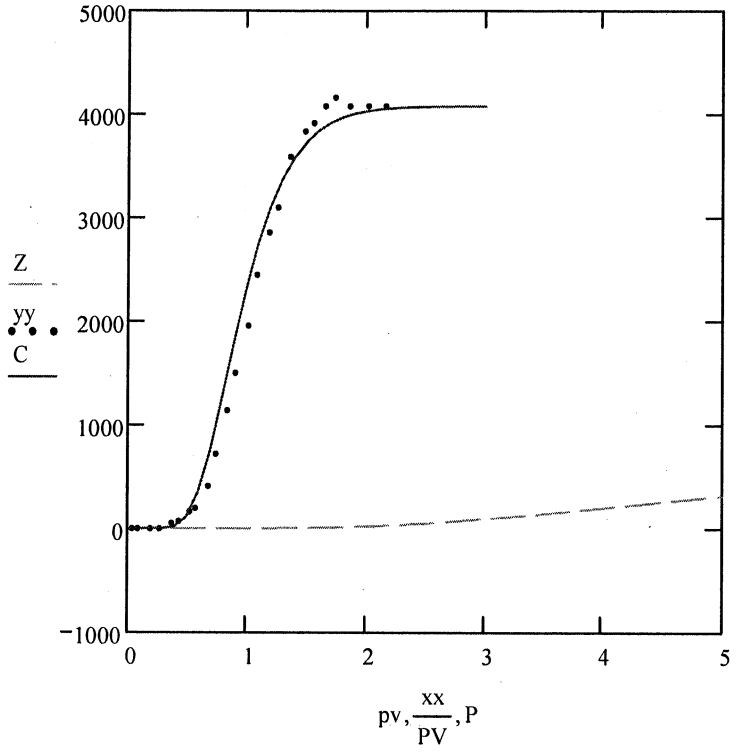
$$C_j := Co - Co \cdot \sum_{m=1}^{200} \frac{2 \cdot \beta_m \cdot \sin(\beta_m) \cdot \exp\left[\frac{L \cdot v}{2 \cdot D} - \frac{L \cdot P_j \cdot v}{4 \cdot D \cdot R} - \frac{(\beta_m)^2 \cdot D \cdot P_j}{L \cdot R \cdot v}\right]}{(\beta_m)^2 + \left(\frac{L \cdot v}{2 \cdot D}\right)^2 + \frac{L \cdot v}{D}}$$

$P_j =$	$C_j =$
0.1	-3.004
0.2	$7.117 \cdot 10^{-4}$
0.3	0.655
0.4	17.177
0.5	110.647
0.6	352.867
0.7	754.873
0.8	$1.263 \cdot 10^3$
0.9	$1.801 \cdot 10^3$
1	$2.307 \cdot 10^3$
1.1	$2.744 \cdot 10^3$
1.2	$3.099 \cdot 10^3$
1.3	$3.375 \cdot 10^3$
1.4	$3.581 \cdot 10^3$
1.5	$3.732 \cdot 10^3$
1.6	$3.84 \cdot 10^3$

if only molecular diffusion controlled transport thru column(no advective transport):

$jj := 1, 2 .. 66$ $\qquad tt_{jj} := jj \cdot 2000$

$$Z_{jj} := Co \cdot \operatorname{erfc}\left(.5 \cdot \sqrt{\frac{L^2 \cdot \tau}{Dm \cdot tt_{jj} \cdot 60 \cdot ne}}\right) \qquad pv_{jj} := tt_{jj} \cdot \frac{v}{L} \cdot 60$$



check on residuals for curve fit using sum-of-squares and arithmetic difference sum:

$$j := 0, 1 .. cndp$$

$$Cest_j := Co - Co \cdot \sum_{m=1}^{200} \frac{2 \cdot \beta_m \cdot \sin(\beta_m) \cdot \exp\left[\frac{L \cdot v}{2 \cdot D} - \frac{L \cdot \frac{xx_j}{PV} \cdot v}{4 \cdot D \cdot R} - \frac{\left[(\beta_m)^2 \cdot D\right] \cdot \frac{xx_j}{PV}}{L \cdot R \cdot v}\right]}{(\beta_m)^2 + \left(\frac{L \cdot v}{2 \cdot D}\right)^2 + \frac{L \cdot v}{D}}$$

$$resss := \left[\frac{\sum_{n=0}^{cndp} \left(Cest_n - yy_n\right)^2}{indp}\right]$$

$$resd := \sum_{n=0}^{cndp} \left(Cest_n - yy_n\right)$$

$$resss = 1.508 \times 10^5$$

$$resd = -54.056$$

APPENDIX V

CALCULATIONS OF GROUNDWATER TRAVEL TIME TO POTENTIAL SENSITIVE RECEPTORS

SME
SEVEE & MAHER
ENGINEERS

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**NORTH PROPERTY BOUNDARY (RECEPTOR A)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925332.78	481310.14
9	Receptor A:	924792.82	483417.01
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	179.70	
13	Basegrade:	185.77	
14	Dry-Season Overburden Groundwater Level:	175.62	
15	Dry-Season Upper Bedrock Groundwater Level:	172.09	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor A	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level	155.68	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor A (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	2175
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	9.17E-03
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	9.77E-04
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	6099
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	7.55E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	7.49E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	6.07
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	6.07
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	1674
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	2905
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	12.5

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**TRIBUTARY TO JUDKINS BROOK EAST (RECEPTOR B)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	926443.95	481466.15
9	Receptor B:	927462.29	481038.59
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	160.00	
13	Basegrade:	161.49	
14	Dry-Season Overburden Groundwater Level:	156.18	
15	Dry-Season Upper Bedrock Groundwater Level:	152.48	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor B	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	142.48	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor B (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	1104
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.24E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.32E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	2289
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	9.06E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	8.99E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	1.49
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	1.49
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	411
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	1229
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	4.5

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**EASTERN PROPERTY BOUNDARY (RECEPTOR C)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925269.40	481084.51
9	Receptor C:	927774.65	479626.08
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	165.91	
13	Basegrade:	173.65	
14	Dry-Season Overburden Groundwater Level:	178.42	
15	Dry-Season Upper Bedrock Groundwater Level:	175.00	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor C	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level	154.87	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor C (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	2899
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	8.12E-03
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	8.66E-04
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	9171
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	6.94E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	6.89E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	7.74
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	7.7364
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	2132
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	4208
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	17.4

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**WESTERN PROPERTY BOUNDARY (RECEPTOR D)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925079.26	480407.63
9	Receptor D:	924690.91	479920.51
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	182.50	
13	Basegrade:	189.30	
14	Dry-Season Overburden Groundwater Level:	179.44	
15	Dry-Season Upper Bedrock Groundwater Level:	170.00	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor D	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level	168.00	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor D (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	623
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.84E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.96E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	872
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	3.21E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	3.19E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	6.80
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	6.80
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	1874
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	1956
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	10.5

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**TRIBUTARY TO PUSHAW STREAM WEST (RECEPTOR E)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925059.17	480469.44
9	Receptor E:	924179.01	480754.21
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	176.94	
13	Basegrade:	183.93	
14	Dry-Season Overburden Groundwater Level:	178.76	
15	Dry-Season Upper Bedrock Groundwater Level:	170.00	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor E	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	162.00	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor E (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	925
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.81E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.93E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	1313
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	8.65E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	8.58E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	6.99
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	6.99
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	1926
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	1078
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	8.2

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR SHORTEST TIME OF TRAVEL FROM**		
3	**WITHIN PHASE II EXPANSION SOLID WASTE BOUNDARY TO**		
4	**TRIBUTARY TO JUDKINS BROOK NORTHWEST (RECEPTOR F)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925249.31	481146.33
9	Receptor F:	923884.64	481969.08
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	167.15	
13	Basegrade:	174.45	
14	Dry-Season Overburden Groundwater Level:	177.35	
15	Dry-Season Upper Bedrock Groundwater Level:	175.00	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor F	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	159.54	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor F (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	1594
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.12E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.19E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	3665
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	9.70E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	9.63E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	7.30
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	7.30
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	2011
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	1655
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	10.0

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR TIME OF TRAVEL FROM**		
3	**CELL 18 PUMP STATION TO**		
4	**TRIBUTARY TO JUDKINS BROOK EAST (RECEPTOR B)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	926620.95	481247.67
9	Receptor B:	927462.29	481038.59
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	128.65	
13	Basegrade:	155.78	
14	Dry-Season Overburden Groundwater Level:	153.64	
15	Dry-Season Upper Bedrock Groundwater Level:	150.65	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor B	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	142.48	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor B (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	867
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.29E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.37E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	1731
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	9.42E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	9.35E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	27.13
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	27.13
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	7477
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	927
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	23.0

Calculations By: APG
Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR TIME OF TRAVEL FROM**		
3	**CELL 19 PUMP STATION TO**		
4	**TRIBUTARY TO PUSHAW STREAM WEST (RECEPTOR E)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	924853.29	480923.59
9	Receptor E:	924179.01	480754.21
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	154.08	
13	Basegrade:	173.07	
14	Dry-Season Overburden Groundwater Level:	170.66	
15	Dry-Season Upper Bedrock Groundwater Level:	167.67	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor E	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	162.00	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor E (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	695
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	1.25E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	1.33E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	1435
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	8.16E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	8.09E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	18.99
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	18.99
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
41	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	5234
42	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	859
43	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	16.7

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR TIME OF TRAVEL FROM**		
3	**CELL 20 PUMP STATION TO**		
4	**TRIBUTARY TO JUDKINS BROOK EAST (RECEPTOR B)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	925409.19	482020.36
9	Receptor B:	927462.29	481038.59
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	140.00	
13	Basegrade:	163.59	
14	Dry-Season Overburden Groundwater Level:	161.07	
15	Dry-Season Upper Bedrock Groundwater Level:	159.50	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor B	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	142.48	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor B (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	2276
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	8.17E-03
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	8.71E-04
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	7161
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	7.48E-03
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	7.42E-01
37	Thickness of Saturted Overburden (ft):	=C13-C12	23.59
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	23.59
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	6502
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	3067
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	26.2

Calculations By: APG

Checked By: JES

1/A	B	C	D
2	**CALCULATION FOR TIME OF TRAVEL FROM**		
3	**LEACHATE STORAGE TANKS CONTAINMENT AREA**		
4	**TRIBUTARY TO PUSHAW STREAM WEST (RECEPTOR G)**		
5			
6	**MODEL INPUT**		
7	Location	Easting (ft NAD83)	Northing (ft NAD83)
8	Starting Location:	927378.44	477235.32
9	Receptor G:	926835.90	476631.77
10			
11	Feature at Starting Location	Elevation (ft NGVD)	
12	Bedrock:	147.50	
13	Basegrade:	203.85	
14	Dry-Season Overburden Groundwater Level:	177.24	
15	Dry-Season Upper Bedrock Groundwater Level:	175.00	
16			
17	Hydraulic Conductivity	ft/day	cm/sec
18	Overburden (Horizontal):	2.66E-02	9.40E-06
19	Overburden (Vertical):	9.07E-04	3.20E-07
20	Bedrock (Horizontal):	9.92E-02	3.50E-05
21			
22	Effective Porosity	ft^3/ft^3	
23	Overburden:	0.25	
24	Bedrock:	0.001	
25			
26	Feature at Receptor G	Elevation (ft NGVD)	
27	Dry-Season Groundwater Level (Assumed at Grade for Surface Water)	153.53	
28			
29	**CALCULATIONS**		
30		Equation	Result
31	Horizontal Distance from Starting Location to Receptor G (feet):	=SQRT((C9-C8)^2+(D9-D8)^2)	812
32	Horizontal Overburden Hydraulic Gradient (ft/ft):	=(C14-C27)/D31	2.92E-02
33	Horizontal Overburden Flow Velocity (ft/day):	=(C18*D32)/C23	3.11E-03
34	Horizontal Overburden Time of Travel (years):	=(D32/D33)/365	714
35	Horizontal Bedrock Hydraulic Gradient (ft/ft):	=(C15-C27)/D31	2.65E-02
36	Horizontal Bedrock Flow Velocity (ft/day):	=(C20*D35)/C24	2.62E+00
37	Thickness of Saturted Overburden (ft):	=C13-C12	56.35
38	Corrected Thickness of Saturted Overburden (ft):	=IF(D37>0,D37,0)	56.35
39	Vertical Overburden Flow Velocity (Gradient of 1) (ft/day):	=C19/C23	3.63E-03
40	Vertical Saturated Overburden Flow Time of Travel (days):	=D38/D39	15530
41	Horizontal Saturated Bedrock Flow Time of Travel (days):	=D31/D36	309
42	Total Time of Travel - Vertical Overburden + Horizontal Bedrock Flow (years):	=(D40+D41)/365	43.4

Calculations By: APG

Checked By: JES

APPENDIX W

2024 JRL ANNUAL WATER QUALITY REPORT

SME
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ENGINEERS

2024 ANNUAL WATER QUALITY REPORT
JUNIPER RIDGE LANDFILL

Prepared for

NEWSME LANDFILL OPERATIONS, LLC



April 2025

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Cumberland, ME 04021

Tel: 207.829.5016 sme-engineers.com

SME
SEVEE & MAHER
ENGINEERS

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2024 ANNUAL WATER QUALITY REPORT
JUNIPER RIDGE LANDFILL

1.0 INTRODUCTION

The Juniper Ridge Landfill (JRL or site) is a secure landfill located on a 780-acre parcel in Old Town, Maine. It is owned by the Maine Bureau of General Services (BGS) and is operated by NEWSME Landfill Operations, LLC (NEWSME). Since 2004, JRL has been an integral part of the State of Maine's overall solid waste management program, providing environmentally sound disposal capacity for non-hazardous solid waste generated throughout the State of Maine. Figure 1-1 shows the location of the site. Figures 1-2 and 1-3 show the general site layout and monitoring locations of the site in 2024.

Water quality has been monitored at the site since 1990 when the site was first selected for a landfill.[1] This report describes the results and analysis of the water quality sampling completed by Sevee & Maher Engineers, Inc. (SME) in 2024. The analysis compares the 2024 results to historical water quality at the site, using statistical and graphical evaluations of trends in the data by sample location, and to State and Federal water quality standards. The analysis also looks at the water quality data in terms of the site conditions that exist at the JRL.

1.1 2024 Monitoring Activities

Sampling during 2024 was completed in general accordance with the current Environmental Monitoring Plan (EMP) for the JRL (revised April 2016) and the EMP for the JRL expansion (revised June 2017), as well as an April 2024 EMP submitted to MEDEP that combines the JRL monitoring programs into a single document.[2,3,4] Descriptions of the 2024 water quality monitoring results are provided in this report.

Descriptions of the site setting, facility layout, monitoring locations, analytical parameters, and 2024 site activities are included herein.

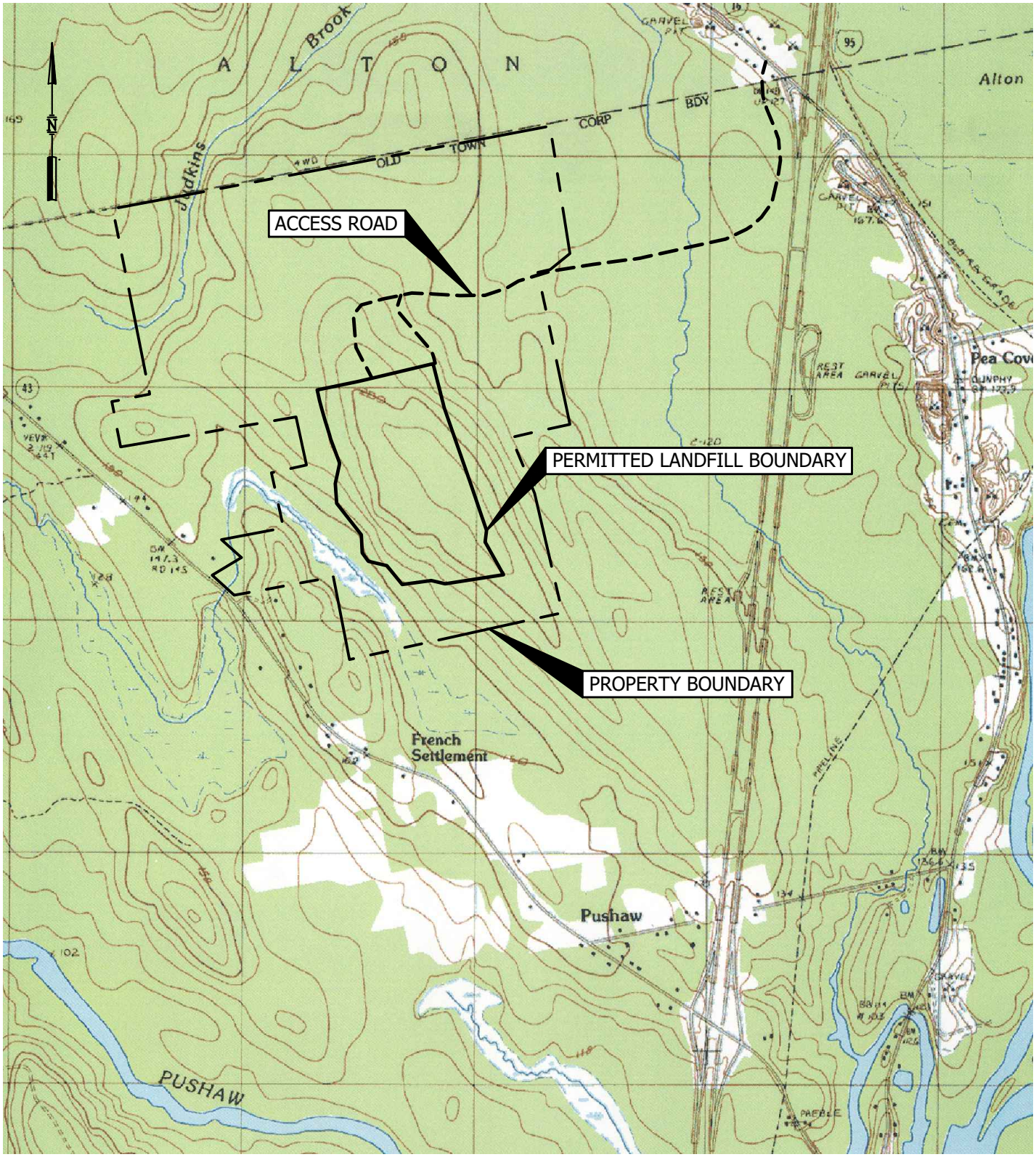
---

[1] The JRL was formerly known as the West Old Town Landfill and was owned and operated by Georgia-Pacific (previously known as Fort James and James River Paper Company) as a secure, non-hazardous, generator-owned waste disposal facility. A comprehensive description of the site setting and hydrogeology is contained in the 1991 report by SME entitled: *James River Paper Company Inc., West Old Town Landfill Project, Old Town Maine, Volume III, Site Investigation and Hydrogeologic Evaluation, August 1991*).

[2] SME, April 2016, Environmental Monitoring Plan, Juniper Ridge Landfill, Old Town, Maine, Prepared for NEWSME Landfill Operations LLC, Revised April 2016.

[3] SME, June 2017, Juniper Ridge Landfill Expansion Application Environmental Monitoring Plan, Submitted by: State of Maine Bureau of General Services, as Owner and NEWSME Landfill Operations, LLC, as Operator, July 2015 (Revised June 2017).

[4] SME, April 2024, Environmental Monitoring Plan, Juniper Ridge Landfill, Old Town, Maine, prepared for NEWSME Landfill Operations LLC. Revised April 2024.



BASE MAP ADAPTED FROM 7.5 MIN
USGS TOPOGRAPHIC QUADRANGLE
OLD TOWN, MAINE-1988

1000 0 2000 FEET

DWG: SITELOC LMN: FIG 1 CTB: SME-STD REV: 4/5/2022

FIGURE 1-1
SITE LOCATION MAP
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Casella\OldTownLandfill\GeneralSiteInfo\Usgs\SITELOC.dwg, FIGURE 1-1, 4/5/2022 6:35:05 AM, sjm

HYDROGEN SULFIDE
MONITOR LOCATION A N
482095.70
E 929404.13

HYDROGEN SULFIDE
MONITOR LOCATION B N
477352.97
E 930685.56

HYDROGEN SULFIDE
MONITOR LOCATION D N
482955.24
E 921878.25

HYDROGEN SULFIDE
MONITOR LOCATION C
N 478101.11
E 923701.00

PROPERTY
BOUNDARY

LEACHATE TANK

DETENTION POND 1A
SEE FIGURE 1-3

LEGEND

- GROUNDWATER SAMPLING AND GAS MONITORING LOCATION
- DECOMMISSIONED WELL
- SURFACE WATER SAMPLING LOCATION
- HYDROGEN SULFIDE MONITORING LOCATION
- PORE WATER SAMPLING LOCATION
- FALL FIELD PARAMETER AND GAS MONITORING LOCATION
- LF-UD-6 ■ UNDERDRAIN SAMPLING AND GAS MONITORING LOCATION
- LF-LD-11 LEAK DETECTION SAMPLING AND GAS MONITORING LOCATION

NOTES:

1. TOPOGRAPHY FROM AERIAL SURVEY PERFORMED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 5/31/2024. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.
2. TOPOGRAPHY CONTOURS INCLUDE PROPOSED TOPOGRAPHY FOR CELL 16 BASE GRADES.

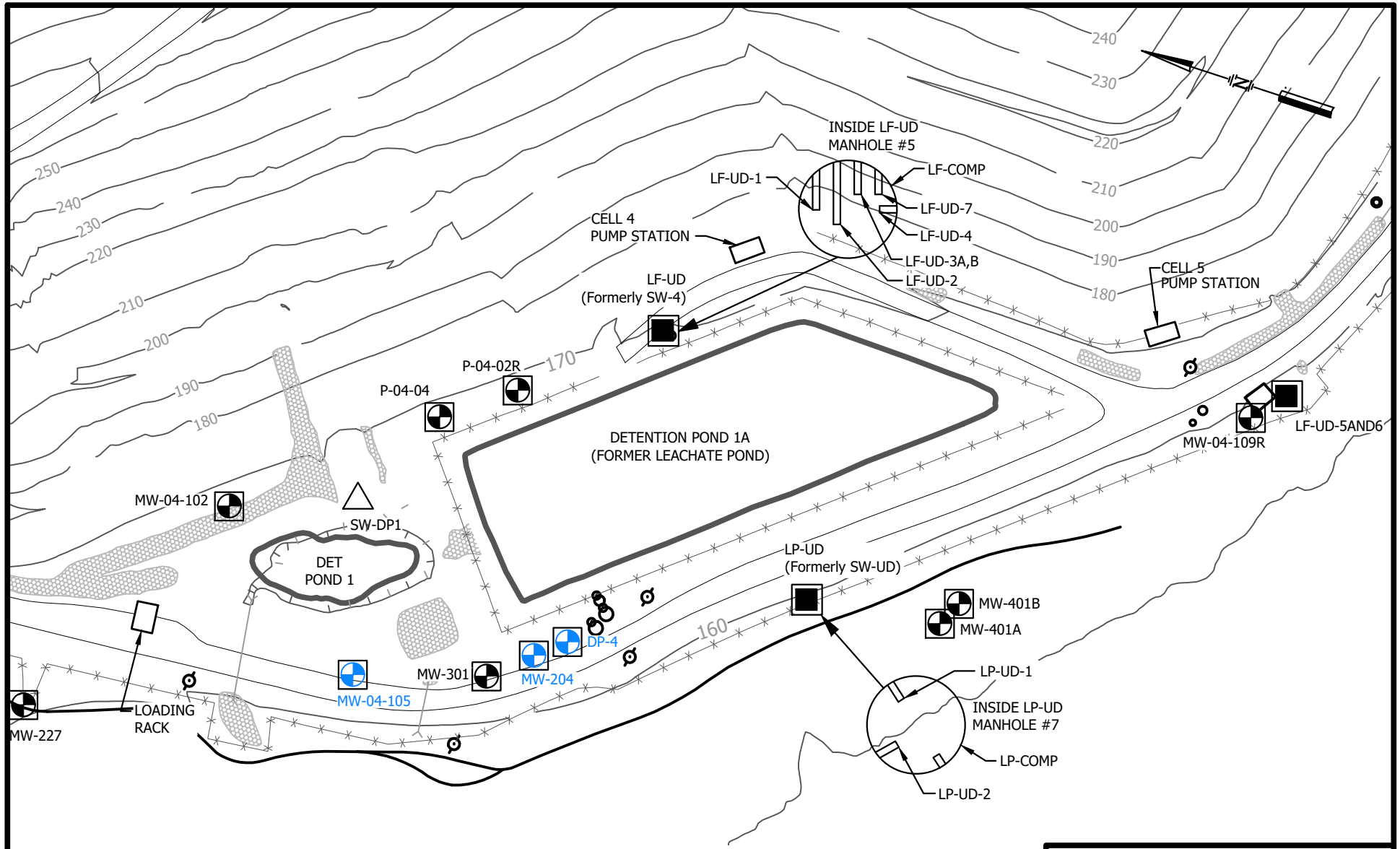
400 0 800 1600 FEET

FIGURE 1-2
SITE LAYOUT AND ENVIRONMENTAL MONITORING LOCATIONS
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: EMP LMN: WQ 1-2 CTB: SME-STD REV: 4/21/2025

\\Nserver\cfs\Casella\OldTownLandfill\GeneralSiteInfo\Acad\EMP.dwg, WQ FIG 1-2, 4/21/2025 1:04:00 PM, bwb



NOTE:
TOPOGRAPHY FROM AERIAL SURVEY PERFORMED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 5/31/2025. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.

50 0 100 FEET

LEGEND

- GROUNDWATER MONITORING LOCATION
- SURFACE WATER MONITORING LOCATION
- GAS MONITORING LOCATION
- UNDERDRAIN MONITORING LOCATION
- FALL FIELD PARAMETER ONLY

FIGURE 1-3
ENVIRONMENTAL MONITORING LOCATIONS
ADJACENT TO
FORMER LEACHATE POND
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
SEVEE & MAHER
ENGINEERS

DWG: EMP LMN: WQ 1-3 CTB: SME-STD REV: 4/23/2024

\\Server\cfs\Casella\OldTownLandfill\GeneralSiteInfo\Acad\EMP.dwg, WQ FIG 1-3, 4/21/2025 1:06:00 PM, bwb

1.2 2024 Landfill Conditions

The JRL is designed and constructed as a secure waste disposal facility in that the groundwater beneath and adjacent to the site is protected by a composite liner and a leachate collection system. Leachate generated at the site in 2024 was collected and stored in an on-site storage tank and then transported to either the MEDEP licensed wastewater treatment facility at the Old Town Mill owned by Nine Dragons Paper or the Anson Madison Sanitary District for treatment.

Cells 1, 2, 3A, 3B, 4, 5, 6, 7, 8, 9, and 10 account for the 68-acre landfill approved by the Maine Department of Environmental Protection (MEDEP) Solid Waste Order #S-020700-WD-N-A. A landfill expansion was approved by Board Order #S-020700-WD-BI-N and includes expansion Cells 11 through 17. Landfill expansion cells were constructed as needed for landfilling activities during the years listed below:

- Cell 11 in 2018,
- Cell 12 in 2020,
- Cell 13 in 2021,
- Cell 14 in 2022,
- Cell 15 in 2023, and
- Cell 16 in 2024.

Cell 16 construction activities included site grading, construction of the landfill perimeter dike and pump station, and modifications to perimeter stormwater drainage ditches west and north of the landfill. Intermediate cover and landfill gas collection piping and wells were installed within several areas of the active landfill cells in 2024.

Waste filling in 2024 occurred in Cells 1, 2, 3A, 3B, 4, 5, 6, 12, and 15.

The Stage 2 final closure was constructed in 2024. The Stage 2 final closure is approximately 10 acres and covers portions of Cells 4, 5, and 6. The stormwater from the Stage 2 final closure is directed toward Sediment Ponds 2 and 6.

2.0 SITE HYDROGEOLOGIC SETTING

The JRL site is underlain primarily by the glacial till deposited along a northwest-southeast oriented drumlin. There are marine clay deposits of the Presumpscot Formation in the lower topographic areas of the site (e.g., the wetlands in the west and east portions of the site). Throughout the site, the glacial till generally consists of a very dense brown till grading to very dense gray till with depth. The till typically ranges from 20 to 50 feet thick beneath the landfill and thus provides a natural containment layer for the landfill. At a few locations outside of the landfill boundary, bedrock outcrops are exposed at the ground surface. In addition, there are several isolated, discontinuous, washed till zones found beneath the till. However, these discontinuous washed till zones are often found within finer grained glacial tills.

Bedrock beneath the facility has been identified as a light gray and brown metagraywacke and metaquartzite interbedded with dark gray phyllite. The metasediments are typically competent and non-foliated, except for zones within the phyllite. The bedrock is mostly non-weathered, although some discontinuous weathered zones have been observed. No faulting has been observed in bedrock cores and there are no faults mapped in the vicinity of the site. The bedrock surface beneath the landfill is locally variable; however, the surface generally mimics the drumlin topography.

Groundwater elevations in soil and bedrock monitoring wells and piezometers across the JRL site were measured during a supplemental groundwater level monitoring event in October 2024. Interpreted groundwater elevation contour maps for the overburden groundwater and for the upper bedrock groundwater from the October 2024 monitoring are provided in Appendix B for reference to the following description of the site hydrogeology. The data from the October 2024 supplemental groundwater level monitoring event are also included in Appendix B.

Cells 1 through 10 of the JRL, which were developed between approximately 1996 and 2017, were constructed southwest of the crest of the drumlin, which, at the time, limited the overall cutoff of precipitation recharge to the drumlin. This resulted in little change to groundwater elevations and groundwater elevation contours generally continued to mimic topographic contours, as is typical for climate and geological conditions such as Maine's.

Construction of Cells 11 through 16 of the permitted landfill expansion between 2018 and 2024 covered the crest of the original drumlin topography and, as anticipated, has resulted in cutoff of precipitation recharge and the lowering of the groundwater table beneath and surrounding the landfill expansion.

Groundwater flow is understood to be generally in the direction perpendicular to the interpreted groundwater elevation equipotential contours (see Appendix B). Based on the October 2024 interpreted groundwater elevation equipotential contours, most of the groundwater below the JRL flows to the southwest toward a large wetland and an unnamed stream (Class B) that empties into Pushaw Stream

(Class B). Pushaw Stream empties into the Stillwater River (Class B), which flows to the Penobscot River (Class B). The large change in elevation from the original crest of the drumlin to the southwest across the landfill area results in upward groundwater seepage gradients near the unnamed stream and wetland area. Horizontal groundwater seepage gradients on the western side of the stream indicate that groundwater also moves from the west towards the stream; thus, the stream acts as a hydrologic barrier for groundwater flow from the landfill beyond the east side of the stream.

Smaller areas beneath the southeast and northeast portions of the JRL have underlying groundwater flow directions to the northeast to wetlands and an unnamed and unclassified stream that empties into an unnamed tributary to Judkins Brook (Class B). Surface water from Judkins Brook (Class B) flows to Brown Brook (Class B), then to Birch Stream (Class A), then to Stillwater River (Class B), and then to the Penobscot River (Class B). The large change in elevation from the original crest of the drumlin to the northeast results in upward groundwater seepage gradients near the unnamed stream and wetland areas. The unnamed tributary to Judkins Brook on the east side of the JRL acts as a hydrologic barrier for groundwater flow from the landfill to existing groundwater users beyond the west side of the brook.

The anticipated lowering of the groundwater table from the construction of Cells 11 through 16 is monitored by groundwater elevations measured during routine monitoring events. While the 2024 site groundwater level conditions around the landfill expansion Cells 11 through 16 are lower than prior to their construction, the groundwater monitoring locations remain hydraulically downgradient from the landfill. Linear trendlines of groundwater elevations later than 2007 were calculated for thirty-nine of the site's fifty current groundwater monitoring locations to evaluate water level changes during the time period ending with the routine water quality monitoring event completed in October 2024 (see Appendix B for water level and trendline plots). The average slopes of linear trendlines during this period were used to quantify the approximate rates of groundwater elevation changes at site groundwater monitoring locations, which are summarized in Table 2-1.

As shown in Table 2-1, thirty of the thirty-eight monitoring wells included in this analysis have downward water level trends for data collected later than 2007. Twenty-one of the monitoring locations included in Table 2-1 are located downgradient of the landfill expansion, sixteen of which have downward groundwater elevation trends resulting from the cut-off of recharge from precipitation by the landfill expansion liner systems. Groundwater elevations at these locations have declined at average annual rates ranging from -2.41 feet per year (ft/yr) at OW-609B to -0.26 ft/yr at MW-504. Groundwater elevations have increased at five of the twenty-one landfill expansion monitoring locations downgradient from the landfill expansion, with average annual groundwater elevation change rates ranging from 0.001 ft/yr at MW-507 to 0.62 ft/yr at OW-605A.

TABLE 2-1

2024 SUMMARY OF SITE GROUNDWATER ELEVATION TRENDS

Location Designation	Position Relative to Landfill	Date Range for Analysis	Average Groundwater Elevation Change (feet-NGVD)	Average Annual Rate of Groundwater Elevation Change (feet/year)
OW-609B	Downgradient (Expansion)	Feb-21 to Oct-24	-8.82	-2.41
P-206A	Upgradient	Jul-13 to Oct-24	-4.90	-0.44
OW-604A	Downgradient (Expansion)	Apr-18 to Oct-24	-4.75	-0.73
MW12-303R	Upgradient	Oct-12 to Oct-24	-4.37	-0.37
OW-602A	Downgradient (Expansion)	Apr-18 to Oct-24	-4.27	-0.66
P-04-11A	Downgradient (Expansion)	Feb-21 to Oct-24	-3.88	-1.06
OW-607B [1]	Downgradient (Expansion)	Feb-21 to Oct-24	-3.21	-0.88
MW-505 [2]	Downgradient (Expansion)	Feb-21 to Oct-24	-3.21	-0.88
OW-608B	Downgradient (Expansion)	Feb-21 to Oct-24	-3.08	-0.84
MW-508	Downgradient (Expansion)	Oct-22 to Oct-24	-2.65	-1.31
MW-223A	Downgradient	May-07 to Oct-24	-2.54	-0.15
OW-601A	Downgradient (Expansion)	Apr-18 to Oct-24	-2.14	-0.33
MW04-102	Downgradient	May-07 to Oct-24	-1.91	-0.11
P-04-04	Downgradient	May-07 to Oct-24	-1.91	-0.11
MW-223B	Downgradient	May-07 to Oct-24	-1.91	-0.11
OW-601B	Downgradient (Expansion)	Apr-18 to Oct-24	-1.90	-0.29
P-04-07A	Downgradient (Expansion)	Oct-22 to Oct-24	-1.62	-0.80
P-04-07B	Downgradient (Expansion)	Oct-22 to Oct-24	-1.55	-0.77
OW-610A	Downgradient (Expansion)	Oct-22 to Oct-24	-1.54	-0.77
MW04-105	Downgradient	May-07 to Oct-24	-1.27	-0.07
MW-08-01 [1]	Downgradient (Expansion)	Feb-21 to Oct-24	-1.07	-0.29
OW-611A	Downgradient (Expansion)	Apr-18 to Oct-24	-0.95	-0.15
MW-504 [1]	Downgradient (Expansion)	Feb-21 to Oct-24	-0.94	-0.26
P-04-02R	Downgradient	Jul-15 to Oct-24	-0.67	-0.07
MW-206	Upgradient	May-07 to Oct-24	-0.64	-0.04
MW-204	Downgradient	May-07 to Oct-24	-0.64	-0.04
MW-227	Downgradient	May-07 to Oct-24	-0.25	-0.01
DP-4	Downgradient	May-07 to Oct-24	-0.25	-0.01
MW-401B	Downgradient	May-07 to Oct-24	-0.13	-0.01
MW04-109R	Downgradient	Dec-09 to Oct-24	-0.11	-0.01
MW-507	Downgradient (Expansion)	Apr-18 to Oct-24	0.01	0.001
MW-402B	Downgradient	May-07 to Oct-24	0.13	0.01
MW-401A	Downgradient	May-07 to Oct-24	0.32	0.02
MW-04-09A	Downgradient (Expansion)	Feb-20 to Oct-24	0.34	0.07
OW-608A	Downgradient (Expansion)	Apr-18 to Oct-24	0.48	0.07
MW-04-09B	Downgradient (Expansion)	Feb-20 to Oct-24	0.84	0.18
MW09-901	Downgradient	Dec-09 to Oct-24	2.71	0.18
OW-605A	Downgradient (Expansion)	Apr-18 to Oct-24	4.04	0.62

Notes:

[1] The top of casing elevations for monitoring locations MW-08-01, MW-504, and OW-607B were raised by approximately 7 feet between the fall 2021 and spring 2022 monitoring events. Previous summaries of groundwater elevation trends for these wells did not include the corrected top of casing elevations, which resulted in overestimated elevation changes. The correct top of casing elevations for these wells were used for the 2024 summary of groundwater elevation trends.

[2] The top of casing elevation for monitoring location MW-505 was discovered to have been historically misreported as 200.02 feet NGVD and has been corrected to 186.54 feet NGVD.

The remaining seventeen monitoring locations in Table 2-1 are upgradient (three) or downgradient from all or a portion of Cells 1 through 10 of the JRL (fourteen). The cut-off of recharge from precipitation by the landfill liner systems has resulted in greater rates of groundwater elevation decline at two of the three upgradient monitoring locations. Upgradient monitoring locations P-206A and MW12-303R have groundwater elevation change rates of -0.44 ft/yr and -0.37 ft/yr, respectively. The groundwater elevation decline at upgradient monitoring location MW-206 has been slower, with a rate of -0.04 ft/yr. Groundwater elevations have declined in eleven of the fourteen monitoring locations downgradient from all or portions of Cells 1 through 10 of the JRL that were analyzed for groundwater elevation trends for data collected later than 2007. These declines have ranged from rates of -0.15 ft/yr at MW-223A to -0.01 ft/yr at DP-4, MW-227, MW-401B, and MW04-109R. The monitoring locations downgradient from all or a portion of Cells 1 through 10 of the JRL with increasing groundwater elevations have ranged from rates of 0.18 ft/yr at MW09-901 to 0.01 ft/yr at MW-402B.

Site monitoring wells MW-301, MW-402A, MW-502, MW06-01, OW-603B, OW-606A, OW-606B, and P-04-11B are not included in the analysis summarized in Table 2-1, because the rates of decline cannot be quantified due to either intermittent flowing or dry conditions. These wells generally show indications of declining to steady water levels. Monitoring wells MW-501 and MW-503 have been flowing during each monitoring event to date and therefore were also not included in Table 2-1.

Monitoring well MW-301 is located downgradient from the JRL. Groundwater elevation data from MW-301 show slight declines from 2007 through 2012. MW-301 was found to be damaged during the April 2013 monitoring round. It was repaired prior to the July 2013 monitoring round by replacing the upper section of the well, and since that time has had reported average groundwater elevations in the order of 4 feet higher than values prior to the repair. Monitoring well MW-301 is not included in the analysis summarized in Table 2-1 due to this discrepancy. Groundwater elevation data from MW-301 show continued declines from 2013 through 2024.

Monitoring well MW-506 is located downgradient from the JRL expansion. Groundwater elevation data from MW-506 generally shows steady declines from 2021 through 2024 but appears to be influenced by an on-site non-potable bedrock water supply well and is not included in the analysis summarized in Table 2-1.

In addition to the cut-off of precipitation recharge by the landfill liner systems, groundwater elevations at the site are affected by the amount of precipitation that falls on the site. Based on National Climatic Data Center (NCDC) climatological data from the Bangor Area, the annual precipitation near the PTL was 41.72 inches during 2024, which was 0.01 inches above the normal precipitation for this area. Monthly precipitation totals ranged from a low of 1.32 inches in October 2024 to a maximum of 8.99 inches in March 2024. The 2024 annual precipitation near the PTL decreased from the 2023 annual precipitation of 49.28 inches, which is an approximate decrease of 15 percent. Hydrological drought conditions, on a

monthly basis, did not occur in January through October 2024 but did occur during November and December 2024 in the Southern Interior Zone of Maine, where the Site is located.[5]

[5] NOAA Palmer Hydrological Drought Index (web data: https://www.ncei.noaa.gov/access/monitoring/historical-palmers/maps/phd/202401-202412.

3.0 MONITORING LOCATIONS

Monitoring during 2024 was completed in general accordance with the current EMP for the JRL (revised April 2016) and the EMP for the JRL expansion (revised June 2017), as well as an April 2024 EMP submitted to MEDEP that combines the JRL monitoring programs into a single document. Descriptions of the monitoring locations sampled during 2024 are provided herein.

3.1 Monitoring Locations

Monitoring events were conducted in April, July, and October 2024 at 50 groundwater monitoring wells and piezometers,[6] four pore-water sample locations, four surface water locations, two stormwater locations, fifteen underdrain monitoring locations,[7] five leak detection locations,[8] and one leachate monitoring location. Measurement of field parameters (e.g., temperature and specific conductance) at the underdrain and leak detection monitoring locations that contained water were completed on a monthly basis by NEWSME personnel.

The site monitoring points are summarized in Tables 3-1 and 3-2 and their locations are shown on Figures 1-2 and 1-3. Information on the geologic formation in which each monitoring well is screened, as well as the elevation and distance below ground of each monitoring well screened interval, is listed in Table 3-1.

[6] Three of the site groundwater monitoring wells (DP-4, MW04-105, and MW-204) are only monitored for field parameters and only during the fall monitoring event. Fourteen of the site groundwater monitoring wells (OW-06-03, OW-601A, OW-601B, OW-602A, OW-603B, OW-604A, OW-605A, OW-606A, OW-606B, OW-607B, OW-608A, OW-608B, OW-609B, OW-610A, OW-611A, P-04-07A, P-04-07B, P-04-11A, and P-04-11B) are monitored for detection monitoring parameters only during the summer monitoring event and are monitored for field parameters only during the spring and fall monitoring events. Monitoring well MW-506 was reported as damaged and was not monitored in April, July, and October 2024. Monitoring well OW-06-03 had insufficient water for sampling in July and October 2024 and monitoring well OW-603B was dry and could not be sampled in April, July, and October 2024. Piezometer P-04-11B was dry and could not be sampled in October 2024.

[7] Samples were obtained from two underdrain monitoring locations (LF-UD-5and6 and LP-UD-2) during one or more of the 2024 sampling events. The remaining eleven underdrain monitoring locations were not sampled during 2024 due to dry conditions (LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LF-UD-12+13+14, and LP-UD-1). No composite samples were required to be taken at Manhole #5 (LF-COMP) and Manhole #7 (LP-COMP) in 2024. Underdrain monitoring locations were monitored for field parameters monthly in 2024, unless those locations were dry.

[8] Leak detection monitoring locations LF-LD-11, LF-LD-12, LF-LD-13, and LF-LD-14 were sampled for field parameters and the detection monitoring parameters in July 2024 and for field parameters monthly. LF-LD-15 was sampled for field parameters and the detection monitoring parameters in July and October 2024 and for field parameters monthly.

TABLE 3-1

2024 GROUNDWATER MONITORING LOCATIONS

Location Designation	Position Relative to Landfill	Screen Depth Interval (feet below ground surface)	Ground Surface Elevation (feet-NGVD)	Screen Interval Elevation (feet-NGVD)	Geologic Formation Screened
MW-204	Downgradient	13.8 – 18.8	158.5	144.7 – 139.7	Overburden
MW-206	Upgradient	15.0 – 20.0	201.2	186.2 – 181.2	Overburden
P-206A	Upgradient	85.5 – 90.5	201.5	116.0 – 111.0	Bedrock
MW-223A	Downgradient	28.0 – 33.0	173.5	145.5 – 140.5	Bedrock
MW-223B	Downgradient	12.6 – 17.6	173.5	160.9 – 155.9	Overburden
MW-227	Downgradient	15.0 – 20.0	161.0	146.0 – 141.0	Overburden
MW-301	Downgradient	162.7 – 182.7	163.5	0.8 – -19.2	Bedrock
MW12-303R	Upgradient	30.4 – 40.4	206.1	175.7 – 165.7	Overburden
MW-401A	Downgradient	98.8 – 108.8	153.8	55.0 – 45.0	Bedrock
MW-401B	Downgradient	10.0 – 20.0	154.6	144.6 – 134.6	Overburden
MW-402A	Downgradient	95.5 – 105.5	149.5	54.0 – 44.0	Bedrock
MW-402B	Downgradient	12.0 – 22.0	149.8	137.8 – 127.8	Overburden
DP-4	Downgradient	18.5 – 24.5	165.5	147.0 – 141.0	Overburden
P-04-02R	Downgradient	30.0 – 35.0	168.0	138.0 – 133.0	Overburden
P-04-04	Downgradient	25.0 – 30.0	166.7	141.7 – 136.7	Overburden
MW04-102	Downgradient	10.0 – 15.0	167.0	157.0 – 152.0	Overburden
MW04-105	Downgradient	14.8 – 19.8	162.2	147.4 – 142.4	Overburden
MW04-109R	Downgradient	15.0 – 20.0	157.1	142.1 – 137.1	Overburden
MW-04-09A	Downgradient Expansion	38.0 – 39.0	167.0	129.0 – 128.0	Bedrock
MW-04-09B	Downgradient Expansion	14.0 – 15.0	167.0	153.0 – 152.0	Overburden
MW-08-01	Downgradient Expansion	117.0 – 127.0	173.1	56.1 – 46.1	Bedrock
MW09-901	Downgradient	15.0 – 20.0	161.9	146.9 – 141.9	Overburden
MW-501	Downgradient Expansion	35.0 – 45.0	163.2	128.2 – 118.2	Bedrock
MW-502	Downgradient Expansion	38.0 – 43.0	157.4	119.4 – 114.4	Bedrock
MW-503	Downgradient Expansion	60.0 – 70.0	160.7	100.7 – 90.7	Bedrock
MW-504	Downgradient Expansion	71.5 – 81.5	172.6	101.1 – 91.1	Bedrock
MW-505	Downgradient Expansion	72.2 – 82.2	184.1	111.9 – 101.9	Bedrock
MW-506	Downgradient Expansion	50.0 – 60.0	195.8	145.8 – 135.8	Bedrock
MW-507	Downgradient Expansion	22.5 – 220.0	174.7	152.2 – -45.3	Bedrock (Open Borehole)
MW-508	Downgradient Expansion	26.0 – 36.0	189.3	163.3 – 153.3	Bedrock
MW06-01	Downgradient Expansion	10.0 – 20.0	163.3	153.3 – 143.3	Overburden
OW-06-03	Downgradient Expansion	13.0 – 23.0	203.0	190.0 – 180.0	Overburden
OW-601A	Downgradient Expansion	66.6 – 76.6	214.9	148.3 – 138.3	Bedrock
OW-601B	Downgradient Expansion	46.2 – 56.2	214.5	168.3 – 158.3	Overburden
OW-602A	Downgradient Expansion	22.5 – 240.0	211.7	189.2 – -28.3	Bedrock (Open Borehole)
OW-603B	Downgradient Expansion	16.2 – 26.2	205.1	188.9 – 178.9	Overburden/Bedrock
OW-604A	Downgradient Expansion	22.5 – 32.5	195.8	173.3 – 163.3	Bedrock
OW-605A	Downgradient Expansion	62.5 – 260.0	184.7	122.2 – -75.3	Bedrock (Open Borehole)
OW-606A	Downgradient Expansion	42.5 – 240.0	157.0	114.5 – -83.0	Bedrock (Open Borehole)
OW-606B	Downgradient Expansion	7.0 – 12.7	162.9	155.9 – 150.2	Overburden/Bedrock
OW-607B	Downgradient Expansion	41.0 – 51.0	172.2	131.2 – 121.2	Overburden
OW-608A	Downgradient Expansion	62.5 – 260.0	196.1	133.6 – -63.9	Bedrock (Open Borehole)
OW-608B	Downgradient Expansion	33.5 – 43.5	198.4	164.9 – 154.9	Overburden
OW-609B	Downgradient Expansion	39.0 – 49.0	209.9	170.9 – 160.9	Overburden
OW-610A	Downgradient Expansion	26.7 – 36.7	180.4	153.7 – 143.7	Bedrock
OW-611A	Downgradient Expansion	12.5 – 220.0	183.1	170.6 – -36.9	Bedrock (Open Borehole)
P-04-07A	Downgradient Expansion	73.0 – 83.0	174.1	101.1 – 91.1	Bedrock
P-04-07B	Downgradient Expansion	24.5 – 25.5	174.1	149.6 – 148.6	Bedrock
P-04-11A	Downgradient Expansion	48.5 – 49.5	184.0	135.5 – 134.5	Overburden
P-04-11B	Downgradient Expansion	9.0 – 10.0	184.0	175.0 – 174.0	Overburden

TABLE 3-2

**2024 SURFACE WATER, STORMWATER, LEACHATE,
LEAK DETECTION, AND UNDERDRAIN MONITORING LOCATIONS**

Location Designation	Water Body Description
SW-1	Southwesterly unnamed tributary of Pushaw Stream
SW-2	Southwesterly unnamed tributary of Pushaw Stream
SW-3	Southwesterly unnamed tributary of Pushaw Stream
SW23-4	Northerly unnamed tributary of Pushaw Stream
SW-DP1	Stormwater Detention Pond 1
SW-DP6	Stormwater Detention Pond 6
PWS10-1	Downgradient Stream Alluvium
PWS10-2	Downgradient Stream Alluvium
PWS10-3	Downgradient Stream Alluvium
PWS-4	Downgradient Stream Alluvium
LF-LD-11	Cell 11 Leak Detection
LF-LD-12	Cell 12 Leak Detection
LF-LD-13	Cell 13 Leak Detection
LF-LD-14	Cell 14 Leak Detection
LF-LD-15	Cell 15 Leak Detection
LF-UD-1	Cell 1 underdrain at MH #5
LF-UD-2	Cell 2 underdrain at MH #5
LF-UD-3A,B	Cell 3A & Cell 3B underdrain at MH #5
LF-UD-4	Cell 4 underdrain at MH #5
LF-UD-5 and 6	Cell 5 & Cell 6 Underdrain (combined flow)
LF-UD-6	Cell 6 Underdrain
LF-UD-7	Cell 7 Underdrain at MH #5
LF-UD-8	Cell 8 Underdrain
LF-UD-9	Cell 9 Underdrain
LF-UD-10	Cell 10 Underdrain
LF-UD-12+13+14	Cell 12, 13, and 14 Underdrain (combined flow)
LP-UD-1	Detention Pond 1A underdrain south end at MH #7
LP-UD-2	Detention Pond 1A underdrain north end at MH #7
LF-COMP	Composite sample of LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, and LF-UD-7 when water level in manhole covers the inlet pipes at MH #5
LP-COMP	Composite sample of LP-UD-1 and LP-UD-2 when water level in manhole covers both of the inlet pipes at MH #7
LT-C4LR	Leachate – On-site leachate storage tank

The sampling frequencies and monitoring parameters for each monitoring location are listed in the site's EMP. Monitoring parameters are discussed in Section 4.0.

3.2 Groundwater Locations

Groundwater monitoring wells MW-206, P-206A, and MW12-303R are positioned upgradient of the landfill.

Groundwater monitoring wells DP-4, MW04-102, MW04-105, MW04-109R, MW-204, MW-223A, MW-223B, MW-227, MW-301, MW-401A, MW-401B, MW-402A, MW-402B, MW09-901, P-04-02R, and P-04-04 are positioned downgradient of all or part of Cells 1 through 10 of the landfill.

Groundwater monitoring wells MW-04-09A, MW-04-09B, MW-08-01, MW-501, MW-502, MW-503, MW-504, MW-505, MW-506, MW-507, MW-508, OW-06-01, OW-06-03, OW-601A, OW-601B, OW-602A, OW-603B, OW-604A, OW-605A, OW-606A, OW-606B, OW-607B, OW-608A, OW-608B, OW-609B, OW-610A, OW-611A, P-04-07A, P-04-07B, P-04-11A, and P-04-11B are positioned downgradient of the landfill expansion.

3.3 Surface Water and Stormwater Locations

Surface water monitoring locations SW-1, SW-2, and SW-3 are located west of the landfill in a southwesterly unnamed tributary to Pushaw Stream. SW-1 and SW-3 are located downstream of the landfill, while SW-2 is located upstream of the landfill. Surface water monitoring location SW23-4 is located northeast of landfill in a northerly unnamed tributary to Judkins Brook. Stormwater sample monitoring locations SW-DP1 and SW-DP6 are located at the discharge locations of Detention Pond 1 and Detention Pond 6, respectively.

3.4 Pore-Water Locations

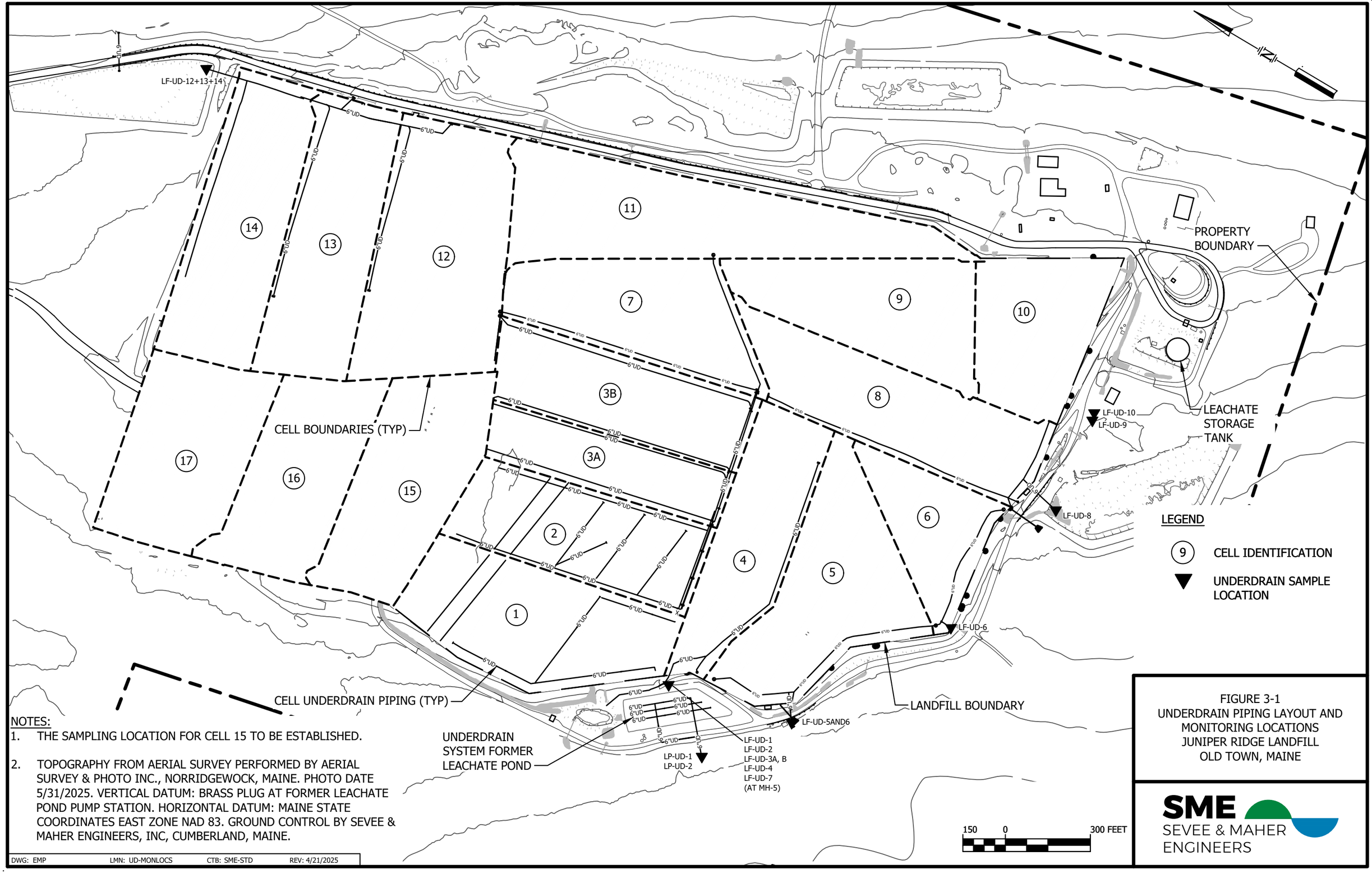
Stream-based pore-water sample locations PWS10-1, PWS10-2, and PWS10-3 are located downgradient of the landfill along the southwesterly unnamed tributary to Pushaw Stream and represent water in the overburden adjacent to the stream. Stream-based pore-water sample location PWS-4 is located downgradient of the landfill expansion along a northerly unnamed tributary to Judkins Brook and represents water in the overburden adjacent to the stream.

3.5 Leachate Sample Location

During the 2024 sampling events, leachate samples were obtained from the on-site leachate storage tank (i.e., LT-C4LR). The sampling location at the leachate storage tank, LT-C4LR, is shown on Figure 1-2.

3.6 Underdrain Monitoring

The sample locations where underdrain samples were obtained in 2024 are shown on Figures 1-2 and 1-3 and a diagram of the underdrain collection system is included on Figure 3-1. By design, the sampling of the landfill underdrain system provides a means to monitor for landfill cell leakage as the underdrains underlie the landfill liner system. Manhole MH #5, located northeast of Detention Pond 1A, is the sample



NOTES:

1. THE SAMPLING LOCATION FOR CELL 15 TO BE ESTABLISHED.

2. TOPOGRAPHY FROM AERIAL SURVEY PERFORMED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 5/31/2025. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.

DWG: EMP LMN: UD-MONLOCS CTB: SME-STD REV: 4/21/2025

FIGURE 3-1
UNDERDRAIN PIPING LAYOUT AND MONITORING LOCATIONS
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

I:\Network\cds\Casella\OldTown\Landfill\General\SiteInfo\Acad\EMP.dwg, UD MONLOCS FIG3-1, 4/21/2025 1:25:07 PM, bwb

location which receives groundwater entering the underdrains beneath Cells 1, 2, 3A, 3B, 4, and 7. The sampling location for the underdrain for Cell 6 (LF-UD-6) is from a stilling well in the underdrain line. The base grades for Cells 5 and 6 were designed such that the Cell 5 underdrain would also accommodate flow from the Cell 6 underdrain. The combined flow from the Cells 5 and 6 underdrains then drains to a 6-inch-diameter pipe outfall located on the southern perimeter of the landfill, which is sampled as a composite sample (LF-UD-5 and 6).

The underdrain for Cell 8 was constructed in 2012 at a discrete location shown on Figure 3-1. LF-UD-8 was added to the monitoring program during the April 2013 sampling event as the underdrain monitoring location for Cell 8. The underdrain for Cell 9, LF-UD-9, was constructed in 2015 and was added to the monitoring program during the April 2016 sampling event. With the construction of Cell 10 in 2017, the underdrain piping and sample collection location of the underdrain for LF-UD-9, which was located in a temporary underdrain manhole adjacent to Cell 9, was extended to the south outside of the Cell 10 perimeter berm. The underdrain for Cell 10, LF-UD-10, was constructed in 2017 outside of the southern perimeter berm of Cell 10, and was added to the monitoring program during the October 2017 sampling event.

The Cell 12 underdrain, LF-UD-12, was monitored in spring of 2021. Samples for the underdrains for Cells 12 through 14 are now collected as a combined sample at monitoring location LF-UD-12+13+14, which was first monitored in fall 2022. Data from LF-UD-12 has been combined with data from LF-UD-12+13+14.

Manhole location MH #7, which is located southwest of Detention Pond 1A, is the sample location for LP-UD-1 and LP-UD-2, which monitors groundwater entering the southern and northern underdrains, respectively, of Detention Pond 1A.

Underdrain samples were obtained by SME as part of routine monitoring and analyzed for the detection monitoring parameters. Samples were also obtained monthly by NEWSME for field parameters. The underdrain sample locations LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-5 and 6, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LP-UD-1, and LP-UD-2 were sampled during 2024, unless those locations were dry or their sample pipe inverts were submerged.

Historically, during times when LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, and LF-UD-7 were not able to be sampled separately due to pipe invert submergence, LF-COMP has been obtained from the manhole MH #5. This sample provides a composite sample of the subject underdrain locations. Sample pipe submergence did not occur during the three 2024 detection monitoring events. LF-COMP samples were obtained from manhole MH #5 and analyzed for field parameters monthly during 2024, regardless of the level of the liquid level in the manhole.

Composite LP-COMP samples have never been obtained during the routine monitoring events in 2024 because pipe invert submergence did not occur at individual sample locations LP-UD-1 and LP-UD-2. LP-COMP samples were obtained and analyzed for field parameters monthly during 2024, regardless of the level of the liquid level in the manhole.

3.7 Leak Detection Monitoring

Detection monitoring began in 2021 at landfill leak detection sampling locations LF-LD-11 and LF-LD-12 for the Cells 11 and 12 leak detection systems, respectively. Detection monitoring began in 2022 at landfill leak detection sampling location LF-LD-13 for the Cell 13 leak detection system, in 2023 for landfill leak detection sampling location LF-LD-14 for the Cell 14 leak detection system, and in 2024 for landfill leak detection sampling location LF-LD-15 for the Cell 15 leak detection system. Monitoring locations LF-LD-11, LF-LD-12, LF-LD-13, LF-LD-14, and LF-LD-15 are shown on Figure 3-1.

3.8 Annual Monitoring Well Specific Conductance Measurements

Specific conductance measurements were measured in 2024 from an expanded list of monitoring wells surrounding the existing landfill operations at JRL during the October monitoring event based on the MEDEP's request in 2008. Locations measured annually for specific conductance are listed in Table 3-3 and shown on Figure 3-2. The results of the 2024 and historical fall specific conductance measurements are included in Appendix C.

TABLE 3-3

2024 MONITORING WELL AND PIEZOMETER LOCATIONS USED FOR ANNUAL SPECIFIC CONDUCTANCE MEASUREMENTS

Location Designation	
DP-4	P-04-02R
MW04-102	P-04-04
MW04-104	P-201A
MW04-105	P-201B
MW04-109R	P-201C
MW09-901	P-201D
MW12-303R	P-201E
MW-204	P-202A
MW-206	P-202B
MW-216BR	P-206A
MW-223A	P-209A
MW-223B	P-209B
MW-227	P-209C [1]
MW-301	P-211A
MW-401A	P-211B
MW-401B	P-220A [2]
MW-402A	P-220B [2]
MW-402B	

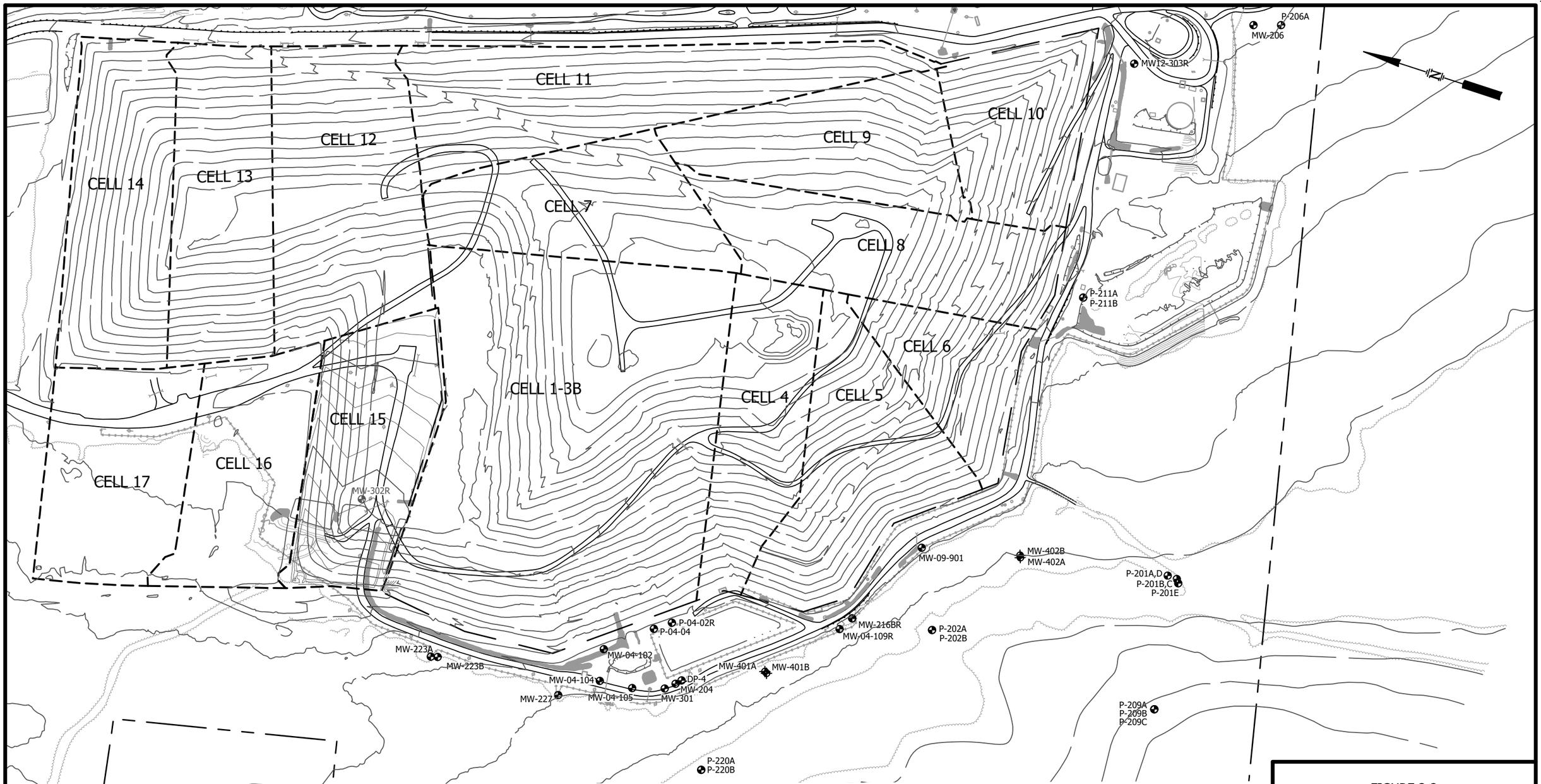
Notes:

[1] Similar to most other years, P-209C was dry in October 2024 and specific conductance was not measured at this location.

[2] P-220A and P-220B have not been monitored since 2021 because the area was flooded due to a beaver dam.

3.9 Water Quality Landfill Gas Monitoring Program

Concurrent with the routine water quality monitoring events in 2024, site monitoring wells, underdrain locations, leachate manholes, a leak detection manhole, and JRL site property boundaries were monitored for the presence of landfill-related gases using a hand-held gas meter. Figures 1-2 and 1-3 show the gas monitoring locations associated with the landfill's water quality monitoring program. The results of the 2024 and historical landfill gas monitoring are discussed in Section 9.0.



NOTES

1. TOPOGRAPHY FROM AERIAL SURVEY PERFORMED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 6/23/2023. VERTICAL DATUM: BRASS PLUG AT FORMER LEACHATE POND PUMP STATION. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.
2. REMAINDER OF BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC., NORRIDGEWOCK, MAINE. PHOTO DATE 5/31/2025. VERTICAL DATUM: BRASS PLUG AT PUMP STATION AND AT THE ADMINISTRATION BUILDING. HORIZONTAL DATUM: MAINE STATE COORDINATES EAST ZONE NAD 83. GROUND CONTROL BY SEVEE & MAHER ENGINEERS, INC, CUMBERLAND, MAINE.
3. PROPERTY LINE LOCATIONS ARE A RESULT OF FIELD SURVEY PERFORMED BY HERRICK AND SALSBURY, INC. LAND SURVEYORS, ELLSWORTH, MAINE FOR TRYTON TREE FARM PROJECT, PATTEN CORPORATION-DOWNEAST, OLD TOWN, MAINE, FEBRUARY 23, 1988, REVISED APRIL 7, 1988.
4. LOCATIONS OF EXPLORATIONS ARE APPROXIMATE.

LEGEND

MW-402B — GROUNDWATER SAMPLING LOCATION

MW-302R — DECOMMISSIONED GROUNDWATER SAMPLING LOCATION

150 0 300 FEET

FIGURE 3-2
MONITORING WELL LOCATIONS USED FOR ANNUAL CONDUCTIVITY MEASUREMENTS
JUNIPER RIDGE LANDFILL
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: GW LMN: FIG3-2 CONDUCTIVITY CTB: CONDUCTIVITY REV: 4/18/2023

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4.0 DETECTION MONITORING PROGRAM PARAMETERS

Sampling during 2024 was completed in general accordance with the current EMP for the JRL (revised April 2016) and the EMP for the JRL expansion (revised June 2017), as well as an April 2024 EMP submitted to MEDEP that combines the JRL monitoring programs into a single document. The detection monitoring parameters are listed in Table 4-1.

Analysis for volatile organic compounds (VOCs) was included during the April monitoring event for multiple locations (LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-5 and 6, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LF-UD-12+13+14, LP-UD-1, LP-UD-2, and MW-401B), provided that there was sufficient water available to sample at these locations. The leachate samples (LT-C4LR) were analyzed for the same VOCs list during the April, July, and October 2024 monitoring events. LT-C4LR was also analyzed for the parameters listed in Appendix A, Column 3 of the Chapter 405 MEDEP Solid Waste Regulations during the April 2024 monitoring event.

A supplement to the 2024 monitoring program included sampling and analysis for dissolved methane at monitoring well MW-223B in April and October 2024 and pore-water sampling locations PWS10-1, PWS10-2, and PWS10-3 in April, July, and October 2024. Dissolved methane is also included in the EMP for the JRL expansion. The results of the 2024 dissolved methane monitoring are discussed in Section 8.0.

TABLE 4-1

2024 DETECTION MONITORING ANALYTICAL PROGRAM

Water Quality Parameter[1]	Method	Practical Quantitation Limit (PQL)[2] (milligrams per liter [mg/L])
Total Dissolved Solids	SM 2540C	10
Total Suspended Solids	SM 2540D	4.0
Arsenic (As)	SW846/6010C/3010A	0.005
Calcium (Ca)	SW846/6010C/3010A	0.3
Iron (Fe)	SW846/6010C/3010A	0.05
Magnesium (Mg)	SW846/6010C/3010A	0.3
Manganese (Mn)	SW846/6010C/3010A	0.05
Potassium (K)	SW846/6010C/3010A	0.3
Sodium (Na)	SW846/6010C/3010A	0.3
Total Organic Carbon (TOC)	SW846/9060A	1.0
Chloride (Cl)	SW846/9056A	1.0
Bromide (Br)	SW846/9056A	0.1
Sulfate (SO_4)	SW846/9056A	2.0
Nitrate Plus Nitrite (NO_3-N/NO_2-N)	U.S.EPA 353.2	0.05
Bicarbonate Alkalinity (HCO_3-$CaCO_3$)[10]	SM 2320B	2.5
Volatile Organic Compounds (VOCs)[4,8]	U.S.EPA 8260C	0.0005 – 0.02
Total Kjeldahl Nitrogen (TKN)[5]	4500N(ORG)C/NH3D-11)	0.2
Total Phosphorous[6]	U.S.EPA 365.3	0.04
Biochemical Oxygen Demand (BOD)[7]	SM 5210B	2.0
Ammonia (NH3-N)[9]	SM 4500 NH3-B/SM 4500 NH3-C	0.5
Total Alkalinity[9]	SM 2320B	1.5
Sulfide[9]	8131 HACH	0.1
Copper (Cu)[9]	SW846/6010C/3010A	0.003
Boron (B)[9]	SW846/6010C/6010C	0.05
Dissolved Methane[9]	8015BMOD/RSK-175	0.020
Field Parameters		
Groundwater Elevation	Field Measurement	NA [3]
Specific Conductance	Field Measurement	NA
Dissolved Oxygen (DO)	Field Measurement	NA
pH	Field Measurement	NA
Eh	Field Measurement	NA
Temperature	Field Measurement	NA
Turbidity	Field Measurement (APHA 2130)	NA
Surface Water Flow Rate	Field Measurement	NA
Field Observations	Visual Observations	NA
Total Alkalinity (as $CaCO_3$) [9]	Field Measurement	NA

Notes:

1 In April 2024, leachate samples from LT-C4LR were analyzed for Appendix A, Column 3 parameters (from Chapter 405 MEDEP Solid Waste Regulations).

2 At dilution factor of unity. Some PQLs may differ for surface and stormwater analysis.

3 NA = Not Applicable.

4 VOCs are the 47 organic constituents listed in Appendix I of 40 CFR Part 258. Diethyl ether and tetrahydrofuran were added to the list of VOCs in 2016 at the request of MEDEP. PQLs for VOCs are reported at a dilution factor of unity.

5 Monitoring wells and leachate only.

6 Surface waters, stormwater, pore-water, and underdrain only.

7 Surface waters only (excluding stormwater detention ponds and underdrains).

8 In April and October 2024, LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-5and6, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LF-UD-12+13+14, LP-UD-1, and LP-UD-2 were analyzed for VOC compounds, unless those locations were dry. In April 2024, MW-401B was analyzed for VOC compounds.

9 Underdrain and landfill expansion monitoring locations only.

10 Cells 1 through 10 monitoring locations only.

5.0 SAMPLING TECHNIQUES

5.1 Monitoring Wells

Groundwater samples from monitoring wells and piezometers are obtained utilizing the low-flow sample collection techniques in general accordance with the EMP for the JRL. The low-flow sampling program includes dedication of 1/8-inch-diameter (I.D.) polyethylene tubing in each well. The tubing is secured at the top of the well such that the inlet of the tubing is placed approximately at the middle of the screen zone in each well. Prior to sampling, the static water level is measured in each well. A peristaltic pump with an adjustable flow rate is used to purge and sample monitoring wells with relatively shallow water tables. Monitoring wells with water tables greater than 28 feet below ground surface (bgs) are sampled with dedicated submersible pumps rather than a peristaltic pump due to the depth of the groundwater.

The low-flow sampling procedure at the JRL consists of purging the monitoring wells at approximately 100 to 200 milliliters per minute. While the wells are being purged, water levels and field parameter measurements of specific conductance, temperature, pH, Eh, dissolved oxygen, and turbidity are taken through a flow-through cell at regular intervals. Field parameters and water level measurements are monitored to determine if parameter stabilization has occurred as outlined in the EMP. Once stabilization of the field parameters has occurred, in particular for water level and turbidity, a sample is obtained for chemical analysis. Several of the wells have very low recharge rates and therefore do not stabilize even under these low purge rates. For these wells, a sample is obtained after purging the liquid present in the sampling tube and pump.

5.2 Surface Water, Stormwater, Underdrain, Leak Detection, and Leachate Sampling Locations

Grab samples are obtained at the surface water, stormwater, underdrain, leak detection, and leachate sampling locations, which is consistent with historical sampling methods and in accordance with the EMP. These samples are not filtered prior to analysis.

5.3 Pore-Water Sampling Locations

The pore-water samples are obtained in the following manner:

- The pore-water sampling apparatus (i.e., pore-water sampler) is decontaminated with Alconox® and deionized water solution followed by several deionized water rinses;
- The area to be sampled is entered from an area downstream from the sample point. Caution is used not to disrupt the area where the pore-water sampler will be used;
- The pore-water sampler is gently pushed approximately two feet into the soil surface in the sampling location area specified in the EMP. The inner rod remains inside of the pore-water

sampler as it is pushed into the soil surface in order to maintain the integrity of the pore-water sample;

- Once the pore-water sampler is advanced approximately two feet into the soil surface, the inner rod is removed and a new, clean piece of polyethylene tubing is attached to the top of the pore-water sampler using a new, clean silicone tube coupling;
- Water is pumped from the pore-water sampler at a rate of approximately 100 to 200 milliliters per minute with a peristaltic pump;
- Field parameters are monitored at a regular interval until stabilization criteria are met, or until the pore-water sampler runs out of water. If the pore-water sampler runs out of water, it is allowed to recharge and samples are then obtained for laboratory analyses; and
- After sampling is complete, the pore-water sampler is removed from the soils and a labeled grade stake is installed at the sampling location that clearly identifies the location for future sample collection from the same general location.

5.4 Water Quality Landfill Gas Monitoring

Gas monitoring at the monitoring wells, underdrain locations/manholes, leak detection manhole, and JRL site property boundaries is done using a hand-held gas meter. Measurement of headspace gas in the monitoring wells is accomplished by placing the probe tip into the upper few inches of the well casing immediately after the well cap is removed. Gas measurements at underdrain and leak detection manhole locations are measured by placing the probe at the manhole opening where samples are obtained. The meter is calibrated daily before use. Methane-equivalent, carbon dioxide, and oxygen are reported as percent by volume. Hydrogen sulfide is reported in parts per million by volume.

5.5 Sample Handling and Chain-of-Custody

After obtaining the water quality samples in 2024, the samples were preserved on ice in coolers and shipped by SME to Maine Environmental Laboratory (MEL) of Yarmouth, Maine for analysis. Eastern Analytical, Inc. of Concord, New Hampshire, Katahdin Analytical Services of Scarborough, Maine, Alpha Analytical of Westborough, Massachusetts, and ALS Environmental of Rochester, New York performed some of the analyses under contract to MEL. Chain-of-custody sheets prepared by the sampling personnel accompanied the samples and contain the signatures documenting the transfer of the water quality samples from the field sampler to the receiving laboratory.

6.0 DATA VALIDATION AND QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC)

QA/QC activities associated with sampling include the utilization of standardized collection procedures and sample data records, calibration of field instruments, and the use of chain-of-custody procedures. SME followed the EMP procedures to ensure that both the field instruments and protocols employed generate data that are reliable and provide valid analytical results. Instruments were calibrated, analyses were conducted to determine potential matrix interference as necessary, precision and accuracy were checked, and hold-times were verified. Analytical QA/QC involves the use of approved analytical protocols by a qualified laboratory. Water quality samples that were analyzed outside of the required hold-times are identified in Appendix D.

Data validation and laboratory quality control procedures were followed and documented as described in the MEDEP Solid Waste Management Rules, Chapter 405. During 2024 monitoring events, duplicate water quality samples were obtained from several monitoring locations, as discussed in water quality data submittals for each round. Reports on Relative Percent Difference (RPD), calculated ratios of total dissolved solids to specific conductance, and values falling outside of historical ranges for each monitoring event were presented in each of the three data transmittals provided in 2024.

7.0 DATA ANALYSIS

Appendix D contains tables of historical water quality data collected over the past ten years, including 2024, for the sampling locations and parameters identified in this report. Water quality data for the site have been quantitatively evaluated using the methods described below and qualitatively evaluated based on the knowledge of the site hydrogeologic conditions developed from the extensive site investigations and the status of site development and operations. Detailed discussion and evaluations of the water quality from sampling locations are presented in Section 8.0. Conclusions about site water quality are based on a combination of the quantitative and qualitative methods used to evaluate the water quality data.

7.1 Concentrations above MCL, LHA, DWA, MFCCC

Parameters measured at the site groundwater monitoring wells and pore-water sample locations that were above their respective Maine and United States Environmental Protection Agency (U.S.EPA) drinking water quality standards during 2024 are identified in detail in Sections 8.3 and 8.4. The Maine Center for Disease Control (MECDC) uses the U.S.EPA drinking water standards and health advisory levels for contaminants found in well water in Maine.[9] The health-related U.S.EPA drinking water standards and health advisory levels include:

- Maximum Contaminant Levels (MCLs);
- Life-time Health Advisory (LHA) Levels; and
- Health-Based Drinking Water Advisories (DWAs).

Parameters measured at the site surface water and stormwater monitoring locations that were above their Maine Freshwater Criterion Continuous Concentrations (MFCCCs) during 2024 are identified in detail in Section 8.4.

7.2 Key Indicator Parameters for Comparison to JRL Leachate

For each of the site monitoring locations, specific conductance, chloride, and arsenic concentrations are summarized as key indicator parameters for comparison to JRL leachate concentrations. Generally, at a given water quality monitoring location, if landfill leachate were present, there would be a notable significant increase in specific conductance values and chloride and arsenic concentrations (in conjunction with changes in other parameter concentrations) due to their presence at high concentrations in the JRL

[9] United States Environmental Protection Agency, 2018. 2018 Edition of the Drinking Water Standards and Health Advisory Tables.

leachate. In 2024, the annual maximum value of specific conductance in JRL leachate (i.e., monitoring location LT-C4LR) was 22,146 µmhos/cm in October 2024. The annual maximum concentrations of chloride and arsenic at monitoring location LT-C4LR were 5,700 milligrams per liter (mg/L) (October 2024) and 0.37 mg/L (October 2024), respectively.

Specific conductance gives an indication of the total dissolved constituents at each monitoring location. Chloride is useful in assessing the site water quality in comparison to JRL leachate due to its very high concentration in the JRL leachate and its conservative nature in terms of adsorption, precipitation, and degradation in the groundwater environment. It is important to note that increases in chloride may also be due to runoff and recharge from salting or dust control of nearby roadways. Therefore, increases in chloride levels also need to be reviewed relative to site conditions.

Currently, there are limited occurrences of arsenic MCL (0.01 mg/L) exceedances in site groundwater that are attributed to reducing conditions associated with decreasing groundwater recharge from site development. These reducing conditions are interpreted to favor reductive dissolution of arsenic and iron hydroxides that are present naturally in the soils and bedrock, which results in the release and mobility of dissolved arsenic in the groundwater. There were only three groundwater monitoring locations (MW04-102, MW09-901, and MW-223A) with arsenic concentrations above the MCL of 0.01 mg/L in 2024, which are discussed in Section 8.3. Each of these locations had arsenic MCL exceedances in October 2024 but did not have arsenic detections above the laboratory reporting limit of 0.005 mg/L during the April and July 2024 monitoring events. If observed, occurrence of arsenic concentration increases in the JRL water quality monitoring locations, accompanied by increases in specific conductance values and chloride concentrations, may be a reliable indicator of landfill impacts resulting from the presence of JRL leachate.

Bromide was added to the monitoring program during 2013. Section 8.1 includes an evaluation of the chloride to bromide ratios for the JRL leachate during 2024 and how they compare to chloride to bromide ratios for site monitoring locations during 2024.

7.3 Data Plots and Data Summary Sheets

Water quality data for each monitoring location are summarized in the data summary sheets contained in Appendix E. The summary sheet prepared for each sampling location contains a map and description of the monitoring point, a 2024 water quality data summary, and a statistical summary of the historical data prior to 2024. Parameter concentrations that were outside of the range of historical minimum and maximum values in 2024 at site monitoring locations are identified on the individual water quality summary sheets contained in Appendix E. The comparison of the 2024 values to the historical range is only performed if there are at least four samples in the historical data set.

Also included in Appendix E are data plots of select monitoring parameter data for each of the sampling locations. The data plots graphically provide a useful way to visually identify long-term and short-term trends in the water quality data.

7.4 Mann-Kendall Trend Analyses

Mann-Kendall trend analyses were run for the JRL water quality data to screen for potential statistically significant changes in water quality parameter concentrations over time. The Mann-Kendall analysis was chosen because it is nonparametric and is robust to outliers, missing data, and non-detects. Time-series plots of water quality parameter concentrations often contain multiple trends over time due to various factors. In order to evaluate current trends for this annual report, the Mann-Kendall trend analyses were run for the site data over two time periods; from the end of 2024 back three years and five years. The three-year and five-year timeframes are suitable for evaluating changes in water quality related to more recent conditions, and to identify ongoing longer trends. The Mann-Kendall trend analyses were evaluated at a 95 percent confidence level.

The Mann-Kendall results for groundwater, surface water, stormwater, leachate, leak detection, and underdrain locations are provided in Appendix F and are discussed by location in Section 8.0.

Although rapid increases in concentrations of multiple parameters at a monitoring location may reflect site operational impacts such as spillage of leachate or landfill liner leakage, changes in multiple parameter values at a given monitoring location can also result from changes in groundwater conditions unrelated to the landfill leachate. As an example, decreases in natural precipitation recharge to the groundwater will change redox, alkalinity, and pH conditions, which results in the release of various constituents such as iron, manganese, and arsenic from soils and bedrock into the groundwater. Nearly all chemical constituents are subject to changes in concentrations resulting from interactions between soil, rock, and groundwater.

Increases in multiple (i.e., four or more) parameters, especially key indicator parameters, are noted in our evaluation of the water quality in the site monitoring locations. At locations where this criterion is met, further assessment of water quality data and site conditions is completed to ascertain the potential causes for the change in water quality.

The trend analyses are used as a screening tool to review the water quality and must be viewed in conjunction with other factors such as the specific parameters exhibiting trends and the parameter concentrations detected at the monitoring locations (i.e., a specific parameter could have an increasing trend but remain within a range consistent with upgradient concentrations). The results of the trend screening analyses are compared visually with the time-series plots (data plots) described above to aid in assessing the actual significance of a statistical trend.

7.5 Stiff and Piper Diagram Construction

Stiff and Piper Diagrams were constructed for multiple monitoring locations to assist in the evaluation of water quality at these locations in 2024. These diagrams are graphical representations of select parameters that display the major ion composition of a water quality sample. They were used at several of the monitoring locations to compare the ionic composition of the water quality samples to other sample results such as upgradient locations and/or the landfill leachate to assess potential sources of water at the wells. This can be a valuable tool to compare water quality between various locations since it can be used to "fingerprint" ionic ratios, independent of concentration. See Appendix G and Appendix H for Stiff and Piper diagrams.

8.0 WATER QUALITY EVALUATION

The 2024 water quality data for the JRL is generally consistent with the historical data for the site. The 2024 water quality data from monitoring locations at the JRL are consistent with their setting among the construction and operational activities of the landfill. Site groundwater, surface water, and underdrain quality data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems. Water quality changes have been observed at the JRL, both upgradient and downgradient from the landfill. These trends are largely attributable to landfill operations and changes in redox conditions, which occur as expected around the landfill due to the construction of the landfill (e.g., from removal of vegetation, disturbance of native soils, and the cutoff of precipitation in the landfill area), and do not indicate any significant landfill related impacts to water quality from malfunction of the landfill liners.

Arsenic is the only parameter analyzed in groundwater monitoring wells that was detected above an MCL in 2024. During 2024, arsenic concentrations were generally low at the site-wide monitoring locations. Of the 44 wells sampled for the detection monitoring program during 2024, only three wells had arsenic concentrations detected above the MCL (0.01 mg/L), which are discussed in Section 8.3. At one of these three monitoring locations, the detection above the MCL is anomalously high and is believed to be a laboratory error, which is discussed further in Section 8.3. There were no arsenic concentrations detected above the MCL at pore-water sampling locations PWS10-1, PWS10-2, PWS10-3, and PWS-4 in 2024. There were no arsenic MFCCC exceedances during 2024 at surface water monitoring locations SW-1, SW-2, and SW-3, and SW23-4. The presence of arsenic at JRL monitoring locations in 2024, while limited, is attributed to reducing conditions associated with decreasing groundwater recharge from site development. These reducing conditions are interpreted to favor reductive dissolution of arsenic and iron hydroxides that are present naturally in the soils and bedrock, which results in the release and mobility of dissolved arsenic in the groundwater.

Observations relative to the site water quality data for 2024, in terms of historical and regulatory comparisons and site setting, are discussed below for: leachate (Section 8.1); underdrain (Section 8.2); groundwater (Section 8.3); and surface water, stormwater, and pore-water (Section 8.4) monitoring locations. Water quality parameter data not specifically discussed in this report are considered to be generally consistent with the previously obtained water quality data for the JRL.

8.1 Leachate

The landfill leachate is sampled and analyzed as part of the ongoing water quality monitoring program. Leachate samples were obtained from the on-site leachate storage tank (i.e., LT-C4LR) during 2024. Leachate sampling location LT-C4LR replaced the former leachate sampling location in July 2013 in order to obtain leachate samples that are representative of leachate from all of the landfill cells. The leachate

at LT-C4LR was sampled for the parameters in the detection monitoring analytical program (see Table 4-1) in April 2024 and October 2024 and was sampled for the parameters listed in Appendix A, Column 3 of the Chapter 405 MEDEP Solid Waste Rules in July 2024. Leachate samples associated with compliance monitoring for off-site wastewater treatment are also obtained at the leachate storage tank when transport tanker trucks are being loaded. During 2024, approximately 24,057,700 gallons of leachate were loaded into tanker trucks and transported from JRL for off-site treatment.

2024 Leachate Parameters that Fall Outside of Historical Range

Leachate parameter values during 2024 and historically are generally characterized by high concentrations. There were multiple parameters that were detected outside of their respective historical ranges during 2024 for LT-C4LR. The parameters with new historical maximum or minimum values at LT-C4LR in 2024 are summarized in Table 8-1.

TABLE 8-1

SUMMARY OF LT-C4LR PARAMETERS WITH NEW HISTORICAL MINIMUM OR MAXIMUM VALUES IN 2024

Parameter and Units	Date	New Historical Minimum Value	New Historical Maximum Value
Vinyl Chloride (µg/L)	10/8/2024	-	1.6 (1.5)
Benzene (µg/L)	10/8/2024	-	7.7 (6.6)
Tetrahydrofuran (µg/L)	10/8/2024	-	740 (600)
Iron (mg/L)	10/8/2024	2.8 (2.9)	-
Magnesium (mg/L)	4/2/2024	140 (170)	-
Potassium (mg/L)	4/2/2024	500 (580)	-
Bicarbonate Alkalinity (CaCO3) (mg/L)	10/8/2024	390 (1,370)	-
Chloride (mg/L)	4/2/2024	2,500 (2,560)	-

Notes:
Concentrations provided in milligrams (mg) or micrograms (µg) per liter, as indicated.
Previous historical maximum and minimum values are shown in parentheses.

2024 Leachate Key Indicator Parameters

The specific conductance values at LT-C4LR in 2024 ranged from 12,151 µmhos/cm in April 2024 to 22,146 µmhos/cm in October 2024. Chloride concentrations at LT-C4LR in 2024 ranged from 2,500 mg/L in April 2024 to 5,700 mg/L in October 2024. The chloride concentration in April 2024, was a new historical minimum. Arsenic concentrations at LT-C4LR in 2024 ranged from 0.19 mg/L in April 2024 to 0.37 mg/L in October 2024. The 2024 data from the leachate monitoring location is included in Appendix D.

2024 Leachate Mann-Kendall Trends

The results for the three- and five-year Mann-Kendall trends at LT-C4LR are provided in Appendix F. There are four parameters (chloride, dissolved oxygen, magnesium, and total suspended solids) with statistically significant decreasing trends for LT-C4LR over the past five years. There are no multiple parameters (i.e.,

four or more) at LT-C4LR with statistically significant increasing trends over the past three years and five years or decreasing trends for the past three years.

2024 Leachate VOCs, SVOCs, Herbicides, Pesticides, and PCBs

Leachate was monitored for VOCs, SVOCs, herbicides, pesticides, and PCBs in July 2024 at LT-C4LR and for VOCs during the April 2024 and October 2024 monitoring events at LT-C4LR. Appendix D includes the monitoring results at LT-C4LR for 2024. The results of VOC, SVOC, herbicide, pesticide, and PCB parameters at LT-C4LR detected during 2024 at levels above their respective laboratory reporting limits are summarized in Table 8-2.

TABLE 8-2

SUMMARY OF 2024 VOC, SVOC, HERBICIDE, PESTICIDE, AND PCB PARAMETERS DETECTED AT LT-C4LR

Parameter	April 2024	July 2024	October 2024
Acetone	1,300 µg/L	720 µg/L	820 µg/L
1,2-Dichloroethane	3.4 µg/L	2.2 µg/L	2.4 µg/L
Cis-1,2-Dichloroethene	2.8 µg/L	2.0 µg/L	2.1 µg/L
Methyl Ethyl Ketone	1,100 µg/L	550 µg/L	560 µg/L
Benzene	4.6 µg/L	4.1 µg/L	7.7 µg/L
4-Methyl-2-Pentanone	28 µg/L	18 µg/L	19 µg/L
Ethylbenzene	10 µg/L	8.9 µg/L	9.5 µg/L
m,p-Xylene	15 µg/L	13 µg/L	14 µg/L
o-Xylene	6.7 µg/L	6.5 µg/L	7.2 µg/L
Tetrahydrofuran	310 µg/L	450 µg/L	740 µg/L
Toluene	56 µg/L	29 µg/L	29 µg/L
Vinyl Chloride	ND	1.1 µg/L	1.6 µg/L
Diethyl Ether	ND	ND	12 µg/L
Methylene Chloride	1.2 µg/L	ND	ND
Styrene	1.2 µg/L	ND	ND
3&4-Methylphenol	ND	63	ND

Notes:
µg/L – micrograms per liter
ND – not detected above laboratory detection limit

No pesticide, herbicide, or PCB parameters were detected above laboratory reporting limits in 2024.

No VOCs were detected above their respective laboratory reporting limits at JRL water quality monitoring locations during 2024. During 2024, VOCs were monitored at locations LF-UD-5and6 (April 2024), LP-UD-2 (April and October 2024), and MW-401B (April 2024).

2024 Leachate Bromide Concentrations Compared to Groundwater, Underdrain, Leak Detection, Pore-Water, Surface Water, and Stormwater Bromide Concentrations

Bromide was present in the leachate (LT-C4LR) samples obtained during 2024 at concentrations ranging from 31 mg/L in April 2024 to 82 mg/L in October 2024, which are within the historical range for bromide at LT-C4LR. The chloride to bromide ratio for the leachate and site monitoring locations is being evaluated for its potential as a useful screening tool for assessing possible leachate influence in water samples obtained from site monitoring locations. The chloride to bromide ratios for the leachate during 2024 were approximately 81 to 1 in April 2024, 81 to 1 in July 2024, and 70 to 1 in October 2024.

While the ratio of chloride to bromide can be used to differentiate a variety of bromide sources,[10] the bromide concentrations in the JRL water quality sampling locations in 2024 were either non-detect or at low values. In 2024, bromide analyses were conducted on a total of 136 samples taken from 60 monitoring locations including groundwater monitoring wells, underdrain monitoring locations, leak detection monitoring locations, pore-water monitoring locations, surface water monitoring locations, and stormwater monitoring locations. 103 of the samples were non-detect at a laboratory reporting limit of 0.10 mg/L.

There were bromide measurements above the laboratory detection limit during 2024 at 28 groundwater monitoring wells, three leak detection monitoring locations, and one underdrain monitoring location. Among the total of 33 bromide detections during 2024, the concentrations ranged from 0.10 mg/L (OW-605A in July 2024 and MW-301 in October 2024) to 0.59 mg/L (MW06-01 in April 2024), with a mean concentration of approximately 0.21 mg/L. There were no bromide detections above the laboratory reporting limit at the JRL pore-water, surface water, and stormwater monitoring locations during 2024.

Bromide detections at monitoring locations during 2024 were within their respective historical ranges with the following exceptions:

- Bromide exceeded the previous historical maximum concentration of 0.24 mg/L at MW06-01 in April 2024 with concentrations of 0.59 mg/L;
- Bromide exceeded the previous historical maximum concentration of 0.16 mg/L at OW-606A in July 2024 with a concentration of 0.20 mg/L;
- Bromide, which has previously not been detected above the laboratory reporting limit of 0.1 mg/L at OW-610A, was detected at a new historical maximum concentration of 0.13 mg/L in July 2024; and

[10] Panno, S.V., Hackley, K.C., Hwang, H.H., Greenberg, S.E., Krapac, I.G., Landsbergger, S., and O'Kelly, D.J., 2006, Characterization and identification of Na-Cl sources in ground water. Ground Water. 2006 Mar-Apr; 44(2):129.

- Bromide, which has previously not been detected above the laboratory reporting limit of 0.1 mg/L at LF-LD-12, was detected at a new historical maximum concentration of 0.57 mg/L in July 2024.

Although LF-LD-12 has only been sampled four times prior to the July 2024 monitoring event, which would indicate that some new historical maximum and minimum concentrations would be anticipated in 2024, the new historical maximum bromide concentration in July 2024 is paired with a new historical maximum chloride concentration. Chloride exceeded its previous historical maximum concentration of 2.2 mg/L at LF-LD-12 with a July 2024 concentration of 37 mg/L. The moderate increase in the chloride concentration at LF-LD-12 during 2024 is still very low compared to the annual maximum chloride concentration of 5,700 mg/L in the leachate during 2024. The historical range of chloride is 2,500 mg/L to 24,300 mg/L, which indicates that the water sampled from LF-LF-12 in July 2024 with a concentration of 37 mg/L chloride is not leachate. The 2025 monitoring at LF-LD-12 will be useful for determining whether the increase in chloride and bromide concentrations persists.

The 2024 bromide detections and chloride to bromide ratios are summarized in Table 8-3. The bromide concentrations above the laboratory reporting limits during 2024 are generally within the range of naturally occurring bromide concentrations in Maine, particularly in locations such as the JRL site that were in the area of post-glacial sea submergence.[11]

The chloride to bromide ratios summarized in Table 8-3 for the groundwater, underdrain, and leak detection monitoring locations are broad ranging (i.e., from 10 to 1 to 230 to 1), with a median ratio of approximately 63 to 1. The standard deviation of the 33 water quality monitoring chloride to bromide ratios calculated is 74 to 1; this high standard deviation indicates that the data are spread out and not tending toward values similar to the chloride to bromide ratios of the leachate. None of the 33 water quality monitoring calculated chloride to bromide ratios fell within the same range as JRL leachate monitoring location LT-C4LR during 2024.

The chloride concentrations associated with bromide detections were generally low and ranged from 1.1 mg/L (LF-LD-14 in July 2024) to 37 mg/L (LF-LD-12 in July 2024). Twenty-one of the 33 chloride concentrations associated with bromide detections during 2024 were at concentrations of less than 20 mg/L.

[11] Snow, M.S., Kahl, J.S., Norton, S.A., Olson, C., 1990. Geochemical determination of salinity sources in ground water wells in Maine. Proc., Focus Conference on Eastern Regional Ground Water Issues, Ground Water, Management No. 3, 1990, pp. 313-327.

TABLE 8-3

SUMMARY OF CHLORIDE TO BROMIDE RATIOS FOR 2024 BROMIDE DETECTIONS ABOVE LABORATORY REPORTING LIMITS

Location Designation	Date	Chloride Concentration (mg/L)	Bromide Concentration (mg/L)	Chloride to Bromide Ratio
LT-C4LR	April 2024	2,500	31	81:1
	July 2024	4,200	52	81:1
	October 2024	5,700	82	70:1
LF-LD-12	July 2024	37	0.57	65:1
LF-LD-13	July 2024	12	0.32	38:1
LF-LD-14	July 2024	1.1	0.11	10:1
LF-UD-5 and 6	April 2024	3.7	0.14	26:1
	July 2024	3.7	0.13	28:1
MW04-109R	April 2024	2.8	0.12	23:1
	July 2024	2.5	0.14	18:1
	October 2024	2.8	0.14	20:1
MW06-01	April 2024	12	0.59	20:1
	July 2024	12	0.23	52:1
	October 2024	12	0.19	63:1
MW09-901	April 2024	7.6	0.24	32:1
	July 2024	6.7	0.21	32:1
	October 2024	5	0.24	21:1
MW-223A	April 2024	34	0.19	179:1
	July 2024	34	0.19	179:1
	October 2024	35	0.20	175:1
MW-223B	April 2024	31	0.14	221:1
	July 2024	29	0.14	207:1
	October 2024	27	0.16	169:1
MW-301	October 2024	23	0.10	230:1
MW-401B	April 2024	7.1	0.20	36:1
	July 2024	4.6	0.21	22:1
	October 2024	4.1	0.22	19:1
MW-502	April 2024	20	0.22	91:1
	July 2024	19	0.23	83:1
	October 2024	15	0.20	75:1
OW-601B	July 2024	36	0.20	180:1
OW-602A	July 2024	17	0.33	52:1
OW-605A	July 2024	17	0.10	170:1
OW-606A	July 2024	35	0.20	175:1
OW-610A	July 2024	23	0.13	177:1
P-04-04	October 2024	14	0.11	127:1

Based on a study of 32 locations across 24 states in the United States, potable groundwater that has less than 10 mg/L chloride (which is a similar concentration to most JRL sampling locations) had chloride to bromide ratios ranging from 43 to 1 to 285 to 1 with a median ratio of 101 to 1.[12] These values are generally consistent with the site monitoring locations where bromide was detected at low concentrations (see Table 8-3).

[12] Davis, S.N., Fabryka-Martin, J.T., Wolfsberg, L.E., 2004. Variations of bromide in potable groundwater in the United States. Groundwater 42 (6), 902-909.

8.2 Underdrains

The JRL underdrain monitoring locations for the landfill and Detention Pond 1A are listed in Table 8-4. Where there was flow during 2024 from underdrain monitoring locations, the underdrain monitoring data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems.

There was no flow at LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LF-UD-12+13+14, and LP-UD-1 during any of the three 2024 monitoring events; thus, no samples were obtained. The 2024 occurrences of no flow at these underdrain monitoring locations are generally consistent with recently observed patterns. The lack of flowing conditions at underdrain monitoring locations that previously flowed regularly is associated with the lowering of the groundwater table that has resulted from the construction of the landfill expansion cells (see Section 2.0).

Landfill underdrain monitoring location LF-UD-5and6 had sufficient flow for monitoring in April and July 2024 and LP-UD-2 had sufficient flow for monitoring in April, July, and October 2024.

The sampling pipes in LF-COMP and LP-COMP were not submerged during the three 2024 monitoring events, so those locations were not sampled.

LF-COMP and LP-COMP samples were obtained and analyzed by NEWSME for field parameters monthly during 2024.

Comparison of Key Indicator Parameters at Underdrains to JRL Leachate and Summary of Statistically Significant Trend Results

The 2024 annual maximum specific conductance values and chloride and arsenic concentrations for underdrain monitoring locations are summarized in Table 8-4. The Mann-Kendall analyses results for statistically significant trends for these parameters are summarized in Table 8-4 as well. The complete results for Mann-Kendall analyses are provided in Appendix F.

TABLE 8-4

2024 ANNUAL MAXIMUM SPECIFIC CONDUCTANCE VALUES AND CHLORIDE AND ARSENIC CONCENTRATIONS AT UNDERDRAIN MONITORING LOCATIONS

Location Designation	Annual Maximum Specific Conductance (22,146 µmhos/cm in JRL Leachate in October 2024)			Annual Maximum Chloride (5,700 mg/L in JRL Leachate in October 2024)			Annual Maximum Arsenic (0.37 mg/L in JRL Leachate in October 2024)		
	µmhos/cm	Statistically Significant Trend		mg/L	Statistically Significant Trend		mg/L	Statistically Significant Trend	
		3-Year	5-Year		3-Year	5-Year		3-Year	5-Year
LF-COMP	650	Increasing	-	NS	I	I	NS	I	I
LF-UD-1	NS	I	I	NS	I	I	NS	I	I
LF-UD-2	NS	I	-	NS	I	-	NS	I	-
LF-UD-3A,B	NS	I	I	NS	I	I	NS	I	I
LF-UD-4	NS	I	-	NS	I	-	NS	I	-
LF-UD-5and6	371	-	Increasing	3.7	-	Increasing	0.005 U	-	-
LF-UD-6	NS	I	-	NS	I	-	NS	I	-
LF-UD-7	NS	I	I	NS	I	I	NS	I	I
LF-UD-8	NS	I	I	NS	I	I	NS	I	I
LF-UD-9	NS	I	I	NS	I	I	NS	I	I
LF-UD-10	NS	I	I	NS	I	I	NS	I	I
LF-UD-12+13+14	142	-	-	NS	I	I	NS	I	I
LP-COMP	384	Increasing	Increasing	NS	I	I	NS	I	I
LP-UD-1	NS	I	I	NS	I	I	NS	I	I
LP-UD-2	531	Increasing	Increasing	2.9	-	Decreasing	0.005 U	-	-

Notes:
U = not detected above indicated laboratory reporting limit
NS = Insufficient liquid to obtain a sample in 2024
– = no trend
I = insufficient data

Annual maximum specific conductance values during 2024 from LF-COMP, LF-UD-5and6, LF-UD-12+13+14, LP-COMP, and LP-UD-2 ranged from 142 µmhos/cm (LF-UD-12+13+14 in April 2024) to 650 µmhos/cm (LF-COMP in September 2024). While the 2024 annual maximum specific conductance values for some underdrain monitoring locations are greater than background values (e.g., an annual maximum specific conductance value of 141 µmhos/cm at upgradient monitoring well MW-206 in July 2024), the annual maximum chloride and arsenic concentrations at LF-UD-5and6 and LP-UD-2 remain very low or non-detect and do not indicate the influence of JRL leachate. The chloride concentrations among these locations were low with an overall annual maximum value of 3.7 mg/L measured at LF-UD-5and6 in April and July 2024 (chloride was detected in leachate at a concentration of 5,700 mg/L at LT-C4LR in October 2024). Arsenic was not detected above the laboratory reporting limit of 0.005 mg/L in any underdrain monitoring locations sampled during 2024 (i.e., LF-UD-5 and 6 and LF-UD-2).

The LF-COMP specific conductance values in August through November 2024, which ranged from 542 to 650 µmhos/cm, were greater than the previous historical maximum value of 504 µmhos/cm. This could be associated with more concentrated liquid in manhole MH #5 during the low precipitation totals during that period. Hydrological drought conditions occurred during November and December 2024 in the

Southern Interior Zone of Maine, where the Site is located (see Section 2.0). All other underdrain monitoring locations with flow during 2024 had specific conductance values within their respective historical ranges.

For underdrain monitoring locations with sufficient data for analysis, the Mann-Kendall trend analyses for the key indicator parameters (i.e., specific conductance, chloride, and arsenic) generally indicate:

- Stable to increasing trends for specific conductance. Review of specific conductance data for LF-UD-5and6, LP-COMP, and LP-UD-2 indicate that the increasing trends are very gradual and that the 2024 values were within historical range;
- Stable trends for chloride. Review of the chloride data for LF-UD-5and6 and LP-UD-2 indicate that the increasing and decreasing trends, respectively, are very gradual and that the 2024 values were within historical range. Additionally, chloride concentrations at LF-UD-5and6 and LP-UD-2 remain very low; and
- No trends for arsenic.

Of the underdrain monitoring locations with sufficient data for Mann-Kendall trend analyses, the following were instances of multiple parameters (i.e., four or more) with three-year and/or five-year statistically significant increasing and/or decreasing trends;

- LF-UD-5and6 – three-year statistically significant decreasing trends for magnesium, potassium, total dissolved solids, and turbidity;
- LF-UD-5and6 – five-year statistically significant decreasing trends for alkalinity, Eh, pH, and sulfate; and
- LP-UD-2 – five-year statistically significant decreasing trends for chloride, dissolved oxygen, pH, and sulfate.

The complete results of the Mann-Kendall analyses are included in Appendix F.

Underdrain parameter values that were outside of their respective historical ranges during 2024 include:

- LP-UD-2 – Iron (3.40 mg/L in July 2024) exceeded the previous historical maximum value (2.86 mg/L);
- LP-UD-2 – Potassium (1.6 mg/L in April 2024) was less than the previous historical minimum value (1.7 mg/L);

- LP-UD-2 – Sodium (5.0 mg/L in April 2024) was less than the previous historical minimum value (5.5 mg/L);
- LF-UD-5and6 – Total dissolved solids (172 mg/L in April 2024) was less than the previous historical minimum value (183 mg/L); and
- LF-UD-5and6 – Bicarbonate alkalinity (140 mg/L in April 2024) was less than the previous historical minimum value (150 mg/L).

2024 Underdrain VOCs

VOCs were analyzed at underdrain locations with flow in April and October 2024. There were no VOCs detected in 2024 above laboratory reporting limits at any of the sampled underdrain locations.

8.3 Groundwater Quality

During 2024, routine water quality samples were obtained from the 48 monitoring well locations that had sufficient water quantity for sampling at the JRL during the April, July, and October 2024 monitoring events.[13] With few exceptions, historical water quality data from groundwater monitoring locations at the JRL are consistent with their setting, the groundwater flow conditions at the monitoring locations, and normal construction and operational activities of the landfill. Site groundwater data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems. The 2024 water quality data remain consistent with these interpretations.

Comparison of Key Indicator Parameters at Groundwater Monitoring Locations to JRL Leachate and Summary of Statistically Significant Trend Results

A summary of site-wide groundwater quality in 2024 at the JRL is provided in Table 8-5. The table contains a comparison of 2024 values of key indicator parameters (i.e., specific conductance, chloride, and arsenic) from leachate monitoring location LT-C4LR to the site's 50 groundwater monitoring locations and current statistically significant trends of the key indicator parameters. The table also includes a summary of locations identified with statistically significant trends for multiple (i.e., four or more) parameters. The complete results of the Mann-Kendall trend analyses are provided in Appendix F. The groundwater monitoring locations shown in Table 8-5 are listed in order of 2024 annual maximum specific conductance values by location from high to low.

[13] See footnotes 4 through 6 from Section 3.1.

TABLE 8-5

2024 ANNUAL MAXIMUM SPECIFIC CONDUCTANCE VALUES AND CHLORIDE AND ARSENIC CONCENTRATIONS AT GROUNDWATER MONITORING LOCATIONS

Location Designation [2]	Position Relative to Landfill	Material Screened	Annual Maximum Specific Conductance (22,146 µmhos/cm in JRL Leachate in October 2024)			Annual Maximum Chloride (5,700 mg/L in JRL Leachate in October 2024)			Annual Maximum Arsenic (0.37 mg/L in JRL Leachate in October 2024)			Multiple Parameters with Decreasing Trends [2]		Multiple Parameters with Increasing Trends [2]	
			µmhos/cm	Statistically Significant Trend		mg/L	Statistically Significant Trend		mg/L	Statistically Significant Trend		3-Year	5-Year	3-Year	5-Year
				3-Year	5-Year		3-Year	5-Year		3-Year	5-Year				
MW-223A	**Downgradient**	**Bedrock**	**633**	**Increasing**	**Increasing**	**35**	**-**	**-**	**0.033**	**-**	**-**	**No**	**No**	**No**	**Yes (4)**
P-04-07B	**Downgradient Expansion**	**Bedrock**	**552**	**Increasing**	**Increasing**	**57**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
MW-223B	**Downgradient**	**Overburden**	**500**	**-**	**-**	**31**	**Decreasing**	**Decreasing**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
OW-610A	**Downgradient Expansion**	**Bedrock**	**453**	**-**	**-**	**23**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
OW-611A	**Downgradient Expansion**	**Bedrock (Open Borehole)**	**436**	**-**	**-**	**38**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**Yes (4)**
OW-602A	**Downgradient Expansion**	**Bedrock**	**397**	**Increasing**	**Increasing**	**17**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**Yes (6)**
OW-606A	**Downgradient Expansion**	**Bedrock (Open Borehole)**	**385**	**Increasing**	**Increasing**	**35**	**-**	**Decreasing**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**Yes (4)**
MW04-105	Downgradient	Overburden	381	-	-	NS	I [3]	I [3]	NS	I [3]	I [3]	Not Assessed			
OW-604A	**Downgradient Expansion**	**Bedrock**	**379**	**Increasing**	**Increasing**	**39**	**-**	**Increasing**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**Yes (5)**
OW-609B	**Downgradient Expansion**	**Overburden**	**376**	**-**	**-**	**49**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
MW04-109R	Downgradient	Overburden	376	-	Decreasing	2.8	Decreasing	-	0.005 U	-	-	No	Yes (8)	No	No
OW-601B	**Downgradient Expansion**	**Overburden**	**366**	**-**	**-**	**36**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
OW-601A	Downgradient Expansion	Bedrock	351	-	-	12	-	-	0.005 U	-	-	No	No	No	No
MW09-901	Downgradient	Overburden	351	-	-	7.6	-	-	0.17 [4]	-	-	No	No	No	No
MW-502	**Downgradient Expansion**	**Bedrock**	**330**	**-**	**-**	**20**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
MW-401B	Downgradient	Overburden	330	Increasing	Increasing	7.1	-	-	0.005 U	-	Decreasing	No	Yes (5)	No	No
MW-507	**Downgradient Expansion**	**Bedrock (Open Borehole)**	**303**	**-**	**-**	**34**	**-**	**-**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**
MW12-303R	Upgradient	Overburden	298	-	-	7.8	Decreasing	Decreasing	0.005	-	-	No	No	No	Yes (4)
MW-508	**Downgradient Expansion**	**Bedrock**	**297**	**-**	**-**	**22**	**Decreasing**	**Decreasing**	**0.005 U**	**-**	**-**	**Yes (9)**	**Yes (9)**	**No**	**No**
MW-501	Downgradient Expansion	Bedrock	294	Increasing	-	15	-	Decreasing	0.005 U	-	-	No	No	No	No
MW06-01	**Downgradient Expansion**	**Overburden**	**270**	**Increasing**	**Increasing**	**12**	**-**	**Increasing**	**0.005 U**	**-**	**-**	**No**	**No**	**Yes (5)**	**Yes (10)**
MW-04-09A	Downgradient Expansion	Bedrock	270	Decreasing	Decreasing	4.4	Decreasing	Decreasing	0.005 U	-	Decreasing	Yes (9)	Yes (11)	No	No
OW-605A	Downgradient Expansion	Bedrock (Open Borehole)	262	-	-	17	-	-	0.005 U	-	-	No	No	No	No
P-04-07A	Downgradient Expansion	Bedrock	261	-	-	19	Decreasing	Decreasing	0.005 U	-	-	No	No	No	No
OW-06-03	Downgradient Expansion	Overburden	256	-	-	NS (Dry)	I [3]	I [3]	NS (Dry)	I [3]	I [3]	No [3]	No [3]	No [3]	No [3]
MW-301	**Downgradient**	**Bedrock**	**252**	**-**	**-**	**29**	**Increasing**	**Increasing**	**0.005 U**	**-**	**-**	**No**	**No**	**No**	**No**

TABLE 8-5 (cont'd)

Location Designation [2]	Position Relative to Landfill	Material Screened	Annual Maximum Specific Conductance (22,146 µmhos/cm in JRL Leachate in October 2024)			Annual Maximum Chloride (5,700 mg/L in JRL Leachate in October 2024)			Annual Maximum Arsenic (0.37 mg/L in JRL Leachate in October 2024)			Multiple Parameters with Decreasing Trends [2]		Multiple Parameters with Increasing Trends [2]	
			µmhos/cm	Statistically Significant Trend		mg/L	Statistically Significant Trend		mg/L	Statistically Significant Trend		3-Year	5-Year	3-Year	5-Year
				3-Year	5-Year		3-Year	5-Year		3-Year	5-Year				
MW-204	Downgradient	Overburden	252	-	-	NS	I [3]	I [3]	NS	I [3]	I [3]	No [3]	No [3]	No [3]	No [3]
P-206A	**Upgradient**	**Bedrock**	**232**	**-**	**-**	**27**	**Increasing**	**Increasing**	**0.005 U**	**-**	**-**	**No**	**Yes (4)**	**No**	**Yes (4)**
MW-503	Downgradient Expansion	Bedrock	230	-	Increasing	16	-	-	0.005 U	-	-	Yes (5)	No	No	No
MW-505	Downgradient Expansion	Bedrock	230	-	Decreasing	2.5	Decreasing	Decreasing	0.005 U	-	-	Yes (6)	Yes (8)	No	No
P-04-02R	Downgradient	Overburden	229	-	Decreasing	1.7	-	Decreasing	0.005 U	-	Decreasing	No	Yes (11)	No	No
MW-08-01	Downgradient Expansion	Bedrock	226	-	-	5.1	-	-	0.005 U	-	-	Yes (5)	No	No	No
OW-608B	Downgradient Expansion	Overburden	218	-	Decreasing	3.5	-	-	0.005 U	-	-	No	No	No	No
MW04-102	Downgradient	Overburden	216	-	-	2.0	Increasing	Increasing	0.027	-	-	No	No	No	No
P-04-04	Downgradient	Overburden	208	-	Increasing	18	Increasing	Increasing	0.005 U	-	Decreasing	No	No	No	Yes (5)
DP-4	Downgradient	Overburden	189	-	-	NS	I [3]	I [3]	NS	I [3]	I [3]	No [3]	No [3]	No [3]	No [3]
OW-606B	Downgradient Expansion	Overburden/Bedrock	183	-	-	15	-	-	0.005 U	-	-	No	No	No	No
MW-227	Downgradient	Overburden	183	-	-	1.5	Increasing	-	0.005	Decreasing	Decreasing	Yes (7)	Yes (4)	No	No
MW-401A	Downgradient	Bedrock	171	Increasing	Increasing	18	Increasing	Increasing	0.005 U	-	Decreasing	No	No	No	Yes (6)
OW-607B	Downgradient Expansion	Overburden	156	-	-	1.4	-	-	0.005 U	-	Decreasing	No	No	No	No
MW-402B	Downgradient	Overburden	148	-	-	1.5	-	-	0.0079	Decreasing	Decreasing	No	No	No	No
MW-206	Upgradient	Overburden	141	-	-	2.5	-	-	0.005 U	-	Decreasing	No	No	No	No
OW-608A	Downgradient Expansion	Bedrock (Open Borehole)	140	-	-	3.1	-	-	0.005 U	-	-	No	No	No	No
MW-504	Downgradient Expansion	Bedrock	136	Increasing	-	1.3	-	-	0.005 U	-	Decreasing	No	Yes (4)	No	No
MW-402A	Downgradient	Bedrock	132	Increasing	Increasing	2.4	Increasing	Increasing	0.0079	Decreasing	Decreasing	No	No	No	No
P-04-11A	Downgradient Expansion	Overburden	126	Increasing	-	2.4	Increasing	Increasing	0.0053	-	Decreasing	No	No	No	No
MW-04-09B	Downgradient Expansion	Overburden	102	-	-	6.0	Increasing	Increasing	0.005 U	-	-	No	Yes (7)	No	No
P-04-11B	Downgradient Expansion	Overburden	62	-	Increasing	6.4	--	-	0.005 U	-	-	No	No	No	No
OW-603B	Downgradient Expansion	Overburden	NS (Dry)	I	I	NS (Dry)	I	I	NS (Dry)	I	I	I	I [3]	I	I [3]
MW-506	Downgradient Expansion	Bedrock	Reported as Damaged and Not Sampled in 2024												

Notes:

[1] Locations shown with non-bold text have water quality that: (1) does not indicate influence from landfill leachate; and (2) shows limited influence from landfill construction operations. Locations shown with bold text currently have more pronounced water quality changes that are largely attributable to changes in redox conditions related to construction of the landfill and/or landfill operations, and do not indicate significant landfill related impacts to water quality from malfunction of landfill liners. Section 8.3 includes extended discussions for the locations shown with bold text.

[2] Number of parameters with trends shown in parenthesis for analyses with four or more trends. Locations monitored for field parameters only (i.e., DP-4, MW04-105, MW-204) are not assessed for multiple (i.e., four or more) parameters.

[3] Insufficient data for detection monitoring parameters (i.e., trends available for field parameters only).

[4] The October 2024 arsenic concentration of 0.17 mg/L at MW09-901 is anomalously high and is believed to be a laboratory error. Further discussion for the arsenic concentrations at this location is provided in this section.

U = not detected above indicated laboratory reporting limit
NS = not sampled in 2024
– = no trend
I = insufficient data

Arsenic concentrations site-wide are generally low and did not exceed the MCL of 0.01 mg/L at 45 of the 48 monitoring locations where arsenic was monitored in 2024. At two of the three groundwater monitoring locations where arsenic did exceed the MCL (MW04-102 and MW-223A), arsenic concentrations were detected at annual maximum values 0.027 mg/L at MW04-102 in October 2024 and 0.033 mg/L at MW-223A in October 2023. Although the October 2024 arsenic concentration at MW04-102 exceeded its previous historical maximum value of 0.017 mg/L, the annual maximum specific conductance value (216 µmhos/cm) and chloride concentration (2.0 mg/L) at this location remain very low. Arsenic was not detected above the laboratory reporting limit of 0.005 mg/L MW04-102 and MW-223A during the April and July 2024 monitoring events.

Arsenic was detected at an anomalously high value of 0.17 mg/L at MW09-901 in October 2024. The previous historical maximum arsenic concentration at MW09-901 was 0.019 mg/L and arsenic is frequently not detected at this location above the laboratory reporting limit of 0.005 mg/L, including during the April and July 2024 monitoring events. SME requested that MEL check for a reporting error and they indicated that they could not find any data issues with the result. At SME's request, MEL provided a preliminary arsenic concentration result at MW09-901 from the April 2025 monitoring event and arsenic was not detected above the laboratory reporting limit of 0.005 mg/L. It is SME's opinion that the October 2024 arsenic concentration at MW09-901 is likely the result of a laboratory error.

Based on review of Table 8-5 and a visual review of plotted 2024 and historical data, SME has identified 32 of the 50 site-wide groundwater monitoring locations with water quality that: (1) do not indicate influence from landfill leachate; and (2) currently show limited influence from landfill construction operations. These 32 groundwater monitoring locations are identified in Table 8-5 as the locations with non-bold text. The 2024 annual maximum specific conductance values at these wells range from 62 µmhos/cm at P-04-11B to 397 µmhos/cm at OW-602A. The 2024 annual maximum chloride concentrations at these monitoring locations were low and ranged from 1.3 mg/L at MW-504 to 19 mg/L at P-04-07A. For these reasons, extended discussion on these wells is not warranted at this time. Monitoring wells OW-603B and MW-506 were not sampled in 2024 and are also not further discussed in this section.

More pronounced water quality changes have been observed at multiple groundwater monitoring locations, both upgradient and downgradient from the landfill. These changes are evidenced at some monitoring locations by statistically significant trends, as summarized in Table 8-5, for multiple parameters. These trends are largely attributable to landfill construction (e.g., from removal of vegetation, disturbance of native soils, and the cutoff of precipitation in the landfill area), and changes in redox conditions due to the reduction of groundwater recharge from precipitation, and do not indicate any significant landfill related impacts to water quality from malfunction of the landfill liners.

SME has identified 16 of the site monitoring locations that currently warrant additional discussions. These monitoring locations, shown by bold text in Table 8-5, are: (1) upgradient monitoring location P-206A; (2) MW-223A, MW-223B, and MW-301, which are downgradient from Cells 1 through 10 of JRL; and (3) OW-601B, OW-602A, OW-604A, OW-606A, OW-609B, OW-610A, OW-611A, MW06-01, MW-502, MW-507, MW-508, and P-04-07B, which are downgradient from the landfill expansion. Groundwater quality at these monitoring locations is discussed below.

Extended Discussion on JRL Groundwater Quality

Upgradient Monitoring Location P-206A: Groundwater monitoring location P-206A is categorized as upgradient from the JRL; however, as the east side of the JRL (i.e., the upslope edge) is situated along the crest of a northwest-southeast trending drumlin, this upgradient monitoring location is not fully hydraulically isolated from the landfill and operations outside of the area of landfill construction (see interpreted phreatic surface and groundwater potentiometric surface maps in Appendix B).

P-206A is a bedrock piezometer located southeast from the landfill and outside of the area of landfill construction. P-206A was added to the monitoring program during the July 2013 sampling event to provide an additional upgradient bedrock monitoring location. Review of the water quality data at P-206A shows that there were increases for multiple parameters over the past several years; however, the groundwater quality at P-206A is still generally characterized by low parameter concentrations. The Mann-Kendall analyses indicate that there are statistically significant increasing trends for four parameters at P-206A for the past five years (chloride, Eh, nitrate plus nitrite, and sulfate) and statistically significant decreasing trends for four parameters over the past five years (manganese, potassium, sodium, and total suspended solids). There were not multiple parameters (i.e., four or more) with statistically significant increasing or decreasing trends over the past three years. Visual review of the data agrees with these trend results in that previous trends have appeared to have generally stabilized over the past few years.

The 2024 annual maximum values for parameters identified with current or recent increasing trends are:

- Chloride (27 mg/L in April 2024);
- Eh (348 mV in October 2024);
- Nitrate plus nitrite (0.4 mg/L in July 2024); and
- Sulfate (7.2 mg/L in July 2024).

The nitrate plus nitrite concentrations at P-206A were below the MCLs for both nitrate (10 mg/L) and nitrite (1 mg/L) and the sulfate value was well below the DWA of 500 mg/L. There were no health-related

Maine drinking water standard (i.e., MCL, LHA, or DWA) exceedances at P-206A during 2024 for the parameters analyzed.

There were new historical minimum values detected at P-206A in 2024 for turbidity, sodium and alkalinity. There were new historical maximum values detected at P-206A in 2024 for chloride, copper, and sulfate. Despite the recent increase in sulfate concentrations at P-206A, the values in 2024 remain low. Copper detected at P-206A at a concentration of 0.029 mg/L in April 2024, which is below the MCL of 1.3 mg/L, and was not detected at P-206A above the laboratory reporting limit of 0.003 mg/L in July and October 2024. The chloride concentrations at P-206A in 2024 are somewhat elevated, which might be attributed to road salting at the proximate looped road that accesses the JRL leachate storage tank.

Specific conductance at P-206A remain low with values ranging from 197 to 232 µmhos/cm in 2024. Arsenic was not detected above the laboratory reporting limit of 0.005 mg/L at P-206A during 2024.

Stiff and Piper diagrams were plotted using July 2024 data for upgradient monitoring well P-206A, as well as for upgradient monitoring locations MW-206 and MW12-303R and leachate monitoring location LT-C4LR. The diagrams are provided in Appendix G. These diagrams show similar ionic ratios among the upgradient monitoring wells in July 2024 and a clear distinction from the chemical signature of the leachate from LT-C4LR in July 2024 (see Appendix G).

Since groundwater quality at P-206A is still generally characterized by low parameter concentrations and the increasing water quality trends appear to be subsiding, SME does not interpret the current water quality at P-206A as related to the performance of landfill cells or leachate collection and transport systems. Monitoring location P-206A is located proximate to the looped road that accesses the JRL leachate storage tank. SME recommends that on-site snow removal and winter roadway maintenance practices minimize stockpiling of snow around this well.

Downgradient Monitoring Locations MW-223A and MW-223B: Groundwater monitoring wells MW-223A and MW223B monitor the bedrock and overburden groundwater, respectively, hydraulically downgradient and northwest of the JRL. In previous years' site water quality evaluations, SME has specifically addressed monitoring wells MW-223A and MW-223B, located along the northwest perimeter of the landfill, and potential site activities responsible for the water quality in these wells.[14,15] Additional insight into the water quality changes at these wells was discussed in the 2016 through 2020 site water quality evaluations, with the sampling of the former Scale House Well and former Office Well during those years. The evaluations determined that similarities existed among the former Scale House Well, the

[14] SME, April 2015. 2014 Annual Water Quality Report, Juniper Ridge Landfill, prepared for NEWSME Landfill Operations LLC.

[15] SME, April 2016, 2015 Annual Water Quality Report, Juniper Ridge Landfill, prepared for NEWSME Landfill Operations LLC.

former Office Well, former monitoring well MW-302R, and MW-223A and MW-223B, and showed that they are distinct from the chemical signature of the leachate from LT-C4LR. The similarities in water quality in these wells are consistent with the known hydrogeology in this area of the site, which indicate a preferential groundwater flow direction exists from northeast to southwest from the vicinity of the former Scale House toward former monitoring well MW-302R and monitoring wells MW-223A, and MW-223B.[16] This suggests that water quality in monitoring wells MW-223A and MW-223B may in part be associated with upgradient water quality in the vicinity of the former Office Well and former Scale House Well in addition to the sources previously identified. A former topsoil and stump stockpile area and a subsurface wastewater disposal field which is no longer in use were also located along this preferential groundwater flow direction. Construction of landfill Cell 15 adjacent to MW-223A and MW-223B during 2022 and 2023 could be responsible for any parameter increases beginning in 2022 and continuing for the next several years.

Table 8-6 summarizes the 2024 annual maximum water quality parameter results for nine parameters at monitoring wells MW-223A and MW-223B that are elevated with respect to upgradient groundwater quality. Note that arsenic concentrations at MW-223B were not elevated with respect to upgradient groundwater quality, as is typical, and that arsenic was not detected above the laboratory reporting limit of 0.005 mg/L at MW-223A during two of the three 2024 monitoring events.

TABLE 8-6

SUMMARY OF 2024 ANNUAL MAXIMUM WATER QUALITY PARAMETER VALUES AT MW-223A AND MW-223B

Parameter	MW-223A	MW-223B	Upgradient Comparison (MW-206)
Specific Conductance (µmhos/cm)	633	500	141
Arsenic (mg/L)	0.033	0.005 U	0.005 U
Calcium (mg/L)	110	72	18
Magnesium (mg/L)	12	17	4.9
Sodium (mg/L)	6.5	6.6	4.7
Total Dissolved Solids (mg/L)	396	314	93
Sulfate (mg/L)	20	17	2.3
Bicarbonate Alkalinity (mg/L)	270	210	70 [1]
Chloride (mg/L)	35	31	2.5

Note:
[1] Value shown is for alkalinity. Bicarbonate alkalinity is not monitored at MW-206.

U – not detected above the indicated laboratory reporting limit

[16] SME, May 13, 2016, Letter to MEDEP regarding Juniper Ridge Landfill Expansion Application, MEDEP #S-020700WD-BI-N, follow-up to Department Staff's responses to the March 4, 2016 submittal on Staff's review comments as presented in the Department's April 5, 2016 letter (Attachment SME-D3, Figure U-14B – Bedrock Amended and Figure U-14B – Till Amended).

Piper and Stiff diagrams were plotted using July 2023 data for MW-223A and MW-223B, upgradient monitoring well MW-206, and the leachate sampled at LT-C4LR. The Piper and Stiff diagrams for these locations, which are provided in Appendix G, show similar chemical signatures for monitoring locations MW-223A and MW-223B with greater influence from calcium cations and bicarbonate alkalinity anions compared to upgradient monitoring location MW-206. There is a clear distinction from the chemical signature of the leachate from LT-C4LR compared to MW-223A and MW-223B.

Visual review of water quality trends at MW-223A and MW-223B show distinct increases in parameter concentrations since about 2005 or later. Many of these earlier increases have begun to stabilize or decrease. There are not statistically significant increasing or decreasing trends over the past three years for multiple parameters (i.e., four or more parameters) at MW-223A and MW-223B. There are also not statistically significant increasing or decreasing trends over the past five years for multiple parameters (i.e., four or more parameters) at MW-223B. There are statistically significant increasing trends at MW-223A for four parameters (bicarbonate alkalinity, nitrate plus nitrite, specific conductance, and total dissolved solids) over the past five years. These results are improved from results from previous recent years and generally indicate that water quality at MW-223A and MW-223B has begun to stabilize in the past few years. Review of historical data at MW-223A and MW-223B indicates most parameters remained within their respective historical ranges during 2024. Nitrate was the only one parameter at MW-223A with a new historical maximum concentration during 2024 (1.4 mg/L in July 2024 compared the previous historical maximum value of 1.2 mg/L). Similarly, there was a new historical maximum value for nitrate at MW-223B during 2024 (0.86 mg/L in October 2024 compared the previous historical maximum value of 0.75 mg/L). Methane was also detected at a new historical maximum value at MW-223B during 2024 (69 mg/L in October 2024 compared the previous historical maximum value of 40.6 mg/L).

Of note are statistically significant decreasing trends for chloride concentrations at MW-223B over the past three year and five years. Chloride, a key indicator for leachate influence in groundwater, was detected at an annual maximum concentration of 31 mg/L at MW-223B in April 2024, which is a decrease from the historical maximum value of 55.7 mg/L in April 2014. Similarly, chloride concentrations at MW-223A, with an annual maximum concentration of 35 mg/L in October 2024, have decreased since it was detected at a historical maximum concentration of 57.6 mg/L in April 2014.

Arsenic exceeded its MCL of 0.01 mg/L at MW-223B with a concentration of 0.033 mg/L in October 2024 and was not detected above its laboratory reporting limit of 0.005 mg/L in April and July 2024. There were no other parameters analyzed at MW-223A and MW-223B that exceeded MCL, LHA, or DWA standards in 2024.

SME does not interpret recent water quality and noted trends at MW-223A and MW-223B as related to the performance of landfill cells or leachate collection and transport systems.

Dissolved methane has been sampled at MW-223B as part of a supplemental monitoring program to evaluate potential influence of landfill gas to the groundwater at that location. The historical supplemental dissolved methane monitoring data at MW-223B has generally indicated that JRL landfill gas is not migrating away from the landfill in the vicinity of that well. Dissolved methane is typically not detected above the laboratory reporting limit of 20 µg/L at MW-223B but was detected at concentrations of 19 µg/L in April 2024 and 69 µg/L in October 2024. The latter concentration exceeded the previous historical maximum dissolved methane concentration of 40.6 µg/L. Continued dissolved methane monitoring data at MW-223B will be useful for determining whether detections persist at MW-223B in 2025.

Downgradient location MW-301: Monitoring well MW-301 is a deep bedrock monitoring well (screened between 162.7 and 182.7 feet below ground surface) located downgradient from the landfill in proximity of the Detention Pond 1A. The groundwater quality at MW-301 is consistent with its setting as a monitoring location downgradient from the landfill. There are no current concerns with water quality results at this well location related to the performance of landfill cells or leachate collection and transport systems.

As previously reported, MW-301 was damaged prior to April 2013. Following 2013 repairs to the well, groundwater elevations rose approximately 4 feet, and multiple parameters have been observed to increase generally between 2013 and 2019.[17] The groundwater quality at MW-301 has generally stabilized since 2019. There are not statistically significant increasing or decreasing trends for multiple parameters (i.e., four or more) at MW-301 over the past three years or five years.

Chloride concentrations at MW-301 remain somewhat elevated compared to upgradient concentrations at MW-206, which had an annual maximum concentration of 2.5 mg/L in April and July 2024. There are statistically significant increasing trends for chloride at MW-301 over the past three years and five years. Chloride was the only parameter at MW-301 with a new historical maximum value during 2024 (29 mg/L in July 2024 exceeded the previous historical maximum value of 26 mg/L in October 2019).

Specific conductance, chloride, and arsenic are key indicator parameters for comparison to JRL leachate concentrations. While chloride concentrations at MW-301 are somewhat elevated in comparison to upgradient concentrations at MW-206, the specific conductance values and arsenic concentrations at MW-301 remain low. The 2024 specific conductance values at MW-301 ranged from 230 µmhos/cm in April 2024 to 252 µmhos/cm in July 2024, remaining generally consistent with the historical range of values at upgradient monitoring location MW-206. The historical maximum specific conductance value at upgradient monitoring location MW-206 is 323 µmhos/cm (October 2022). Arsenic was not detected above the laboratory reporting limit of 0.005 mg/L during 2024.

[17] SME, 2020. 2019 Annual Water Quality Report, Juniper Ridge Landfill, Prepared for NEWSME Landfill Operations, LLC. April 2020.

There were no parameters analyzed at MW-301 that exceeded MCL, LHA, or DWA standards in 2024.

Piper and Stiff diagrams were plotted using July 2024 data for MW-301 and the leachate sampled at LT-C4LR. The Piper and Stiff diagrams for these locations, which are provided in Appendix G, show a clear distinction from the chemical signature of the leachate from LT-C4LR compared to MW-301. The chemical signature of the July 2024 water quality from MW-301, as shown on the Stiff diagrams, is very similar to the chemical signatures of the upgradient monitoring wells.

Landfill Expansion downgradient locations OW-601B, OW-602A, OW-604A, OW-606A, OW-609B, OW-610A, OW-611A, MW06-01, MW-502, MW-507, MW-508, and P-04-07B: Monitoring locations OW-601B, OW-602A, OW-604A, OW-606A, MW06-01, and MW-502 are located east and hydraulically downgradient of the landfill expansion cells. Monitoring locations OW-609B, OW-610A, OW-611A, MW-507, MW-508, and P-04-07B are located west of and downgradient from the landfill expansion cells.

In general, multiple parameters at many of the landfill expansion monitoring locations have exhibited greater values than at upgradient monitoring well MW-206, including the key indicator parameters specific conductance and chloride. Arsenic concentrations at the subject landfill expansion monitoring locations were below the MCL of 0.01 mg/L during 2024. The annual maximum values of the key indicator parameters for the subject landfill expansion monitoring locations are summarized in Table 8-5.

The greater parameter values observed at the subject landfill expansion monitoring locations during 2024 (e.g., the specific conductance value of 552 µmhos/cm at P-04-07B in July 2024) are likely caused by the ground disturbance associated with the landfill expansion cells that have been constructed to date and the change in redox conditions in the soil and groundwater from cutting off precipitation recharge in those areas. While the specific conductance values at MW06-01 and P-04-07B were new historical maximum values during 2024, each of the other downgradient expansion monitoring wells discussed in this section have specific conductance values during 2024 that were lower than their recent historical maximum values. For example, the following three downgradient expansion monitoring wells had new historical minimum specific conductance values during 2024:

- MW-502 – Specific conductance (138 µmhos/cm in July 2024) was at a new historical minimum value compared to the historical maximum value of 389 µmhos/cm in June 2020;
- OW-609B – Specific conductance (140 µmhos/cm in April 2024) was at a new historical minimum value compared to the historical maximum value of 477 µmhos/cm in June 2021; and
- OW-611A – Specific conductance (187 µmhos/cm in October 2024) was at a new historical minimum value compared to the historical maximum value of 553 µmhos/cm in April 2023.

Chloride concentrations observed at the subject landfill expansion monitoring locations during 2024 have also exhibited greater values than at upgradient monitoring well MW-206. The chloride concentration of 39 mg/L at MW-604A in July 2024 exceeded the previous historical maximum concentration 12 mg/L. Each of the other downgradient expansion monitoring wells discussed in this section have chloride concentrations during 2024 that were lower than their recent historical maximum values. For example, the following two downgradient expansion monitoring wells had new historical minimum specific conductance values during 2024:

- MW-508 – Chloride concentrations (15 mg/L in July 2024 and 14 mg/L in October 2024) were at new historical minimum values compared to the historical maximum value of 29 mg/L in October 2022; and
- P-04-07B – Chloride (57 mg/L in July 2024) was at a new historical minimum value compared to the historical maximum value of 63 mg/L in July 2023.

Monitoring locations OW-601B, OW-602A, OW-604A, OW-606A and MW-502 are located in close proximity to the landfill access road and may also be influenced by winter road salting (e.g., the chloride concentration of 39 mg/L at OW-604A in July 2024).

Parameter concentrations at the landfill expansion downgradient monitoring locations are expected to decrease and stabilize with additional time following the construction of the landfill expansion cells.

The results for the Mann-Kendall analyses for the subject downgradient expansion monitoring locations are summarized as follows:

- There were not multiple parameters (i.e., four or more) with three year or five year statistically significant increasing or decreasing trends at OW-601B, OW-609B, OW-610A, MW-502, MW-507, and P-04-07B;
- There were six parameters (calcium, magnesium, sodium, specific conductance, sulfate, and total dissolved solids) at OW-602A with statistically significant increasing trends over the past five years;
- There were five parameters (calcium, chloride, magnesium, specific conductance, and total dissolved solids) at OW-604A with statistically significant increasing trends over the past five years;
- There were four parameters (bromide, calcium, specific conductance, and total dissolved solids) at OW-606A with statistically significant increasing trends over the past five years;
- There were four parameters (alkalinity, Eh, iron, and nitrate plus nitrite) at OW-611A with statistically significant increasing trends over the past five years;

- There were five parameters (alkalinity, magnesium, specific conductance, sulfate, and total dissolved solids) at MW06-01 with statistically significant increasing trends over the past three years and ten parameters (alkalinity, bicarbonate alkalinity, bromide, calcium, chloride, magnesium, dissolved methane, sodium, specific conductance, and total dissolved solids) over the past five years; and
- There were nine parameters (calcium, chloride, iron, magnesium, nitrate plus nitrite, pH, potassium, sodium, and turbidity) at MW-508 with statistically significant decreasing trends over both the past three years and five years.

The last of these trends discussed, nine parameters with decreasing trends over the past three years and five years, is an example of the anticipated improvement to water quality at expansion monitoring wells influence by construction of the landfill expansion.

There were no MCL, LHA, or DWA exceedances for parameters analyzed at OW-601B, OW-602A, OW-604A, OW-606A, OW-611A, MW06-01, MW-502, MW-507, and MW-508 during 2024. There were no MCL exceedances for parameters analyzed at OW-609B, OW-610A, and P-04-07B. The LHA and DWA exceedances for parameters monitored for at OW-609B, OW-610A, and P-04-07B during 2024 are provided later in this section (see Table 8-7).

Stiff diagrams were plotted using July 2024 data for landfill expansion downgradient monitoring wells OW-601B, OW-602A, OW-604A, OW-606A, OW-609B, OW-610A, OW-611A, MW06-01, MW-502, MW-507, MW-508, and P-04-07B, which are provided in Appendix G. These Stiff diagrams generally show similar chemical characterizations to each other and a clear distinction from the chemical signature of the leachate from LT-C4LR in July 2024.

VOCs at JRL Groundwater Monitoring Well Locations

VOCs were analyzed at MW-401B in April 2024; no VOCs were detected above the laboratory reporting limits.

MCL, LHA, and DWA Exceedances at JRL Groundwater Monitoring Well Locations

Parameters detected at concentrations that were above MCLs, LHAs, or DWAs at groundwater detection monitoring locations in 2024 are identified in Table 8-7.

With the exception of the manganese LHA exceedance in October 2024 at MW-501, each of the MCL, LHA, and DWA exceedances listed in Table 8-7 have occurred at their respective locations in the past.

TABLE 8-7

2024 MCL, LHA, AND DWA EXCEEDANCES AT GROUNDWATER MONITORING LOCATIONS

Location Designation	Sulfate (mg/L) (500 mg/L DWA)	Ammonia (mg/L) (30 mg/L LHA)	Boron (mg/L) (6 mg/L LHA)	Sodium (mg/L) (20 mg/L DWA)	Manganese (mg/L) (0.3 mg/L LHA)	Copper (mg/L) (1.3 mg/L MCL)	Arsenic (mg/L) (0.01 mg/L MCL)
MW-04-09A	–	–	–	28 (April 2024) 28 (July 2024) 30 (October 2024)	–	–	–
MW04-102	–	NS	NS	–	–	NS	0.027 (October 2024)
MW04-109R	–	NS	NS	–	0.39 (April 2024) 5.6 (July 2024) 4.1 (October 2024)	NS	–
MW09-901	–	NS	NS	–	–	NS	0.17 (October 2024) [2]
MW-223A	–	NS	NS	–	–	NS	0.033 (October 2024)
MW12-303R	–	NS	NS	–	0.36 (October 2024)	NS	–
MW-501	–	–	–	–	1.2 (October 2024)	–	–
MW-505	–	–	–	25 (July 2024)	–	–	–
OW-609B	–	–	–	40 (July 2024)	–	–	–
OW-610A	–	–	–	–	1.7 (July 2024)	–	–
P-04-07B	–	–	–	98 (July 2024)	–	–	–

Notes:

[1] Nitrate plus nitrite samples for 2024 groundwater monitoring locations were all less than the MCL for nitrate of 10 mg/L. There were three monitoring locations during 2024 where the nitrate plus nitrite concentrations were greater than the MCL for nitrite of 1.0 mg/L and it cannot be verified that nitrite was below its MCL of 1.0 mg/L at those locations at those times. These instances are: 1.2 mg/L at MW-223A in April and October 2024, 1.4 mg/L at MW-223A in July 2024, 2.1 mg/L at MW12-303R in July 2024, and 3.6 mg/L at OW-604A in July 2024.

[2] The October 2024 arsenic concentration of 0.17 mg/L at MW09-901 is anomalously high and is believed to be a laboratory error. Further discussion for the arsenic concentration at this location was provided earlier in this section.

NS = not sampled

– = no exceedance

The occurrence of arsenic MCL exceedances in groundwater is largely attributable to reducing conditions associated with decreasing groundwater recharge from site development.

Dissolved Methane

Samples were obtained for dissolved methane analyses at monitoring wells MW-04-09A, MW-04-09B MW06-01, MW-08-01, MW-206, MW-501, MW-502, MW-503, MW-504, MW-505, MW-506, MW-507, MW-508, and P-206A during the April, July, and October 2024 monitoring events. Samples were obtained for dissolved methane analyses at OW-601A, MW-601B, OW-602A, OW-604A, OW-605A, OW-606A, OW-606B, OW-607B, OW-608A, OW-608B, OW-609B, OW-610A, OW-611A, P-04-07A, P-04-07B, P-04-11A, and P-04-11B in July 2024. Samples were also obtained for dissolved methane analyses at monitoring well MW-223B in April and October 2024.

Dissolved methane was not detected above the laboratory reporting limit of 5.2 µg/L during 2024 at monitoring locations MW-04-09B, MW-08-01, MW-206, MW-502, MW-503, MW-504, MW-505, OW-601A, OW-601B, OW-604A, OW-605A, OW-606A, OW-606B, OW-607B, OW-608B, OW-609B, OW-611A, P-04-07A, P-04-07B, P-04-11A, P-04-11B, and P-206A.

Dissolved methane was detected at monitoring locations MW-04-09A, MW-223B, MW-501, MW-507, MW-602A, and OW-608A during 2024, but at relatively low concentrations that ranged from 5.4 µg/L at MW-501 in April 2024 to 140 µg/L at OW-602A in July 2024.

Greater concentrations of dissolved methane were detected at the following locations, exceeding their previous historical maximum concentrations by an order of magnitude:

- Dissolved methane was detected at a concentration of 2,100 µg/L at MW06-01 in April 2024. The dissolved methane concentrations at this location were lower during the July 2024 (340 µg/L) and October 2024 (270 µg/L) monitoring events; and
- Dissolved methane was detected at a concentration of 1,500 µg/L at OW-610A in July 2024.

While these greater concentrations at monitoring wells MW06-01 and OW-610A may indicate an increase in the presence/migration of landfill gas in 2024, it should be noted that these locations are located at lower elevations of the site, are adjacent to wetland areas, and have relatively shallow screen intervals (i.e., less than 30 feet deep). As discussed below in Section 8.4, dissolved methane concentrations in wetlands at JRL pore-water monitoring locations have dissolved methane concentration historically as high as 4,800 µg/L, which are attributed to anaerobic biological processes in the saturated wetland soils. Influence from wetland groundwater at MW06-01 and OW-610A should be considered when evaluating the water quality at these locations. Methane gas was monitored in the headspace of JRL monitoring locations in April, July, and October 2024, including at OW-610A and MW06-01. There was no methane gas detected in the headspace of JRL monitoring locations in 2024. Continued monitoring at these locations during 2025 will be useful for determining whether the greater dissolved methane concentrations at these locations persists.

8.4 Surface Water, Stormwater, and Pore-Water

Surface water at the site was monitored in 2024 at three locations on the southwest side of the landfill along a southwesterly unnamed tributary to Pushaw Stream (SW-1, SW-2, and SW-3) and one location northeast of the Site in a separate, more northerly tributary to Pushaw Stream (SW23-4). Stormwater was monitored at two stormwater detention ponds (SW-DP1 and SW-DP6) during 2024. Additionally, pore-water sampling locations were monitored in 2024 at PWS10-1, PWS10-2, PWS10-3 along the landfill side of the bank of the unnamed tributary to Pushaw Stream and at PWS-4 northeast of the landfill along the landfill side of the bank of an unnamed tributary to Judkins Brook. The surface water, stormwater, and pore-water monitoring locations were each sampled in April, July, and October 2024. Monitoring locations SW23-4 and PWS-4 were also sampled in March and June as part of the baseline monitoring for those locations.

Comparison of Key Indicator Parameters at Surface Water, Stormwater, and Pore-Water Monitoring Locations to JRL Leachate and Summary of Statistically Significant Trend Results

The 2024 annual maximum specific conductance values and chloride and arsenic concentrations for the JRL surface water, stormwater, and pore-water monitoring locations are summarized in Table 8-8. The Mann-Kendall analyses results for statistically significant trends for these parameters are also provided in Table 8-8. The complete results for Mann-Kendall analyses are provided in Appendix F.

TABLE 8-8

2024 ANNUAL MAXIMUM SPECIFIC CONDUCTANCE VALUES AND CHLORIDE AND ARSENIC CONCENTRATIONS AT SURFACE WATER, STORMWATER, AND PORE-WATER MONITORING LOCATIONS

Location Designation	Annual Maximum Specific Conductance (22,146 µmhos/cm in JRL Leachate in October 2024)			Annual Maximum Chloride (5,700 mg/L in JRL Leachate in October 2024)			Annual Maximum Arsenic (0.37 mg/L in JRL Leachate in October 2024)		
	µmhos/cm	Statistically Significant Trend		mg/L	Statistically Significant Trend		mg/L	Statistically Significant Trend	
		3- Year	5- Year		3- Year	5- Year		3- Year	5- Year
SW-1	268	-	-	5.6	Decreasing	Decreasing	0.0053	-	-
SW-2	98	-	-	10	-	-	0.005 U	-	-
SW-3	119	-	-	4.9	Decreasing	Decreasing	0.005 U	-	-
SW23-4	124	-	-	5.3	-	-	0.005 U	-	-
SW-DP1	130	-	-	2.7	-	Decreasing	0.005 U	-	-
SW-DP6	150	Increasing	-	2.1	-	-	0.005 U	-	-
PWS10-1	317	-	-	5.7	-	Decreasing	0.005 U	-	-
PWS10-2	272	Increasing	-	5.6	Decreasing	Decreasing	0.005 U	-	-
PWS10-3	189	-	-	6.8	-	Increasing	0.005 U	-	-
PWS-4	99	Decreasing	Decreasing	4.7	-	-	0.005 U	-	-

Notes:
U = not detected above indicated laboratory reporting limit
– = no trend
I – insufficient data

The 2024 surface water, stormwater, and pore-water monitoring location data are generally characterized by low values of key indicator parameters in comparison to the JRL leachate (i.e., LT-C4LR). This is consistent with historical data at these locations. Arsenic concentrations at the surface water, stormwater, and pore-water monitoring locations during 2024 were not detected above the laboratory reporting limit of 0.005 mg/L with the exception the low April 2024 concentration 0.0053 mg/L at SW-1. The specific conductance values and chloride concentrations at the surface water, stormwater, and pore-water monitoring locations were all at low values and below their respective historical maximum values.

Further description of the JRL surface water, stormwater, and pore-water sampling locations and notable observations from their 2024 water quality data are provided below.

Surface Water Monitoring Locations: Along an unnamed southwesterly tributary to Pushaw Stream, surface water quality at SW-1, SW-2, and SW-3 has been very consistent since sampling began at these locations in the early 1990s. The few surface water quality parameters measured during 2024 that were not within their respective historical ranges are summarized on the 2024 water quality data summary reports provided in Appendix E. Parameter concentrations during the 2024 sampling events at downstream locations SW-1 and SW-3 were generally similar to or marginally greater than those measured at SW-2, which is located upstream from the landfill. Parameters analyzed at SW-1 and SW-3, located downstream from the landfill, remain at relatively low values that do not indicate influence from landfill leachate. The slightly increased values at the downstream location are consistent with changes seen when natural surface water travels downstream from its source.

Surface water quality monitoring at SW23-4, along a northerly tributary to Pushaw Stream, began during 2023 and continued in 2024. Monitoring location SW23-4 was sampled during the April, July, and October 2024. The 2024 data from SW23-4 indicates surface water quality generally similar to the historical water quality from SW-1, SW-2, and SW-3 along the unnamed tributary to Pushaw Stream. Dissolved methane was detected at a very low concentration of 8.5 µg/L at surface monitoring location SW23-4 in July 2024.

The iron concentrations exceeded the MFCCC standard of 1 mg/L at SW-1 in April 2024 (1.2 mg/L) and July 2024 (5.5 mg/L), at SW-2 in July 2024 (2.6 mg/L), at SW-3 in July and October 2024 (1.5 mg/L), and at SW23-4 in July 2024 (1.1 mg/L). MFCCC exceedances for iron have occurred historically at SW-1, SW-2, and SW-3. The iron MFCCC exceedance at SW23-4 was a first-time exceedance; however, monitoring at this location only began in 2023. The copper concentration at SW23-4 exceeded the MFCCC standard of 0.00236 mg/L in July 2024 (0.0055 mg/L), which was also a first-time exceedance at this new monitoring location. There were no other MFCCC exceedances at SW-1, SW-2, SW-3, and SW23-4 for parameters analyzed during 2024.

There were not multiple parameters (i.e., four or more) with statistically significant increasing or decreasing trends at SW-1, SW-2, SW-3, and SW23-4 over the past three years and five years.

Stormwater Monitoring Locations: Samples from SW-DP1 are obtained from a stormwater detention pond at the downstream western edge of the JRL site. Samples from SW-DP6 are obtained from a stormwater detention pond sampling location at the southern end of the site.

The historical range of parameter concentrations at SW-DP1 have generally been low since sampling began at this location in 2004 and have not indicated influences from landfill leachate or landfill operations. There was only one parameter at SW-DP1 that was outside of its historical range during 2024. Bicarbonate alkalinity was detected at a new historical minimum concentration of 6.4 mg/L in April 2024, which was lower than the previous historical minimum concentration of 7.2 mg/L. The annual maximum

specific conductance value (130 µmhos/cm in July 2024) and chloride concentration (2.7 mg/L in April 2024) at SW-DP1 were low during 2024. There are not statistically significant increasing or decreasing trends for multiple parameters (i.e., four or more) at SW-DP1 over the past three years and five years.

Stormwater quality monitoring at SW-DP6 began in October 2009. The stormwater quality at SW-DP6 during 2024 is typically characterized by continued low parameter concentrations that do not indicate influences from landfill leachate or landfill operations. During the previous year's evaluation of SW-DP6 (i.e., for 2023 water quality), it was noted that there were several parameters with anomalously greater values. Six of the seven groundwater quality parameters detected at new historical maximum values at SW-DP6 in July 2023 have generally returned to values similar to those before 2023; the 2024 results are summarized as follows:

- Specific conductance – the 2023 historical maximum value of 465 µmhos/cm decreased to an annual maximum value of 150 µmhos/cm in July 2024;
- Calcium – the 2023 historical maximum value of 74 mg/L decreased to an annual maximum value of 20 mg/L in July 2024;
- Magnesium – the 2023 historical maximum value of 8.6 mg/L decreased to an annual maximum value of 5.3 mg/L in July 2024;
- Sodium – the 2023 historical maximum value of 9.4 mg/L decreased to an annual maximum value of 2.4 mg/L in April and July 2024;
- Sulfate – the 2023 historical maximum value of 200 mg/L decreased to an annual maximum value of 30 mg/L in July 2024; and
- Total dissolved solids – the 2023 historical maximum value of 356 mg/L decreased to an annual maximum value of 240 mg/L in July 2024.

The 2023 historical maximum value for phosphorous of 0.16 mg/L at SW-DP6 in 2023 was exceeded in July 2024 with a new historical maximum concentration of 0.26 mg/L.

There were also new historical maximum concentrations at SW-DP6 during 2024 for three other parameters. Iron exceeded the previous historical maximum concentration of 3.05 mg/L at SW-DP6 in July 2024 with a concentration of 16 mg/L. Potassium exceeded the previous historical maximum concentration of 3.4 mg/L at SW-DP6 in July 2024 with a concentration of 4.7 mg/L. Total suspended solids exceeded the previous historical maximum concentration of 54 mg/L at SW-DP6 in July 2024 with a concentration of 130 mg/L.

There were four parameters (calcium, magnesium, specific conductance, and sulfate) with statistically significant increasing trends over the past three years at SW-DP6. There were five parameters

(bicarbonate alkalinity, calcium, magnesium, potassium, and total dissolved solids) with statistically significant increasing trends over the past five years at SW-DP6.

Construction of the Stage 1 Closure Cap occurred during the summer of 2023 and may have contributed to increased disturbance of area soils and the consequent changes in parameter values in the stormwater in Detention Pond 6.

The iron concentrations at SW-DP6 of 4.9 mg/L in April 2024 and 16 mg/L in July 2024 exceeded MFCCC standards. There were no other MFCCC exceedances at SW-DP6 for parameters analyzed during 2024. There were no MFCCC exceedances at SW-DP1 for parameters analyzed during 2024.

The key indicator parameter values for SW-DP1 and SW-DP6 remain very low in comparison to JRL leachate (see Table 8-8).

Pore-Water Monitoring Locations: Pore-water sample locations PWS10-1, PWS10-2, and PWS10-3, which are located along the landfill side of the bank of the southwesterly unnamed tributary to Pushaw Stream, have been sampled since 2010. Pore-water sampling location PWS-4, which is northeast of the landfill along the landfill side of the bank of an unnamed tributary to Judkins Brook, has been sampled since 2023. These sampling locations are intended to be representative of groundwater quality as it discharges to the streams. Due to their local hydrologic setting (i.e., shallow fluctuating water table with high natural organic matter associated with the wetland and stream), they are characterized by iron and total organic carbon concentrations that are typically greater than in groundwater from other areas of the site. Groundwater quality has been generally consistent at the PWS10-1, PWS10-2, and PWS10-3 pore-water sampling locations since sampling began at these locations in 2010 and does not indicate influences from landfill leachate or landfill operations. Groundwater quality at pore-water sampling location PWS-4, which began being sampled more recently, also does not indicate influences from landfill leachate or landfill operations.

While visual review of the 2024 and historical pore-water quality data indicates generally stable water quality, there were some parameter concentrations at PWS10-1, PWS10-2, and PWS10-3 that were outside of the range of historical minimum and maximum values for these monitoring locations in 2024. These occurrences are identified on the individual water quality summary sheets contained in Appendix E.

There were not multiple parameters (i.e., four or more) at PWS10-1, PWS10-2, and PWS-4 with statistically significant decreasing or increasing trends over the past three years and five years. Four parameters (chloride, Eh, pH, and potassium) had statistically significant increasing five year trends at PWS10-3.

The key indicator parameter values for PWS10-1, PWS10-2, PWS10-3, and PWS-4 remain very low in comparison to JRL leachate (see Table 8-8).

Pore-water samples from PWS10-1, PWS10-2, PWS10-3, and PWS-4 were analyzed for dissolved methane during the April, July, and October 2024 monitoring events. The dissolved methane concentrations for these pore-water samples in 2024 are provided in Table 8-9.

TABLE 8-9

2024 DISSOLVED METHANE CONCENTRATIONS AT PORE-WATER MONITORING LOCATIONS

Location Designation	April 2024 (µg/L)	July 2024 (µg/L)	October 2024 (µg/L)
PWS10-1	7.6	780	320
PWS10-2	5.2 U	61	390
PWS10-3	21	500	210
PWS-4	25	180	150

Notes:
U = not detected above indicated laboratory reporting limit

The 2024 dissolved methane concentrations are lower than the historical maximum concentrations detected at PWS10-1 (4,600 µg/L in July 2015), PWS10-2 (4,800 µg/L in July 2022), and PWS10-3 (4,000 µg/L in July 2020). The 2024 dissolved methane concentrations at PWS-4 (added to the monitoring program in 2023) were higher than the 2023 dissolved methane concentrations at PWS-4 but were well below the historical maximum concentrations observed at PWS10-1, PWS10-2, and PWS10-3. The historical dissolved methane detections at these locations are consistent with their hydrologic setting in a freshwater wetland and are attributed to anaerobic biological processes in the saturated wetland soils. Studies of freshwater wetlands in the southeastern portion of the United States show wetland pore-water samples with dissolved methane concentrations of more than 20,000 µg/L in the top 25 centimeters of saturated soils.[18] The lower dissolved methane concentrations at JRL wetlands are likely attributed to the cooler climate in the northeastern portion of the United States, which limits anaerobic biological activity. The historical dissolved methane results at the pore-water monitoring locations typically indicate substantially greater concentrations during the summer monitoring event when warmer temperatures facilitate increased anaerobic biological processes in the saturated wetland soils.

While the pore-water sampling locations are grouped with surface water and stormwater monitoring locations, the samples are obtained from soil and the sampling results from these locations are compared to MCL, LHA, and DWA standards for groundwater. The exceedances for parameters analyzed during 2024 at the pore-water monitoring locations are summarized as follows:

- Manganese was above its LHA of 0.3 mg/L in 2024 at PWS10-1 (0.31 mg/L in October 2024);

[18] Schipper LA, Reddy KR (1994) Methane production and emissions from four reclaimed and pristine wetlands of southeastern U.S. *Soil Science Society of America Journal* 58, 1270-1275.

- Manganese was above its LHA of 0.3 mg/L in 2024 at PWS10-2 (0.35 mg/L in October 2024);
- Manganese was above its LHA of 0.3 mg/L in 2024 at PWS10-3 (2.0 mg/L in July 2024 and 0.49 in October 2024); and
- Manganese was above its LHA of 0.3 mg/L in 2024 at PWS-4 (0.49 mg/L in July 2024 and 0.88 mg/L in October 2024).

Manganese has exceeded its LHA at each of these locations prior to 2024.

8.5 Leak Detection System

The approved permitted landfill expansion liner system for Cell 11 through Cell 17 includes leak detection layers under the primary liner systems. Detection monitoring began in 2021 at landfill leak detection sampling locations LF-LD-11 and LF-LD-12 for the Cell 11 and Cell 12 leak detection systems, respectively. Detection monitoring began in 2022 at landfill leak detection sampling location LF-LD-13 for the Cell 13 leak detection system. Detection monitoring began in 2023 at landfill leak detection sampling location LF-LD-14 for the Cell 14 leak detection system. Detection monitoring began in 2024 at landfill leak detection sampling location LF-LD-15 for the Cell 15 leak detection system. The LF-LD-11, LF-LD-12, LF-LD-13, LF-LD-14 and LF-LD-15 monitoring locations are shown on Figure 3-1. The samples are collected from the leak detection sample sump which is accessible from the pump stations. Leak detection monitoring was conducted during the July 2024 monitoring event for parameters in the detection monitoring program. A summary of the 2024 leak detection annual maximum values for key indicator parameters for comparison to the JRL leachate is provided in Table 8-10.

TABLE 8-10

2024 ANNUAL MAXIMUM SPECIFIC CONDUCTANCE VALUES AND CHLORIDE AND ARSENIC CONCENTRATIONS AT LEAK DETECTION MONITORING LOCATIONS

Leak Detection Monitoring Location	Annual Maximum Specific Conductance (22,146 µmhos/cm in JRL Leachate in October 2024)	Annual Maximum Chloride (5,700 mg/L in JRL Leachate in October 2024)	Annual Maximum Arsenic (0.37 mg/L in JRL Leachate in October 2024)
LF-LD-11	1,400 (February 2024)	1.0 U (July 2024)	0.005 U (July 2024)
LF-LD-12	1,318 (February 2024)	37 (July 2024)	0.005 U (July 2024)
LF-LD-13	690 (February 2024)	12 (July 2024)	0.005 U (July 2024)
LF-LD-14	1,009 (February 2024)	1.1 (July 2024)	0.005 U (July 2024)
LF-LD-15	981 (October 2024)	3.6 (October 2024)	0.005 U (July and October 2024)

Notes:
U – not detected above the indicated laboratory reporting limit

Based on the very low chloride and arsenic concentrations at LF-LD-11, LF-LD-13, LF-LD-14, and LF-LD-15 during 2024, the liquid sampled from those locations does not indicate the presence of leachate in the leak detection systems. The specific conductance at LF-LD-11, LF-LD-12, LF-LD-13, LF-LD-14, and LF-LD-15 had annual maximum values that are greater than those typical at upgradient monitoring locations. This is likely the result of the recent construction of Cell 11, Cell 12, Cell 13, Cell 14, and Cell 15.

The chloride concentration at LF-LD-12 of 37 mg/L in July 2024 was greater than the previous historical maximum value of 2.2mg/L. As discussed in Section 8.1, the new historical maximum chloride concentration at LF-LD-12 in 2024 is paired with a new historical maximum bromide concentration of 0.57 mg/L in July 2024 (previously not detected above the laboratory reporting limit of 0.1 mg/L). The moderate increase in the chloride concentration at LF-LD-12 during 2024 is still very low compared to the annual maximum chloride concentration of 5,700 mg/L in the leachate during 2024. The historical range of chloride is 2,500 mg/L to 24,300 mg/L, which indicates that the water sampled from LF-LF-12 in July 2024 with a concentration of 37 mg/L chloride is not leachate. The 2025 monitoring at LF-LD-12 will be useful for determining whether the increase in chloride and bromide concentrations persists at this location.

Samples from the LF-LD-11, LF-LD-12, LF-LD-13, LF-LD-14 and LF-LD-15 were analyzed for dissolved methane during the July 2024 monitoring event. LF-LD-15 was also analyzed for dissolved methane during the October 2024 monitoring event. Dissolved methane was not detected at or above the laboratory reporting limit of 5.2 µg/L at LF-LD-11. Dissolved methane was detected at concentrations of 270 µg/L at LF-LD-12, which is consistent with the historical dissolved methane detections at that location. Dissolved methane was detected at concentrations of 300 µg/L at LF-LD-13 and 600 µg/L at LF-LD-14 in July 2024, which are higher than dissolved methane concentrations at those locations in previous years. The dissolved methane concentration at LF-LD-15 was 570 µg/L in July 2024 and 1,400 µg/L in October 2024.

2024 is the first year that LF-LD-15 was sampled for detection monitoring parameters following the construction of Cell 15 in 2023.

9.0 WATER QUALITY GAS MONITORING

During the spring, summer, and fall monitoring events in 2024, methane gas, hydrogen sulfide, and oxygen were measured during the collection of water quality samples at the site monitoring well standpipes, underdrain outfalls, leachate collection system, Detention Pond 1A leak detection system using a hand-held gas meter. All methane and hydrogen sulfide monitoring results were below the meter detection limit. Historical and 2024 gas monitoring results for the site are included in Appendix H.

Hydrogen sulfide is monitored automatically near the JRL site property boundaries in four locations. The data is logged every 15 minutes and is available from NEWSME upon request.

10.0 SUMMARY AND RECOMMENDATIONS

10.1 Summary

Water quality samples were obtained in April, July, and October 2024 at the JRL in accordance with the current site EMP. The 2024 water quality data for the JRL is consistent with the historical data for the site and with the setting of monitoring locations among the construction and operational activities of the landfill. Site groundwater and surface water quality data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems. The evaluation of site water quality, which incorporates the 2024 water quality data, identifies trends at multiple locations and for a number of parameters, both upgradient and downgradient from the landfill. Historical groundwater quality data through 2024 indicate that these trends are largely attributable to a reduction in recharge due to the landfill placement in the landscape and subsequent changes in redox conditions, as well as changes due to the construction of the landfill (e.g., from removal of vegetation, disturbance of native soils, and the cutoff of precipitation in the landfill area), and do not indicate any significant landfill related impacts to water quality from malfunction of the landfill liners. The JRL site-wide water quality are summarized below.

Leachate Monitoring Location

As discussed in Section 8.1, leachate from monitoring location LT-C4LR during 2024 and historically since July 2013 is generally characterized by high parameter values. Generally, at a given water quality monitoring location, if landfill leachate were present, there would be a notable, significant increase in specific conductance values and chloride and arsenic concentrations (in conjunction with changes in other parameter concentrations) due to their presence at high concentrations in the JRL leachate. In 2024, the annual maximum values in JRL leachate (i.e., monitoring location LT-C4LR) are a specific conductance value of 22,146 µmhos/cm, 5,700 mg/L of chloride, and 0.37 mg/L of arsenic.

Underdrain Monitoring Locations

As discussed in Section 8.2, there was no flow at LF-UD-1, LF-UD-2, LF-UD-3A,B, LF-UD-4, LF-UD-6, LF-UD-7, LF-UD-8, LF-UD-9, LF-UD-10, LF-UD-12+13+14, and LP-UD-1 during any of the three 2024 detection monitoring events; thus, no samples were obtained at these locations during 2024. These occurrences of no flow at these underdrain monitoring locations are generally consistent with previously observed patterns and is likely associated with the lowering of the groundwater table from the construction of the landfill expansion cells (see Section 2.0).

Where there was flow during 2024 from underdrain monitoring locations (LF-UD-5and6 and LP-UD-2), the underdrain monitoring data do not show adverse effects from the performance of the landfill cells or leachate collection and transport systems.

VOCs were analyzed at all sampled underdrain locations (both landfill and Detention Pond 1A underdrains) in April 2024; no VOCs were detected above laboratory reporting limits.

Groundwater Monitoring Locations

As discussed in Section 8.3, SME has identified 32 of the 50 site-wide groundwater monitoring locations with water quality that: (1) do not indicate influence from landfill leachate; and (2) show limited influence from landfill construction operations (see Table 8-5). The 2024 annual maximum specific conductance values at these wells range from 62 µmhos/cm to 397 µmhos/cm. The 2024 annual maximum chloride concentrations at these monitoring locations were low and ranged from 1.3 mg/L to 19 mg/L. Many of these wells also generally exhibit limited to no statistically significant increasing trends. Two monitoring wells OW-603B and MW-506 were not sampled in 2024.

More pronounced water quality changes have been observed at the remaining 16 site groundwater monitoring locations (see Table 8-5), which include wells both upgradient and downgradient from the landfill. These changes are evidenced at some monitoring locations by the statistically significant trends for multiple parameters. These trends are largely attributable to changes in redox conditions, which occur as expected around the landfill due to the placement of the landfill in the landscape and from construction activities (e.g., from removal of vegetation, disturbance of native soils, and the cutoff of precipitation in the landfill area), and do not indicate landfill related impacts to water quality from malfunction of the landfill liners. This conclusion is supported by the current values and trends of key indicator parameters at the landfill underdrain monitoring locations and leak detection monitoring locations.

Stiff and Piper diagrams were plotted using July 2024 data from the landfill leachate and the 19 groundwater monitoring wells discussed in this report as having more pronounced water quality changes (see Appendix G). These diagrams generally show similar chemical characterizations among the groundwater monitoring wells in July 2024 and a clear distinction from the chemical signature of the leachate from LT-C4LR in July 2024 (see Appendix G). We do not interpret any of the recent water quality data or noted trends at any of the downgradient monitoring wells to be related to the performance of landfill cells or leachate collection and transport systems. Some parameter concentrations at some monitoring locations downgradient of the landfill expansion show effects from the recent construction activities that are expected to decrease and stabilize with additional time following the construction of the landfill expansion cells.

Surface Water, Stormwater, and Pore-Water Monitoring Locations

As discussed in Section 8.4, the 2024 surface water, stormwater, and pore-water monitoring location data are generally characterized by very low values of key indicator parameters by comparison to the JRL leachate (i.e., LT-C4LR). This is generally consistent with historical data at these locations.

Dissolved Methane Monitoring

Dissolved methane monitoring at groundwater monitoring wells, pore-water samples, leak detection, and surface water monitoring locations are discussed in Sections 8.3, 8,4, and 8.5. Of the 31 groundwater monitoring wells sampled for dissolved methane in 2024, the parameter was not detected above the laboratory reporting limit of 5.2 µg/L at 23 locations. Dissolved methane was detected at low concentrations relative to landfill gas at six locations; methane detections ranged from 5.4 to 140 µg/L at MW-04-09A, MW-223B, MW-501, MW-507, MW-602A, and OW-608A during 2024.

Greater concentrations of dissolved methane were detected at the following locations:

- Dissolved methane was detected at a concentration of 2,100 µg/L at MW06-01 in April 2024. The dissolved methane concentrations at this location were lower during the July 2024 (340 µg/L) and October 2024 (270 µg/L) monitoring events; and
- Dissolved methane was detected at a concentration of 1,500 µg/L at OW-610A in July 2024.

These 2024 maximum detected methane concentrations exceeded the previous maximum at each location by an order of magnitude. While these greater concentrations at monitoring wells MW06-01 and OW-610A may indicate an increase in the presence/migration of landfill gas in 2024, it should be noted that these locations are located at lower elevations of the site, are adjacent to wetland areas, and have relatively shallow screen intervals (i.e., less than 30 feet deep). As discussed in Section 8.4, dissolved methane concentrations in wetlands at JRL pore-water monitoring locations have dissolved methane concentration historically as high as 4,800 µg/L, which are attributed to anaerobic biological processes in the saturated wetland soils. Influence from wetland groundwater at MW06-01 and OW-610A should be considered when evaluating the water quality at these locations. Methane gas was monitored in the headspace of JRL monitoring locations in April, July, and October 2024, including at MW06-01 and OW-610A. There was no methane gas detected in the headspace of JRL monitoring locations in 2024. Continued monitoring at these locations during 2025 will be useful for determining whether the greater dissolved methane concentrations at these locations persists.

Dissolved methane was detected during 2024 in four leak detection monitoring locations at concentrations ranging from 270 µg/L at LF-UD-12 in July 2024 to 1,400 µg/L at LF-UD-15 in October 2024. Dissolved methane was not detected above the laboratory reporting limit of 5.2 µg/L at LF-LD-11 during 2024.

Dissolved methane was detected at a very low concentration of 8.5 µg/L at surface monitoring location SW23-4 in July 2024.

The dissolved methane detections in 2024 pore-water monitoring are consistent with their hydrologic setting in a freshwater wetland and are attributed to anaerobic biological processes in the saturated

wetland soils, including higher concentrations during the summer monitoring event when warmer temperatures facilitate increased anaerobic biological processes in the saturated wetland soils.

Leak Detection Monitoring Locations

Landfill leak detection locations LF-LD-11, LF-LD-12, LF-LD-13, LF-LD-14, and LF-LD-15 were monitored in 2024 as discussed in Section 8.5. There were no arsenic detections during 2024 at any of the leak detection monitoring locations. Sampling results show very low chloride concentrations during 2024 at LF-LD-11, LF-LD-13, LF-LD-14, and LF-LD-15. LF-LD-12 showed a moderate increase in chloride, 37 mg/L in July 2024 (greater than the previous historical maximum value of 2.2mg/L, which is still very low compared to the annual maximum chloride concentration of 5,700 mg/L in the leachate during 2024. The historical range of chloride in leachate is 2,500 mg/L to 24,300 mg/L, which indicates that the water sampled from LF-LD-12 in July 2024 with a concentration of 37 mg/L chloride is not leachate. The 2025 monitoring at LF-LD-12 will be useful for determining whether the increase in chloride and bromide concentrations persists at this location.

10.2 Closure and Recommendations

- SME recommends that on-site snow removal and winter roadway maintenance practices minimize stockpiling of snow around monitoring locations proximate to roadways.
- SME recommends continuing with the current site monitoring program in 2025.

APPENDIX A

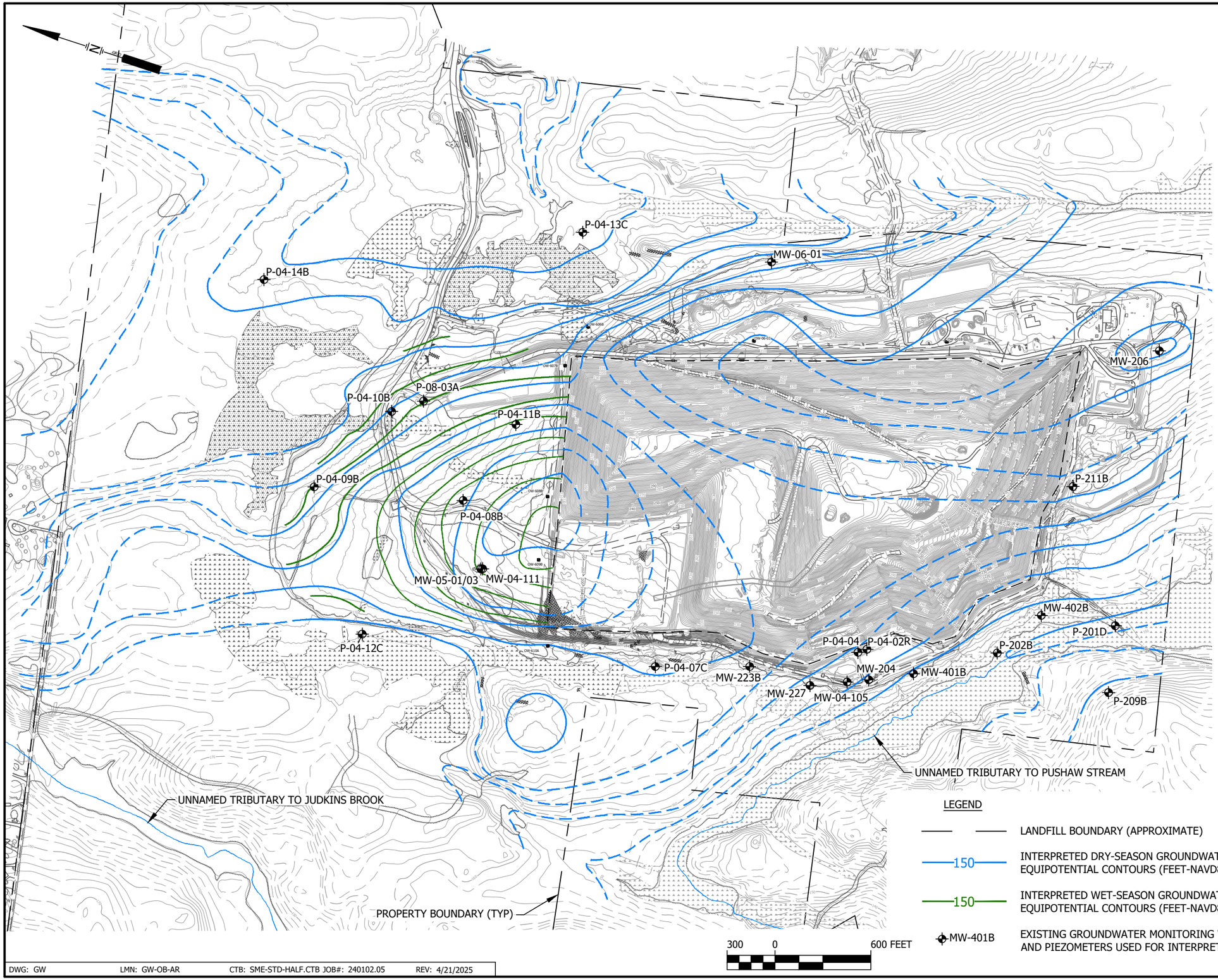
RESPONSES TO MEDEP COMMENTS REGARDING THE PREVIOUS ANNUAL WATER QUALITY REVIEW (NONE RECEIVED)

SME
SEVEE & MAHER
ENGINEERS

APPENDIX B

INTERPRETED SHALLOW GROUNDWATER PHREATIC SURFACE AND UPPER BEDROCK POTENTIOMETRIC SURFACE CONTOUR MAPS AND 202n QUANTITATIVE ANALYSIS OF MEASURED CHANGES IN GROUNDWATER ELEVATIONS AT MONITORING LOCATIONS

SME
SEVEE & MAHER
ENGINEERS



WELL IDENTIFICATION	GROUNDWATER LEVEL ELEVATION (FEET - NAVD88)	
	3/14/2024	10/28/2024
MW-04-105	-	156.86
MW-04-111	-	184.76
MW-05-01	191.02	-
MW-05-03	-	184.62
MW-06-01	-	163.82
MW-204	-	152.98
MW-206	-	193.87
MW-223B	-	166.77
MW-227	-	158.55
MW-401B	-	149.55
MW-402B	-	148.48
OW-06-03	-	180.53
OW-601B	-	176.25
OW-606B	-	161.78
OW-607B	162.72	160.77
OW-608B	194.55	189.97
OW-609B	197.09	184.14
OW-610A	174.51	169.84
P-04-02R	-	157.31
P-04-04	-	158.20
P-04-07C	172.91	171.41
P-04-08B	187.29	178.20
P-04-09B	165.45	162.21
P-04-10B	-	161.19
P-04-11B	175.01	<174.33
P-04-12C	165.64	163.29
P-04-13C	-	<142.78
P-04-14B	-	146.73
P-08-03B	-	<163.82
P-201D	-	144.20
P-202B	-	146.70
P-209B	-	155.81
P-211B	-	172.76

NOTES:

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024.
2. WATER LEVEL ELEVATIONS AND INTERPRETED CONTOURS REPRESENT CONDITIONS RECORDED USING MANUAL WATER LEVEL MEASUREMENTS ON THE RESPECTIVE DATES SHOWN.
3. PIEZOMETERS P-209C, P-04-11B, P-04-13C, AND P-08-03B WERE DRY ON OCTOBER 28, 2024. PIEZOMETERS P-209B AND P-04-14B ARENEAR SURFACE BEDROCK WELLS.

LEGEND

- LANDFILL BOUNDARY (APPROXIMATE)
- 150 — INTERPRETED DRY-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- 150 — INTERPRETED WET-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- MW-401B — EXISTING GROUNDWATER MONITORING WELLS AND PIEZOMETERS USED FOR INTERPRETATION

APPENDIX B
FIGURE 1
INTERPRETED SOIL GROUNDWATER ELEVATION MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: GW LMN: GW-OB-AR CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 4/21/2025

\\Server\cfs\Casella\OldTown\Landfill\Expansion\Phase II Expansion\Acad\Figures\GW.dwg, AR-FIG 1, 4/21/2025 1:54:39 PM, bwb

WELL IDENTIFICATION	GROUNDWATER LEVEL ELEVATION (FEET - NAVD88)	
	3/14/2024	10/28/2024
MW-223A	-	169.80
MW-401A	-	149.61
MW-402A	-	152.20
MW-501	-	167.77
MW-502	-	159.75
MW-504	156.76	155.96
MW-505	172.70	166.21
MW-506	194.88	164.98
MW-507	-	167.20
OW-06-05	-	175.95
OW-06-06	182.5	-
OW-601A	-	176.54
OW-602A	-	173.70
OW-604A	-	172.98
OW-605A	-	164.54
OW-606A	>159.62	159.14
OW-608A	161.91	160.64
OW-611A	-	171.28
P-04-07B	174.6	169.62
P-04-09A	-	162.22
P-04-10A	-	161.26
P-04-12B	165.69	163.67
P-04-13B	-	137.75
P-04-14B	-	146.73
P-201A	-	146.97
P-202A	-	147.28
P-206A	-	177.97
P-211A	-	172.67
PW-08-03	163.87	158.63
PW-08-04	168.0	162.60

NOTES:

1. BASE MAP PREPARED BY AERIAL SURVEY & PHOTO INC, NORRIDGEWOCK, MAINE. PHOTO DATE 5/21/2024.
2. WATER LEVEL ELEVATIONS AND INTERPRETED CONTOURS REPRESENT CONDITIONS RECORDED USING MANUAL WATER LEVEL MEASUREMENTS ON THE RESPECTIVE DATES SHOWN.

300 0 600 FEET

LEGEND

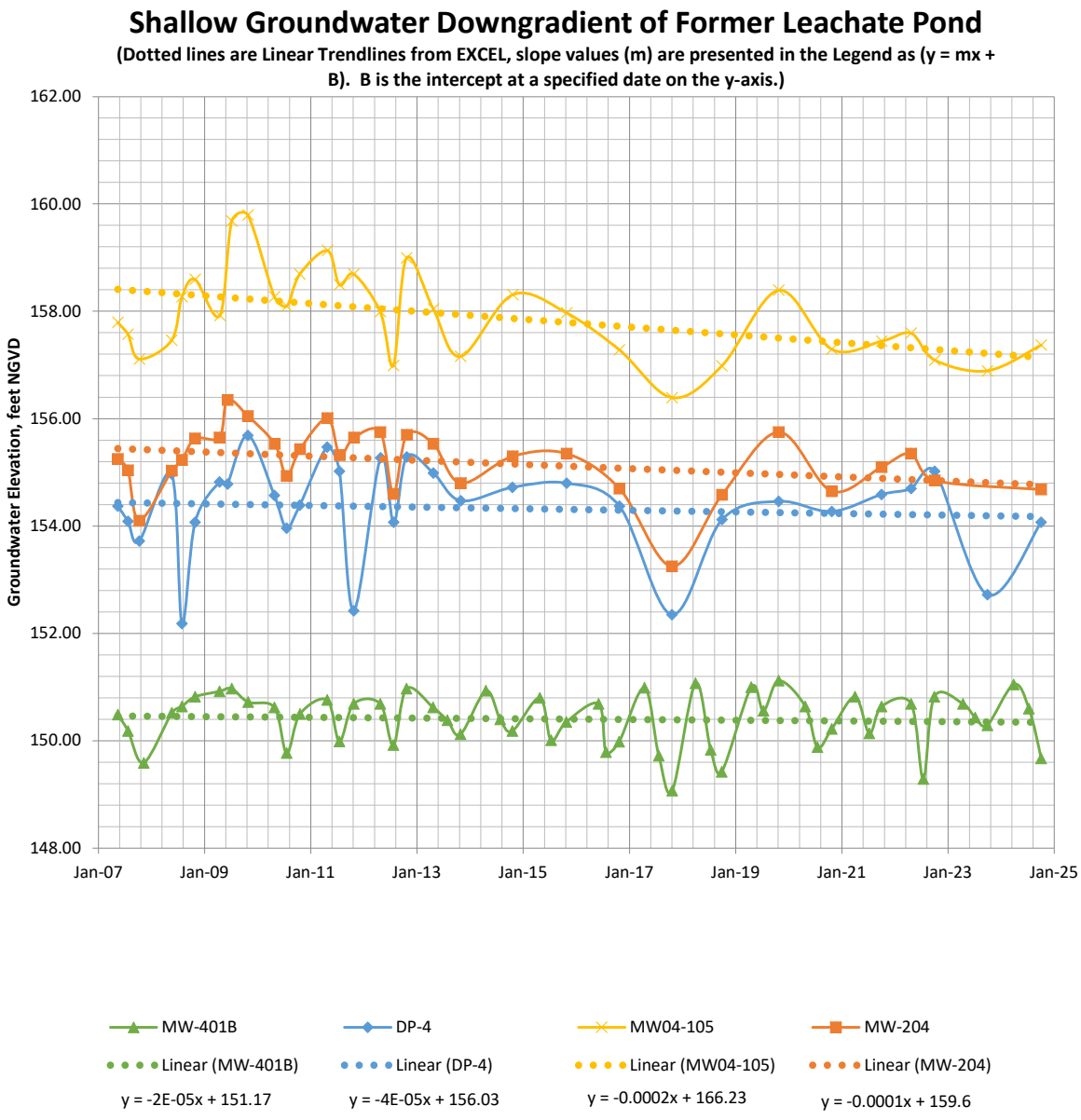
- LANDFILL BOUNDARY (APPROXIMATE)
- 150 INTERPRETED DRY-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- 150 INTERPRETED WET-SEASON GROUNDWATER LEVEL EQUIPOTENTIAL CONTOURS (FEET-NAVD88)
- MW-401A EXISTING GROUNDWATER MONITORING WELLS AND PIEZOMETERS USED FOR INTERPRETATION

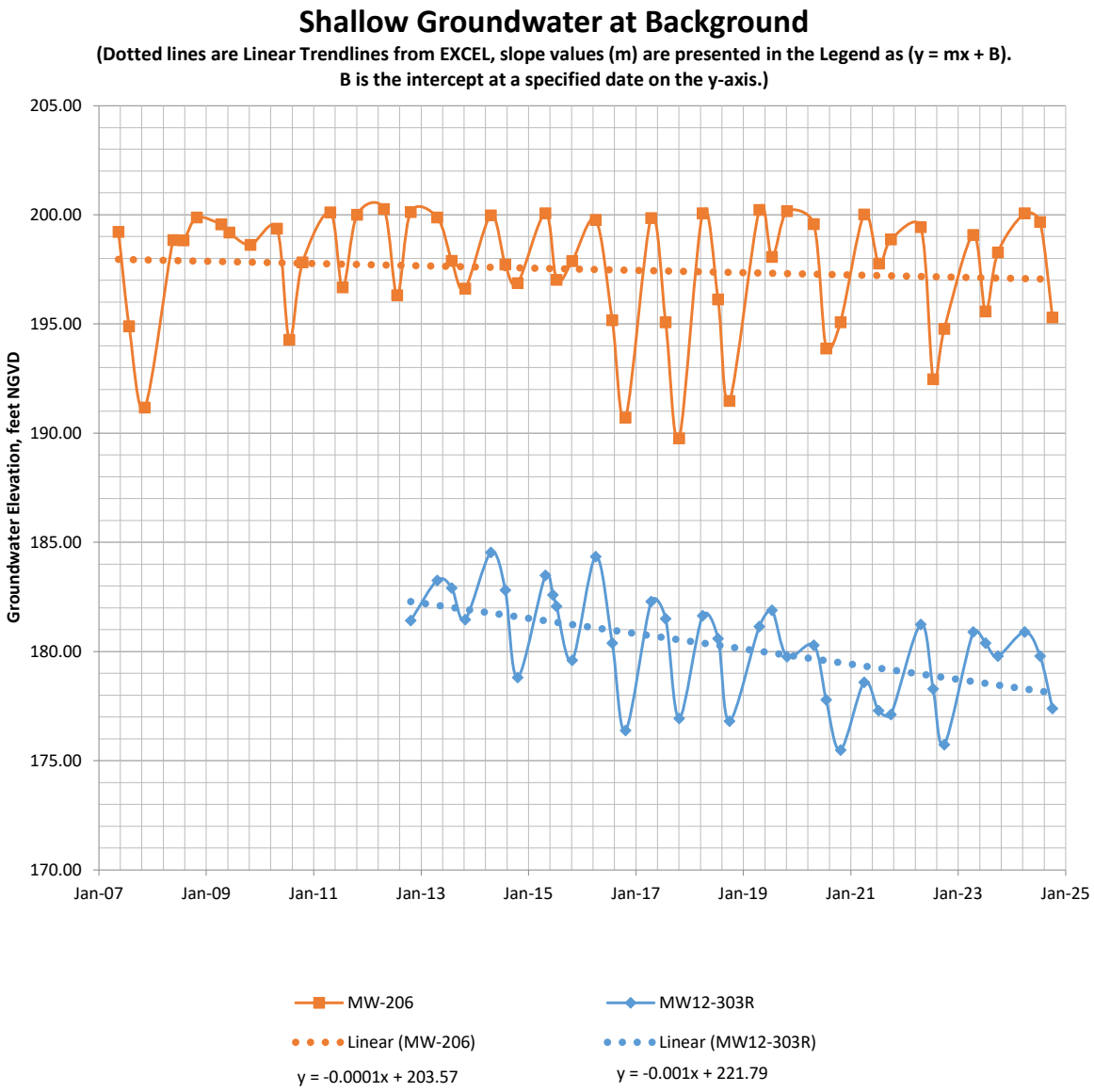
APPENDIX B
FIGURE 2
INTERPRETED UPPER BEDROCK GROUNDWATER ELEVATION MAP
JUNIPER RIDGE LANDFILL EXPANSION
OLD TOWN, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: GW LMN: GW-BR-AR CTB: SME-STD-HALF.CTB JOB#: 240102.05 REV: 4/21/2025

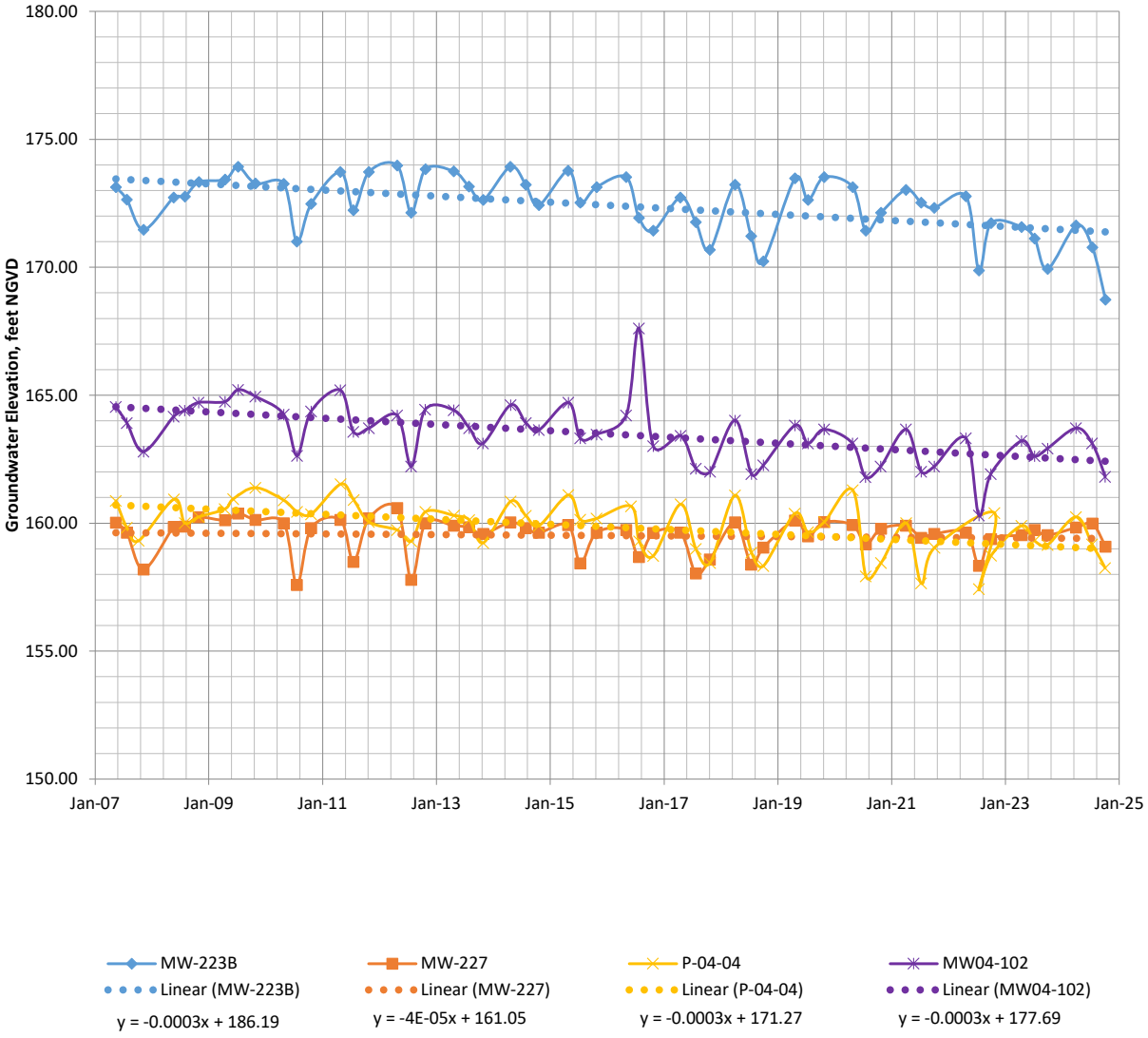
\\Nserver\cfs\Casella\OldTownLandfillExpansion\Phase II Expansion\Acad\Figures\GW.dwg, AR-FIG 2, 4/21/2025 1:55:13 PM, bwb


Shallow Groundwater Downgradient of Former Leachate Pond
(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)
Groundwater Elevation, feet NGVD
162.00
160.00
158.00
156.00
154.00
152.00
150.00
148.00
Jan-07
Jan-09
Jan-11
Jan-13
Jan-15
Jan-17
Jan-19
Jan-21
Jan-23
Jan-25
MW-401B
DP-4
MW04-105
MW-204
Linear (MW-401B)
Linear (DP-4)
Linear (MW04-105)
Linear (MW-204)
y = -2E-05x + 151.17
y = -4E-05x + 156.03
y = -0.0002x + 166.23
y = -0.0001x + 159.6


Shallow Groundwater at Background
(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B).
B is the intercept at a specified date on the y-axis.)
Groundwater Elevation, feet NGVD
205.00
200.00
195.00
190.00
185.00
180.00
175.00
170.00
Jan-07
Jan-09
Jan-11
Jan-13
Jan-15
Jan-17
Jan-19
Jan-21
Jan-23
Jan-25
MW-206
MW12-303R
Linear (MW-206)
Linear (MW12-303R)
y = -0.0001x + 203.57
y = -0.001x + 221.79

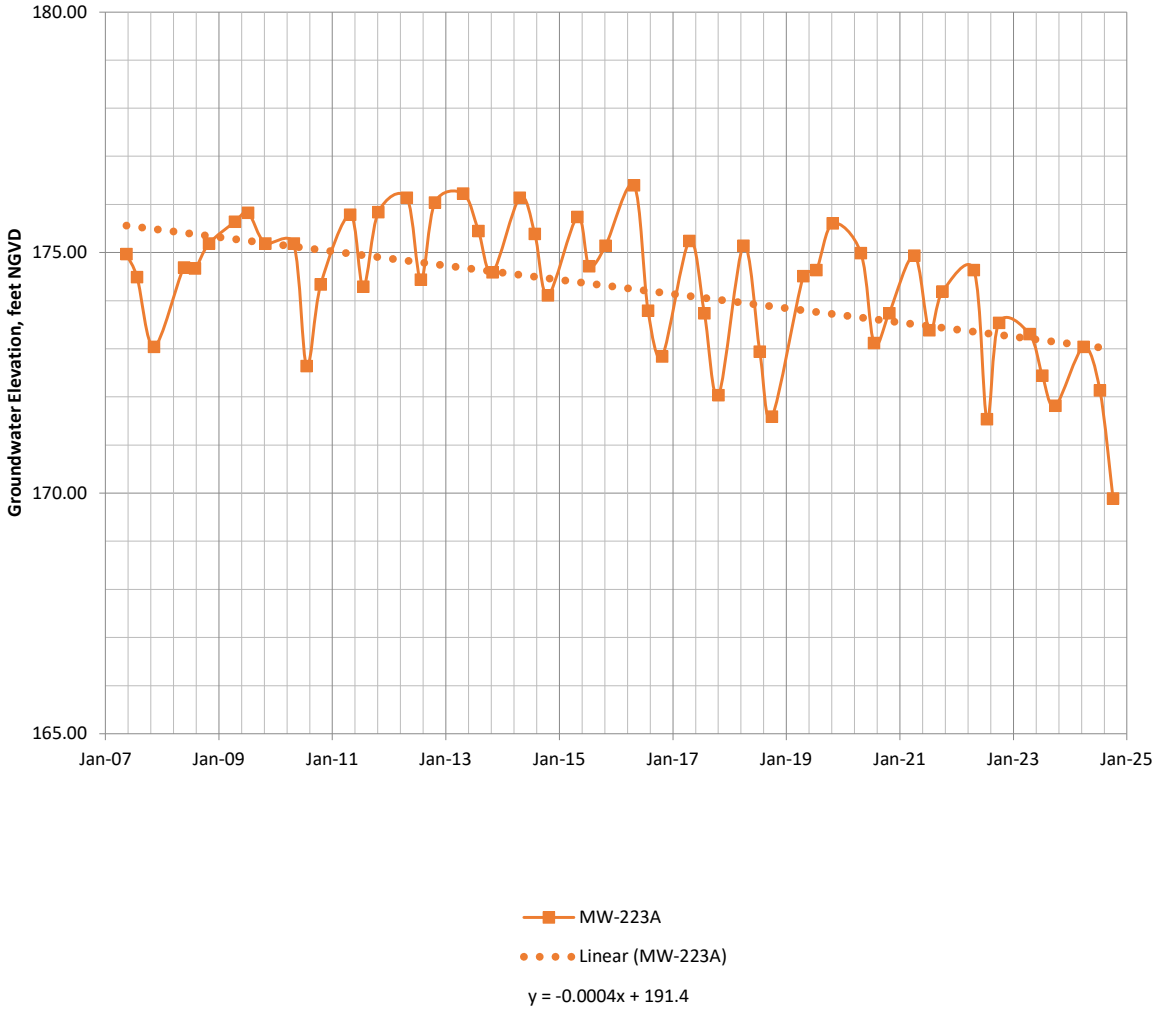
Shallow Groundwater Downgradient of Cell 1

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



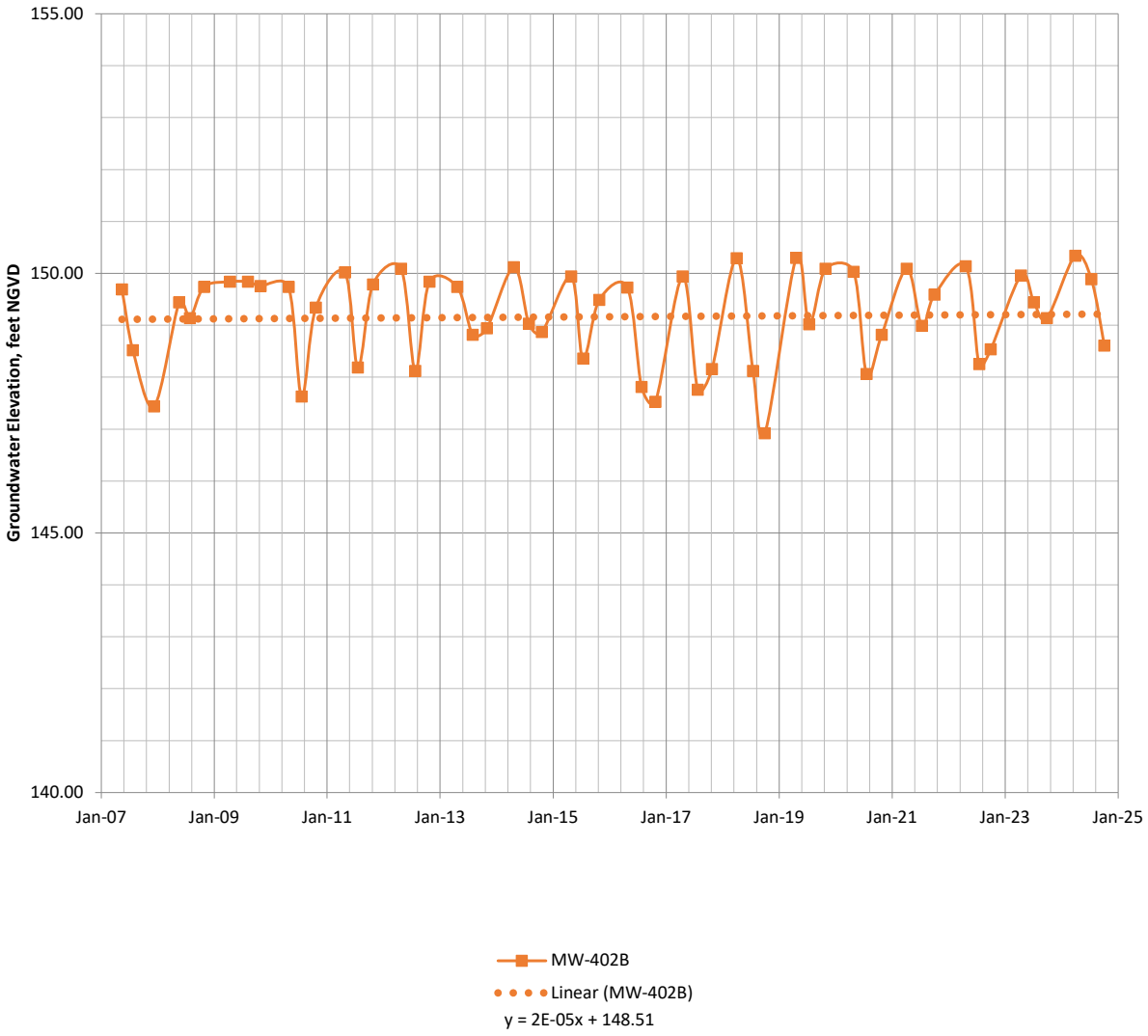
Deep Groundwater West of Cell 1

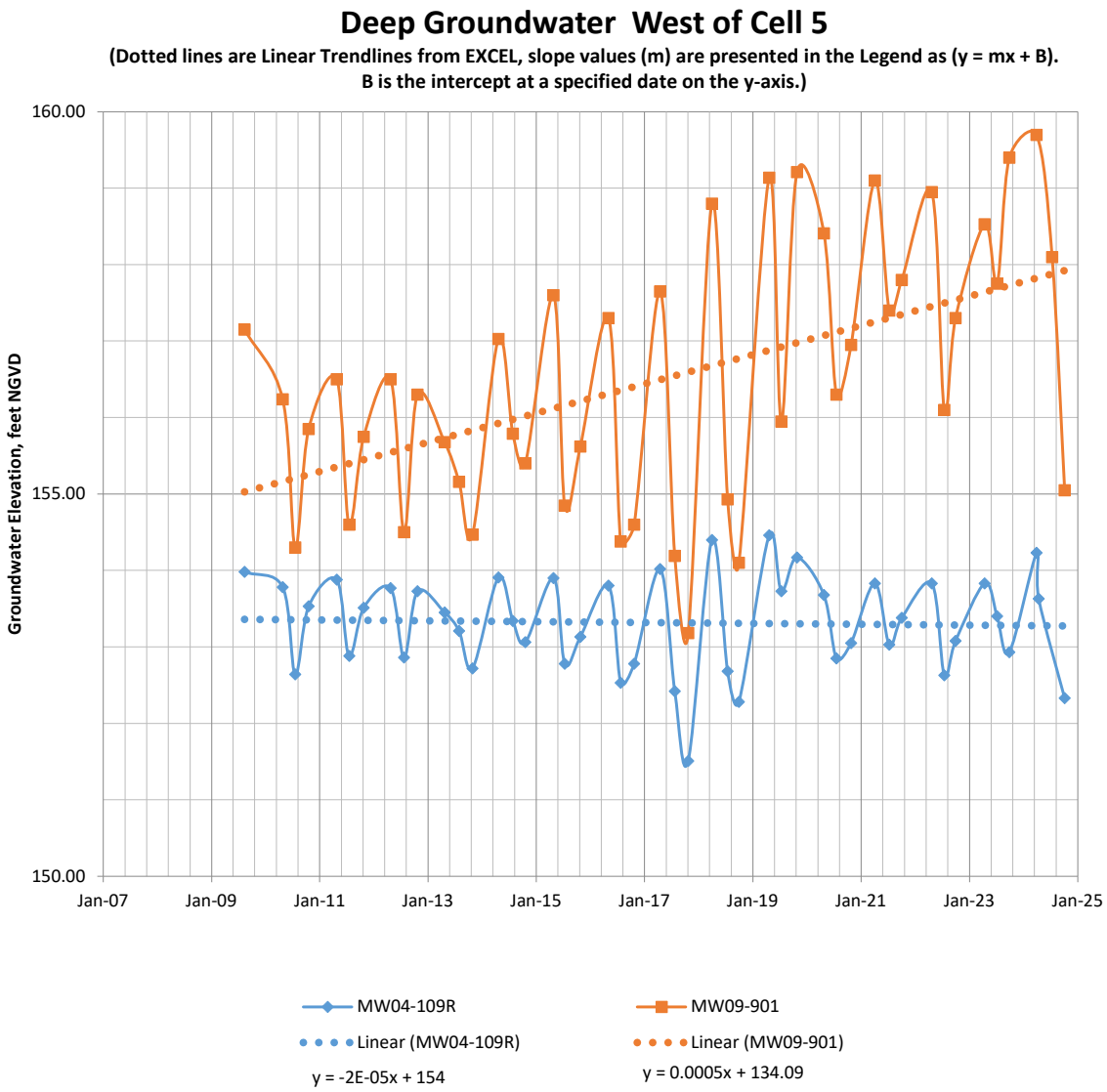
**(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B).
B is the intercept at a specified date on the y-axis.)**

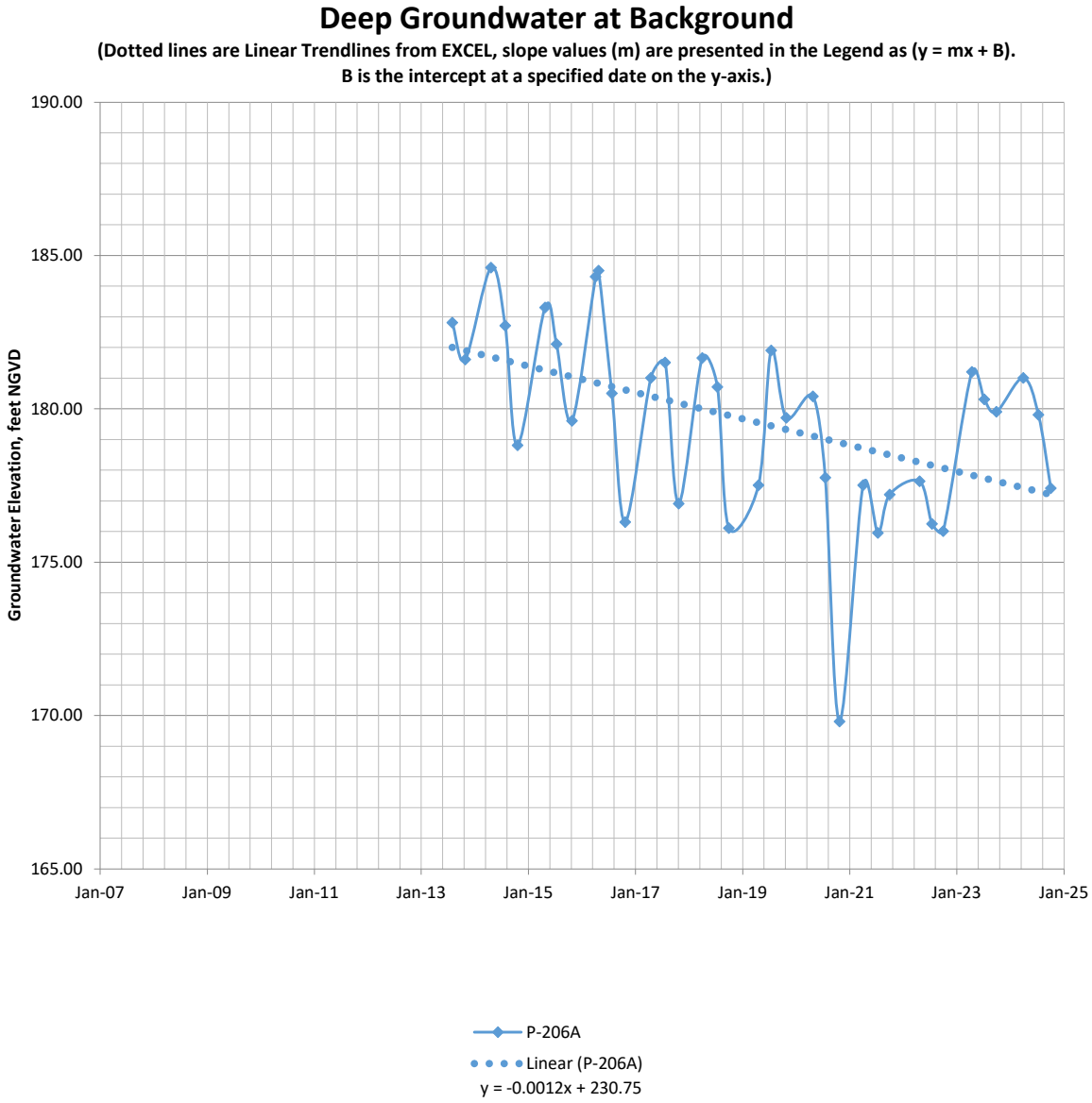


Shallow Groundwater Downgradient of Cell 5/6

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)

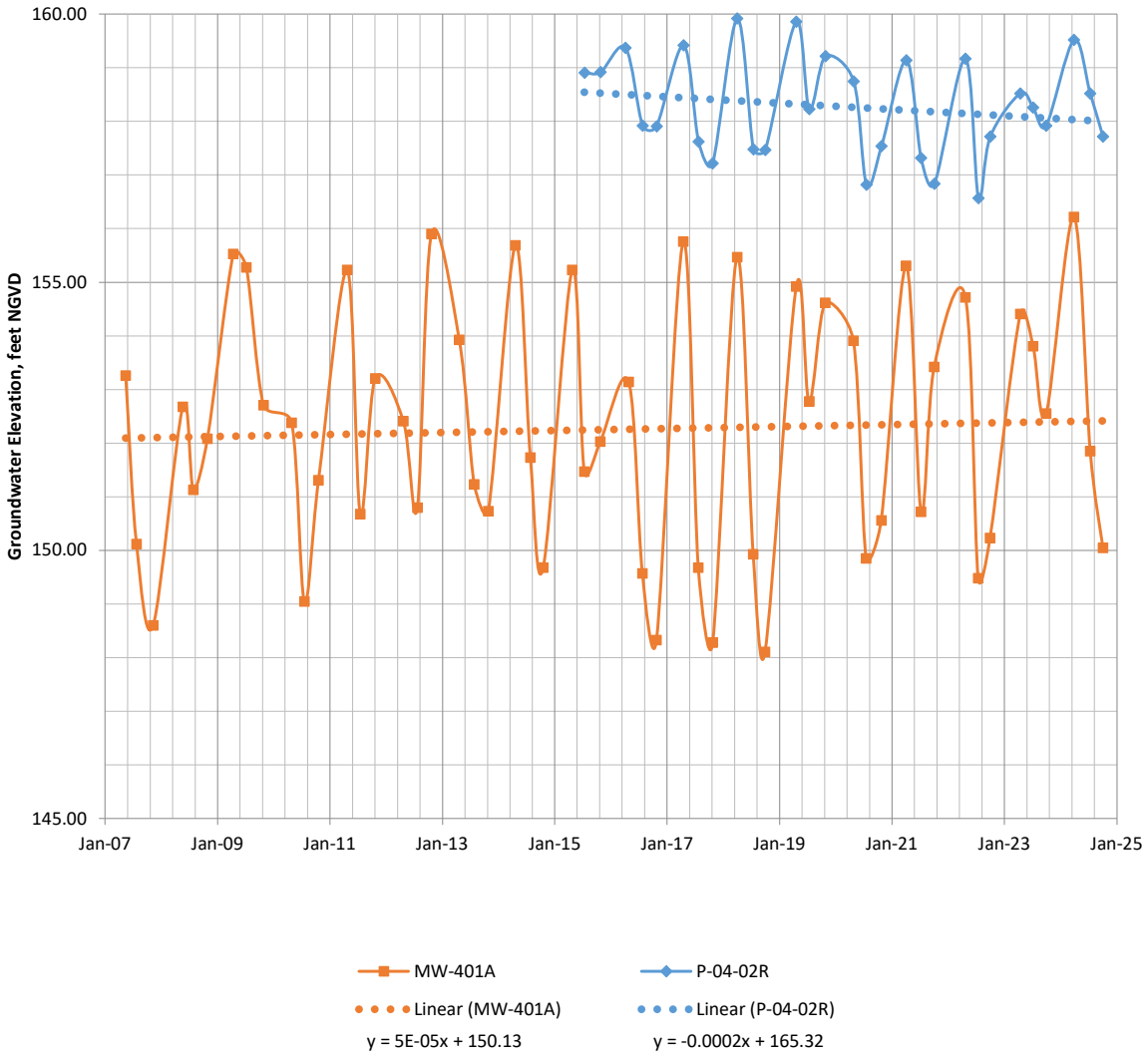



Deep Groundwater West of Cell 5
(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B).
B is the intercept at a specified date on the y-axis.)
Groundwater Elevation, feet NGVD
160.00
155.00
150.00
Jan-07
Jan-09
Jan-11
Jan-13
Jan-15
Jan-17
Jan-19
Jan-21
Jan-23
Jan-25
MW04-109R
MW09-901
Linear (MW04-109R)
Linear (MW09-901)
y = -2E-05x + 154
y = 0.0005x + 134.09


Deep Groundwater at Background
(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B).
B is the intercept at a specified date on the y-axis.)
Groundwater Elevation, feet NGVD
190.00
185.00
180.00
175.00
170.00
165.00
Jan-07
Jan-09
Jan-11
Jan-13
Jan-15
Jan-17
Jan-19
Jan-21
Jan-23
Jan-25
P-206A
Linear (P-206A)
y = -0.0012x + 230.75

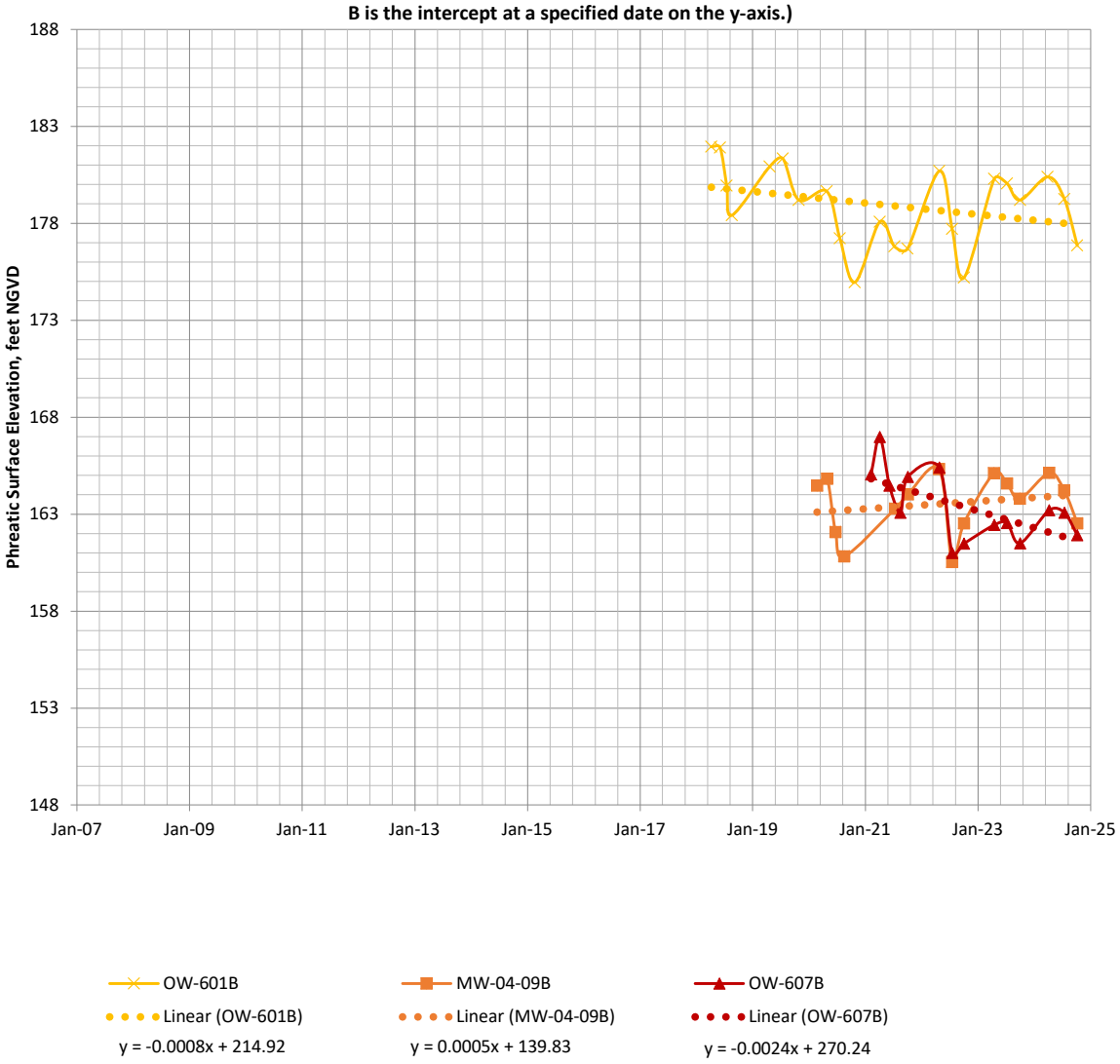
Deep Groundwater Downgradient of Former Leachate Pond

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



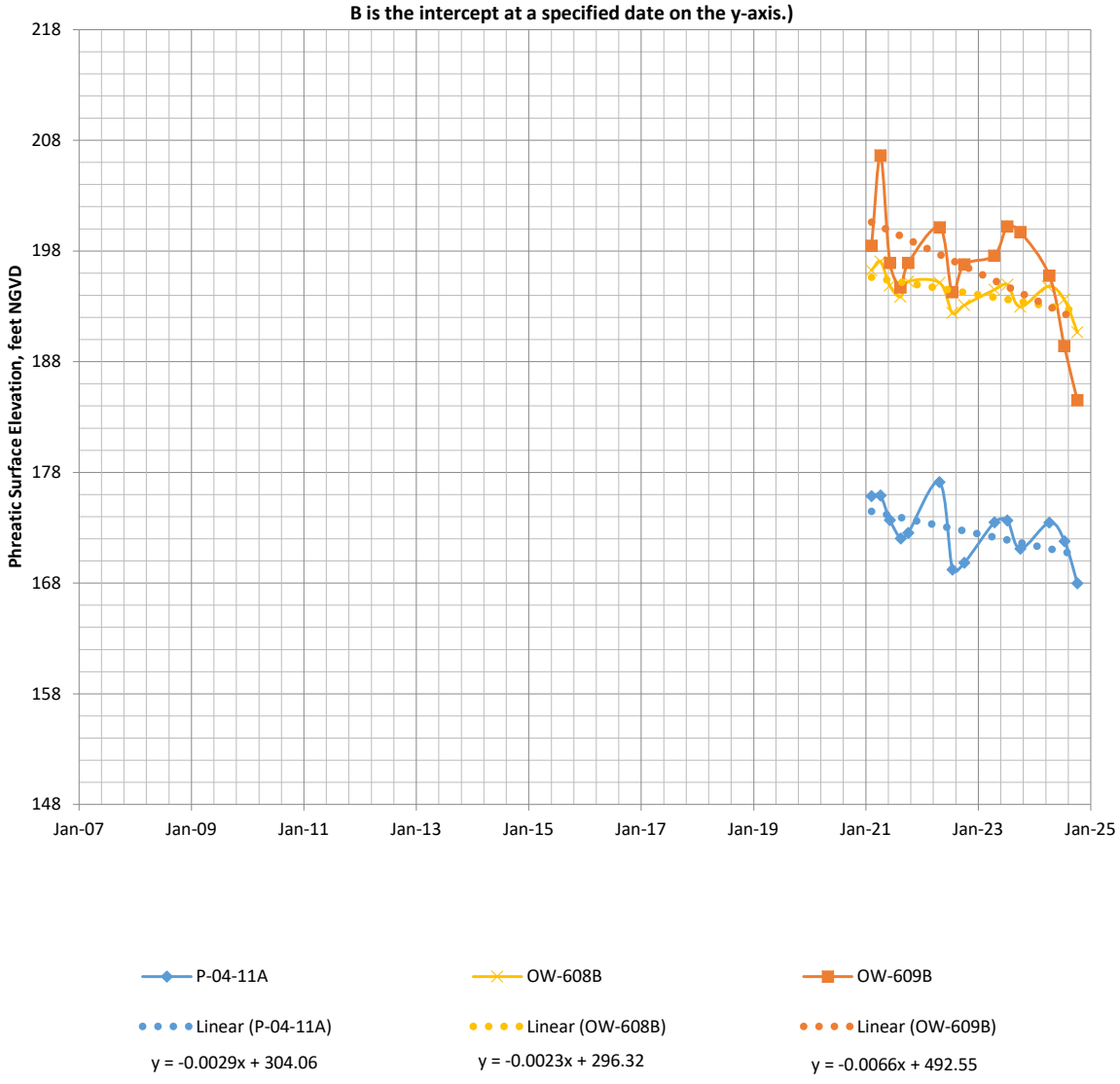
Overburden Groundwater Downgradient of Expansion (1 of 2)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



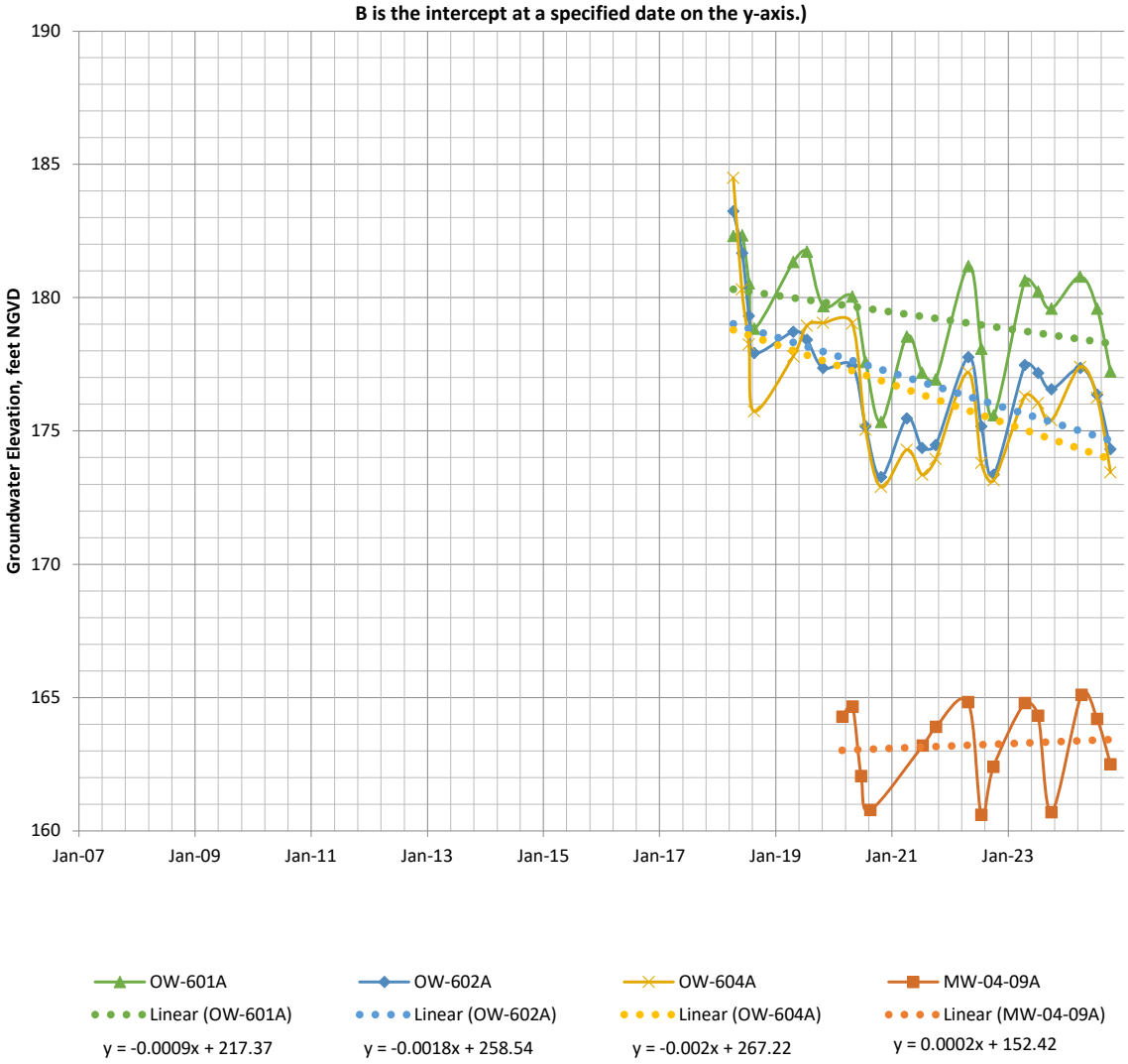
Overburden Groundwater Downgradient of Expansion (2 of 2)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



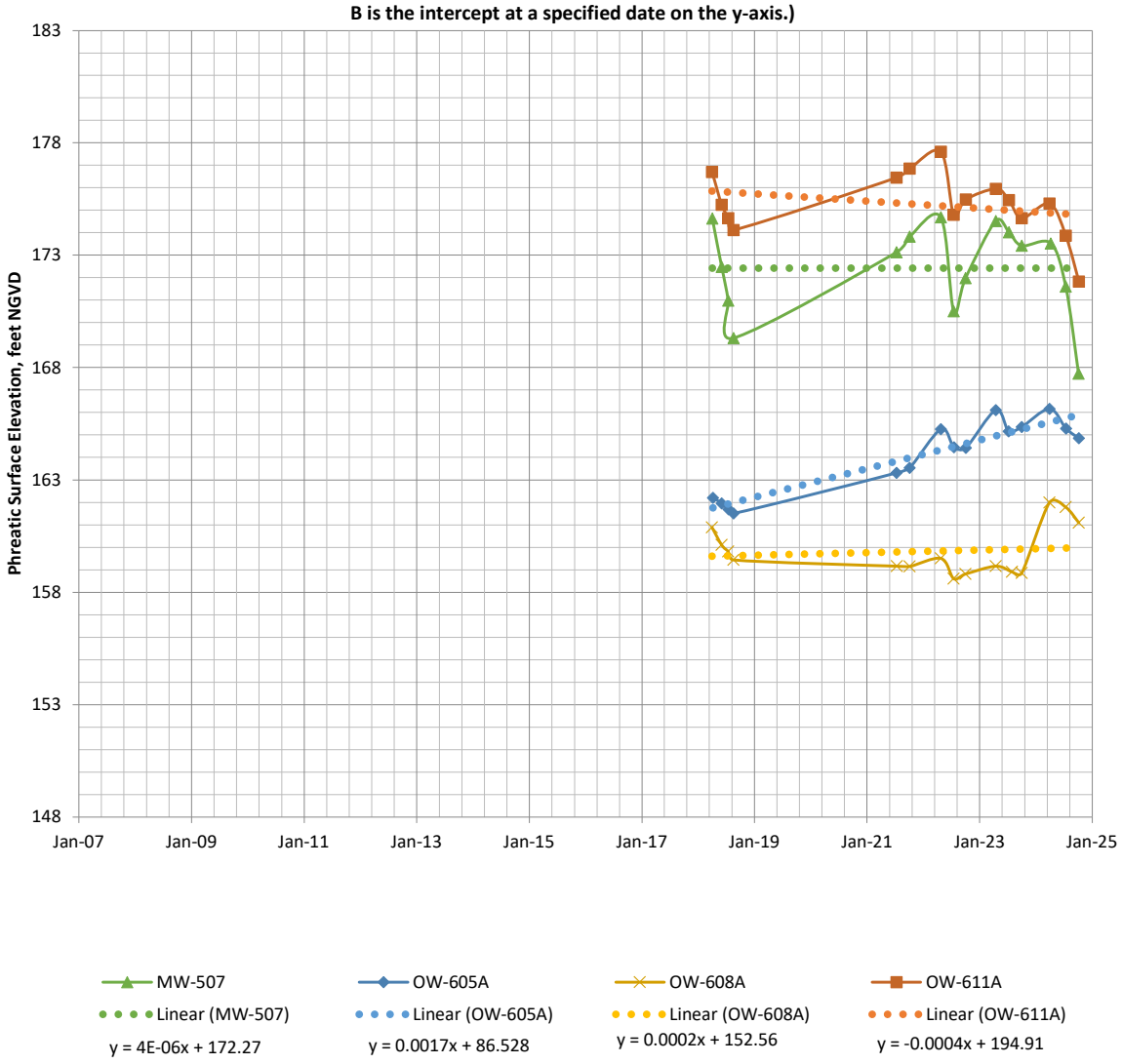
Bedrock Groundwater Downgradient of Expansion (1 of 4)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



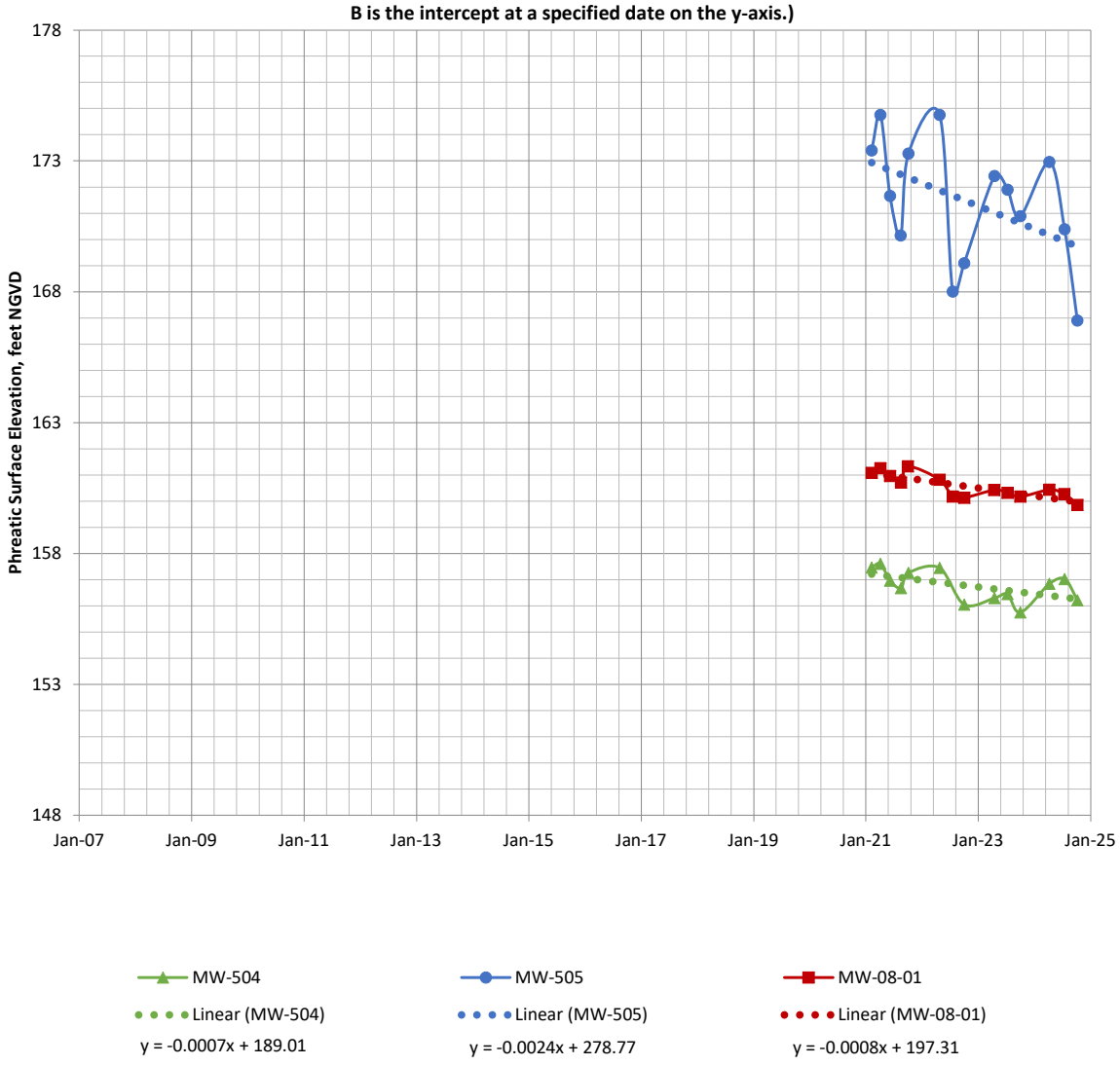
Bedrock Groundwater Downgradient of Expansion (2 of 4)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



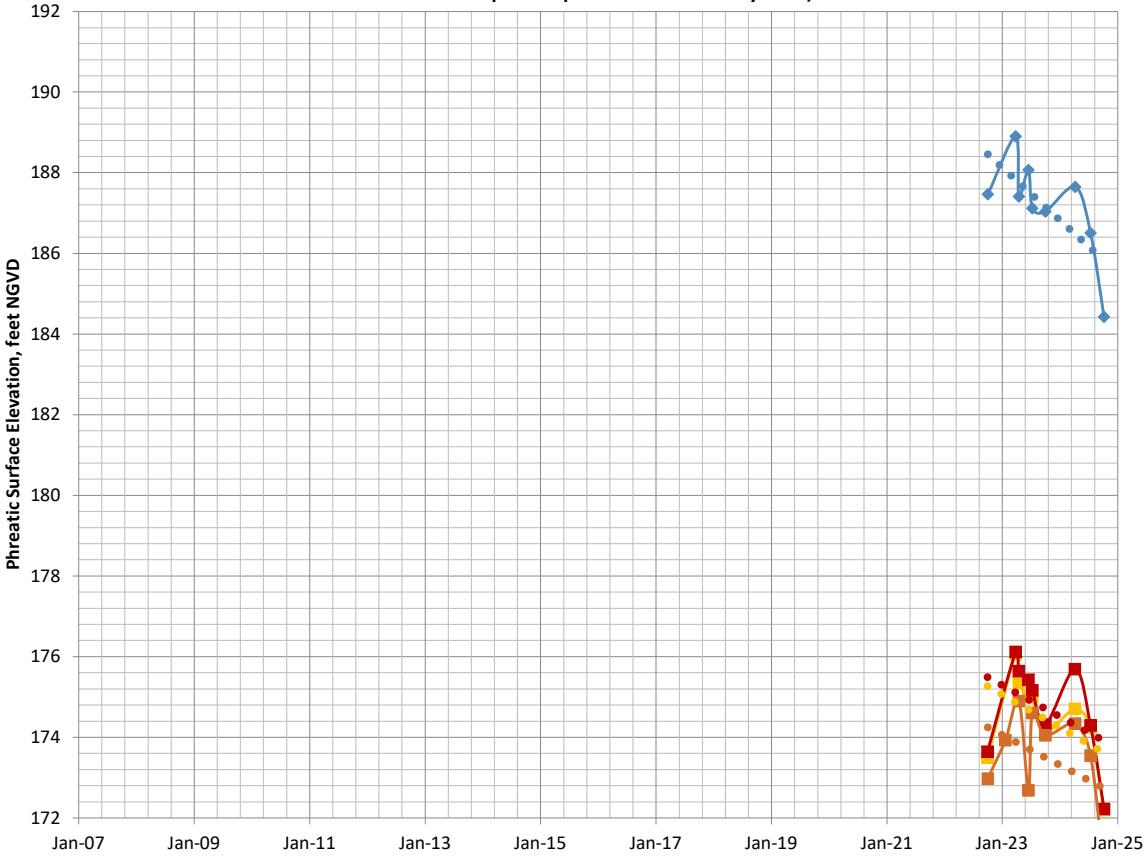
Bedrock Groundwater Downgradient of Expansion (3 of 4)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



Bedrock Groundwater Downgradient of Expansion (4 of 4)

(Dotted lines are Linear Trendlines from EXCEL, slope values (m) are presented in the Legend as (y = mx + B). B is the intercept at a specified date on the y-axis.)



APPENDIX C

2024 AND HISTORICAL FALL SPECIFIC CONDUCTANCE DATA (EXPANDED LOCATIONS)

SME
SEVEE & MAHER
ENGINEERS

DATA SUMMARY TABLE

Conductivity and Water Levels

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
DP-4				
10/28/2015	278	14.57	154.8	27.05
10/26/2016	267	15	154.37	27.1
10/23/2017	201	17.02	152.35	27.17
10/3/2018	214	15.25	154.12	27.16
10/28/2019	272	14.91	154.46	27.1
10/26/2020	249	15.1	154.27	27.12
10/4/2021	268	14.78	154.59	27.12
10/5/2022	248	14.35	155.02	27.12
10/3/2023	184	16.65	152.72	27.12
10/7/2024	189	15.3	154.07	27.12
MW04-101				
10/26/2015	189	5.8	162.12	23.82
10/24/2016	211	6.2	161.72	23.82
10/23/2017	213	7.2	160.72	23.82
10/3/2018	204	6.3	161.62	23.83
10/28/2019	!	!		!
10/28/2020	!	!		!
MW04-102				
10/28/2015	214	6.75	163.47	18.05
10/25/2016	237	7.2	163.02	18.05
10/25/2017	240	8.2	162.02	18.05
10/3/2018	224	7.95	162.27	18.05
10/28/2019	216	6.55	163.67	18.05
10/26/2020	224	8	162.22	18.05
10/4/2021	230	8	162.22	18.05
10/3/2022	210	8.3	161.92	18.05
10/2/2023	211	7.3	162.92	18.05
10/7/2024	206	8.4	161.82	18.05
MW04-104				
10/26/2015	222	8.46	159.6	28.08
10/25/2016	242	8.8	159.26	28.05
10/24/2017	239	9.6	158.46	28.07
10/2/2018	236	9.2	158.86	28.07
10/28/2019	229	8.1	159.96	28.06
10/28/2020	231	8	160.06	27.9
10/5/2021	236	8.85	159.21	27.9
10/5/2022	224	9.05	159.01	27.9
10/2/2023	224	9.1	158.96	27.9
10/7/2024	216	8.9	159.16	27.9
MW04-105				
10/28/2015	296	7.62	157.97	22.83
10/26/2016	305	8.31	157.28	22.83
10/23/2017	332	9.2	156.39	22.85
10/1/2018	341	8.61	156.98	22.84
10/28/2019	218	7.2	158.39	22.83

DATA SUMMARY TABLE

Conductivity and Water Levels

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW04-105) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
10/27/2020	276	8.3	157.29	22.84
10/5/2021	328	8.15	157.44	22.84
10/5/2022	316	8.5	157.09	22.84
10/2/2023	216	8.7	156.89	22.84
10/7/2024	381	8.22	157.37	22.84
MW04-109 & MW04-109R				
10/27/2015	429	7	153.13	22.97
10/25/2016	425	7.35	152.78	22.97
10/24/2017	453	8.62	151.51	22.97
10/2/2018	437	7.85	152.28	22.97
10/28/2019	418	5.96	154.17	22.97
10/27/2020	391	7.08	153.05	27.98
10/5/2021	386	6.75	153.38	27.98
10/4/2022	345	7.05	153.08	27.98
10/3/2023	337	7.2	152.93	27.98
10/8/2024	336	7.8	152.33	27.98
MW-204				
10/26/2015	167	9.4	155.35	24.43
10/26/2016	218	10.05	154.7	24.43
10/23/2017	272	11.5	153.25	24.43
10/3/2018	277	10.17	154.58	24.48
10/28/2019	253	9	155.75	24.49
10/26/2020	265	10.1	154.65	24.47
10/4/2021	357	9.65	155.1	24.47
10/5/2022	323	9.9	154.85	24.47
10/2/2023	!	!		!
10/7/2024	252	11.5	154.68	24.47
MW-206				
10/26/2015	139	6.8	197.87	23.15
10/24/2016	167	13.95	190.72	23.15
10/23/2017	146	14.9	189.77	23.15
10/1/2018	147	13.2	191.47	23.15
10/28/2019	149	4.5	200.17	23.15
10/26/2020	148	9.6	195.07	23.15
10/4/2021	154	5.8	198.87	23.15
10/5/2022	323	9.9	194.77	23.15
10/2/2023	140	6.4	198.27	23.15
10/7/2024	135	9.37	195.3	23.15
MW-216BR				
10/26/2015	257	5.85	153.55	22.54
10/25/2016	273	6.3	153.1	22.52
10/23/2017	258	7.7	151.7	22.52
10/2/2018	266	6.8	152.6	22.53
10/29/2019	164	4.7	154.7	22.25
10/27/2020	196	6	153.4	22.48
10/5/2021	140	5.9	153.5	22.48
10/4/2022	127	5.9	153.5	22.48

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-216BR) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
7/19/2023		5.53	153.87	
10/2/2023	124	6.1	153.3	22.48
10/8/2024	146	6.75	152.65	22.48
MW-223A				
10/27/2015	490	1.4	175.14	35.57
10/25/2016	547	3.7	172.84	35.57
10/24/2017	552	4.5	172.04	35.57
10/2/2018	556	4.95	171.59	35.6
10/29/2019	548	0.93	175.61	35.57
10/27/2020	583	2.8	173.74	35.57
10/5/2021	628	2.35	174.19	35.57
10/4/2022	578	3	173.54	35.57
10/3/2023	595	4.72	171.82	35.57
10/8/2024	599	6.65	169.89	35.57
MW-223B				
10/27/2015	394	2.8	173.13	20.05
10/25/2016	436	4.5	171.43	20.07
10/24/2017	446	5.25	170.68	20.06
10/2/2018	485	5.7	170.23	20.07
10/29/2019	480	2.4	173.53	20.07
10/27/2020	505	3.8	172.13	20.07
10/5/2021	531	3.6	172.33	20.07
10/4/2022	487	4.2	171.73	20.07
10/3/2023	503	6	169.93	20.07
10/8/2024	473	7.2	168.73	20.07
MW-227				
10/27/2015	182	4.6	159.63	22.3
10/25/2016	199	4.61	159.62	22.3
10/24/2017	191	5.65	158.58	22.3
10/2/2018	191	5.18	159.05	22.3
10/29/2019	181	4.19	160.04	22.3
10/27/2020	184	4.45	159.78	22.31
10/5/2021	191	4.65	159.58	22.31
10/4/2022	178	8.45	155.78	22.31
10/3/2023	173	4.7	159.53	22.31
10/8/2024	170	5.15	159.08	22.31
MW-301				
10/27/2015	205	0.23	165.68	185.11
10/26/2016	218	0.38	165.53	185.11
10/25/2017	225	0.2	165.71	185.11
10/1/2018	242	0.95	164.96	185.13
10/28/2019	248	F1		185.1
10/26/2020	248	1.8	164.11	185.12
10/4/2021	259	0.9	165.01	185.11
10/3/2022	242	3	162.91	185.11
10/2/2023	243	3.1	162.81	185.11
10/7/2024	238	0.15	165.76	185.11

DATA SUMMARY TABLE

Conductivity and Water Levels

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-302 & MW-302R) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
MW-302 & MW-302R				
10/26/2015	766	9.2	197.66	32.22
10/24/2016	630	18.5	188.36	32.22
10/23/2017	698	19.35	187.51	32.25
10/1/2018	851	19.6	187.26	32.23
10/28/2019	317	5.17	201.69	32.2
10/26/2020	562	13.8	193.06	32.27
10/4/2021	450	11.2	195.66	32.27
MW-303 & MW12-303R				
10/26/2015	370	29.29	179.6	43.4
10/24/2016	681	32.5	176.39	43.4
10/23/2017	414	19.35	189.54	43.4
10/1/2018	408	32.08	176.81	43.4
10/28/2019	380	29.12	179.77	43.4
10/26/2020	577	33.4	175.49	43.4
10/4/2021	673	31.77	177.12	43.4
10/3/2022	401	33.15	175.74	43.4
10/2/2023	286	29.1	179.79	43.4
10/7/2024	298	31.5	177.39	43.4
MW-401A				
10/26/2015	118	4.8	152.03	112.03
10/24/2016	127	8.5	148.33	112.2
10/25/2017	303	8.55	148.28	112.18
10/1/2018	146	8.72	148.11	112.2
10/28/2019	140	2.21	154.62	112.21
10/26/2020	122	6.27	150.56	112.03
10/4/2021	128	3.41	153.42	112.03
10/3/2022	134	6.6	150.23	112.03
10/2/2023	161	4.28	152.55	112.03
10/7/2024	171	6.78	150.05	112.03
MW-401B				
10/26/2015	335	6.97	150.35	23.1
10/24/2016	355	7.34	149.98	23.1
10/25/2017	375	8.25	149.07	23.14
10/1/2018	363	7.9	149.42	23.14
10/28/2019	327	6.2	151.12	23.14
10/26/2020	296	7.1	150.22	23.13
10/4/2021	287	6.68	150.64	23.13
10/3/2022	290	6.5	150.82	23.13
10/2/2023	311	7.03	150.29	23.13
10/7/2024	339	7.65	149.67	23.13
MW-402A				
10/28/2015	117	0.04	152.16	108.28
10/26/2016	126	0.46	151.74	108.28
10/26/2017	122	0.05	152.15	108.28
10/3/2018	136	0.45	151.75	108.3

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-402A) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
10/30/2019	128	0.05	152.69	108.35
10/28/2020	112	F1		108.55
10/4/2021	118	0.06	152.14	108.55
10/3/2022	113	0.66	151.54	108.55
10/2/2023	128	0.08	152.12	108.55
10/7/2024	129	4.13	148.07	108.55
MW-402B				
10/28/2015	142	3.25	149.49	25.16
10/26/2016	150	5.21	147.53	25.15
10/26/2017	147	4.58	148.16	25.16
10/3/2018	162	5.82	146.92	25.16
10/30/2019	151	2.65	149.55	25.14
10/28/2020	131	3.92	148.82	25.2
10/4/2021	132	3.15	149.59	25.2
10/3/2022	131	4.2	148.54	25.2
10/2/2023	148	3.6	149.14	25.2
10/7/2024	148	20.15	132.59	25.2
MW09-901				
10/27/2015	318	9.48	155.62	22.82
10/25/2016	353	10.5	154.6	22.82
10/24/2017	392	11.92	153.18	22.8
10/2/2018	390	11	154.1	22.82
10/29/2019	333	5.89	159.21	22.82
10/27/2020	341	8.15	156.95	22.81
10/5/2021	346	7.3	157.8	22.81
10/4/2022	286	7.8	157.3	22.81
10/3/2023	342	5.7	159.4	22.81
10/8/2024	310	10.05	155.05	22.81
P-04-02 & P-04-02R				
10/28/2015	700	11.8	158.92	37.98
10/26/2016	629	12.81	157.91	37.96
10/25/2017	481	13.5	155.24	38
10/3/2018	456	13.25	155.49	38
10/30/2019	331	11.5	159.22	38
10/28/2020	284	13.18	157.54	37.88
10/6/2021	274	13.88	156.84	37.88
10/4/2022	229	13	157.72	37.88
10/2/2023	223	12.8	157.92	37.88
10/7/2024	220	13	157.72	37.88
P-04-04				
10/28/2015	161	9.06	160.19	32.31
10/26/2016	184	10.53	158.72	32.3
10/25/2017	189	10.8	158.45	32.34
10/3/2018	196	10.92	158.33	32.34
10/30/2019	187	9.2	160.05	32.34
10/28/2020	167	10.8	158.45	37.1
10/6/2021	175	10.2	159.05	37.1

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-04) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
10/4/2022	194	10.52	158.73	37.1
10/2/2023	201	10	159.25	37.1
10/7/2024	198	11	158.25	37.1
P-201A				
10/28/2015	119	2.45	147.1	21.62
10/25/2016	85	3.18	146.37	21.62
10/26/2017	73	2.72	146.83	21.62
10/2/2018	187	3.4	146.15	21.62
10/29/2019	176	1.99	147.56	21.62
10/27/2020	186	2.86	146.69	22.48
10/7/2021	124	2.21	147.34	22.48
10/4/2022	197	3.02	146.53	22.48
10/3/2023	222	7.35	142.2	22.48
10/8/2024	184	2.94	146.61	22.48
P-201B				
10/28/2015	77	F1		70.7
10/25/2016	158	F1		70.12
10/26/2017	104	F1		70.12
10/2/2018	138	F1		70.12
10/29/2019	148	0.19	151.99	70.12
10/27/2020	116	2.66	149.52	73.97
10/7/2021	115	2.13	150.05	73.97
10/4/2022	123	2.23	149.95	73.97
10/3/2023	130	1.85	150.33	73.97
10/8/2024	135	2.28	149.9	73.97
P-201C				
10/28/2015	150	0.77	151.42	67.82
10/25/2016	160	2.4	149.79	67.82
10/26/2017	123	2.18	150.01	67.82
10/2/2018	156	5.65	146.54	67.82
10/29/2019	150	2.62	149.57	67.82
10/27/2020	141	4.39	147.8	68.05
10/7/2021	126	2.19	150	68.05
10/4/2022	124	3.7	148.49	68.05
10/3/2023	142	2.19	150	68.05
10/8/2024	142	3.45	148.74	68.05
P-201D				
10/28/2015	142	2.15	149.18	49.42
10/25/2016	164	3.57	147.76	49.42
10/26/2017	122	3.05	148.28	49.42
10/2/2018	157	3.75	147.58	49.92
10/29/2019	149	2.11	149.22	49.92
10/27/2020	134	3.22	148.11	48.57
10/7/2021	132	0.78	150.55	48.57
10/4/2022	126	3.34	147.99	48.57
10/3/2023	141	2.5	148.83	48.57
10/8/2024	143	3.31	148.02	48.57

DATA SUMMARY TABLE

Conductivity and Water Levels

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-201E) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet											
P-201E															
10/28/2015	151	0.7	151.56	42.5											
10/25/2016	164	2.39	149.87	42.5											
10/26/2017	117	1.94	150.32	42.5											
10/2/2018	150	2.6	149.66	42.5											
10/29/2019	135	2.11	150.15	42.5											
10/27/2020	122	2.02	150.24	43.1											
10/7/2021	214	2.24	150.02	43.1											
10/4/2022	113	2.03	150.23	43.1											
10/3/2023	138	2.15	150.11	43.1											
10/8/2024	130	2.08	150.18	43.1											
P-202A															
10/27/2015	179	2.25	147.13	21.31											
10/26/2016	191	3.59	145.79	21.31											
10/26/2017	132	2.9	146.48	21.31											
10/2/2018	110	4.5	144.88	6.31											
10/30/2019	89	1.94	147.44	6.31											
10/28/2020	99	2.98	146.4	21.18											
10/4/2021	F21	F21		F21											
10/3/2022	F21	F21		F21											
10/2/2023	179	2.56	146.82	21.18											
10/7/2024	166	2.48	146.9	21.18											
P-202B															
10/27/2015	173	2.85	146.52	6.31 Q											
10/26/2016	194	2.97	146.4	6.31 Q											
10/26/2017	138	3.63	145.74	6.31											
10/2/2018	144	3.15	146.22	21.31											
10/30/2019	116	2.29	147.08	21.31											
10/28/2020	87	2.31	147.06	6.02											
10/4/2021	F21	F21		F21											
10/3/2022	F21	F21		F21											
7/19/2023		F12													
10/2/2023	156	2.18	147.19	6.02											
10/7/2024	147	2.13	147.24	6.02											
P-206A															
10/26/2015	146	24.9	179.61	93.45											
10/24/2016	192	28.2	176.31	93.43											
10/23/2017	221	27.6	176.91	93.45											
10/1/2018	234	28.4	176.11	93.43											
10/28/2019	218	24.8	179.71	93.43											
10/26/2020	F5	30 A6	174.51	93.15											
10/4/2021	249	27.3	177.21	93.15											
10/3/2022	214	28.5	176.01	93.15											
10/2/2023	277	24.6	179.91	93.15											
10/7/2024	117	27.18	177.33	93.15											
P-209A															

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-209A) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
10/28/2015	70	41.2	137.59	55.82
10/25/2016	199	25.92	152.87	55.82
10/26/2017	56	22.11	156.68	55.82
10/3/2018	59	25.65	153.14	55.82
10/29/2019	89	F1		55.82
10/27/2020	72	23.73	155.06	54.644
10/5/2021	63	1.89	176.9	54.64
10/3/2022	46	21.95	156.84	54.64
10/2/2023	58	2.71	176.08	54.64
10/7/2024	46	20.55	158.24	54.64
P-209B				
10/28/2015	125	3.62	175.2	30.65
10/25/2016	124	26.17	152.65	30.65
10/26/2017	77	22.85	155.97	30.65
10/3/2018	103	25.84	152.98	30.65
10/29/2019	85	0.12	178.7	30.65
10/27/2020	84	23.95	154.87	30.81
10/5/2021	51	1.92	176.9	30.81
10/3/2022	88	22.03	156.79	30.81
10/2/2023	88	2.26	176.56	30.81
10/7/2024	54	23.9	154.92	30.81
P-209C				
10/28/2015	D	D		9.82
10/25/2016	D	D		9.82
10/26/2017	D	D		9.82
10/3/2018	D	D		9.82
10/29/2019	61	2.85	176.03	9.82
10/27/2020	D	D		9.87
10/5/2021	D	D		9.87
10/3/2022	D	D		9.87
10/2/2023	D	D		9.87
10/7/2024	D	D		9.87
P-211A				
10/26/2015	196	4.7	178.87	25.6
10/24/2016	281	8.3	175.27	25.58
10/23/2017	364	8.35	175.22	25.68
10/2/2018	392	9.2	174.37	13.25
10/29/2019	437	5.3	178.27	25.43
10/28/2020	422	6.42	177.15	25.65
10/6/2021	515	7.08	176.49	25.67
10/5/2022	377	7.4	176.17	25.67
10/3/2023	390	8.3	175.27	25.67
10/9/2024	387	10.3	173.27	25.67
P-211B				
10/26/2015	282	5.4	178.57	13.5
10/24/2016	284	7.8	176.17	13.5
10/23/2017	477	8.2	175.77	13.5

DATA SUMMARY TABLE

Conductivity and Water Levels

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-211B) Date	Specific Conductance µmhos/cm @25°C	Water Level Depth Feet	Water Level Elevation Feet	Well Depth Feet
10/2/2018	506	9.15	174.82	25.65
10/29/2019	482	5.4	178.57	13.23
10/28/2020	473	6.4	177.57	13.5
10/6/2021	469	6.75	177.22	13.5
10/5/2022	449	7.3	176.67	13.5
10/3/2023	509	7.8	176.17	13.5
10/9/2024	500	9.9	174.07	13.5
P-220A				
10/27/2015	187	F1		40.8
10/25/2016	189	0.37	147.62	40.8
10/26/2017	137	0.35	147.64	
10/2/2018	177	0.35	147.64	40.8
10/30/2019	F12	F12		F12
10/26/2020	A	A		A
10/4/2021	F21	F21		F21
10/3/2022	F21	F21		F21
10/2/2023	F21	F21		F21
10/8/2024	F12	F12		F12
P-220B				
10/27/2015	201	F1		22.78
10/25/2016	181	0.63	147.42	22.78
10/26/2017	134	0.57	147.48	
10/2/2018	110	0.47	147.58	22.78
10/30/2019	F12	F12		F12
10/26/2020	A	A		A
10/4/2021	F21	F21		F21
10/3/2022	F21	F21		F21
7/19/2023		F12		
10/2/2023	F21	F21		F21
10/8/2024	F12	F12		F12

Notes: TYPE - Sample Type Qualifier where D = Duplicate Sample.

Concentration Qualifier Notes:

- ! - The sampling location was damaged or destroyed.
- A - The sampling location was inaccessible.
- A6 - Approximate value.
- D - The sampling location was dry.
- F1 - Well was flowing
- F12 - Pipe under water, no sample taken.
- F21 - Area flooded by water. Beaver dam in area.
- F5 - Water level not high enough to pump.
- Q - An obstruction prevented the collection of data.

APPENDIX D

2024 AND HISTORICAL WATER QUALITY DATA

SME
SEVEE & MAHER
ENGINEERS

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(DP-4) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
DP-4																	
10/28/2015	XX	GWDP4X7J6	278	6.6	10.5	154.8	14.57	27.05	169.37	257	0.9		3				
10/26/2016	XX	GWDP4X908	267	6.5	10.2	154.37	15	27.1	169.37	296	0.6		7				
10/23/2017	XX	GWDP4X9I7	201	6.2	14.3	152.35	17.02	22.17	169.37	284	0.4		5.5				
10/3/2018	XX	GWDP4XB25	214	6.3	12.3	154.12	15.25	27.16	169.37	285	1.4		4.7				
10/28/2019	XX	GWDP4XBJ5	272	6.5	10.7	154.46	14.91	27.1	169.37	236	0.5		14.9				
10/26/2020	XX	GWDP4XD49	249	6.4	11.8	154.27	15.1	27.12	169.37	315	0.6		12.5				
10/4/2021	XX	GWDP4XE7A	268	6.1	14.8	154.59	14.78		169.37	193	0.7		4.9				
4/25/2022	XX	GWDP4XF21	236	5.9	10.3	154.7	14.67		169.37	204	0.8		5				
10/5/2022	XX	GWDP4XG00	248	6.3	15.4	155.02	14.35	27.12	169.37	219	0.8		3.5				
10/3/2023	XX	GWDP4X09A	184	5.9	14.3	152.72	16.65	27.12	169.37	253	0.4		10.5				
10/7/2024	XX	GWDP4X229	189	5.9	14	154.07	15.3	27.07	169.37	215	1.2		11				
LF-COMP																	
2/3/2015	XX	LFCMPX775	383	7.4	14.3					386	5	185	0.03				
2/21/2015	XX	LFCMPX77G	321	7.5	17.7					369	4.5	185	0.63				
3/28/2015	XX	LFCMPX7AE	372	7.3	15.8					409	6	150	0.65				
9/26/2015	XX	LFCMPX809	314	6.7	21.4					380	8	160	0.5				
11/27/2015	XX	LFCMPX81D	312	7	15					377	8	170	0.81				
12/2/2015	XX	LFCMPX7GG	317	7	20.2					361	6	160	0.2				
8/29/2016	XX	LFCMPX90J	454	6.9	24.6					337	8	220	2.9				
9/23/2016	XX	LFCMPX93I	458	7.52	19					304	9	230	2.1				
10/31/2016	XX	LFCMPX94C	426	8.21	14.3					314	8	125	0.4				
11/29/2016	XX	LFCMPX957	218	7.39	12.3					357	6	150	0.9				
12/13/2016	XX	LFCMPX960	196	8.06	5.6					345	10	140	1				
1/10/2017	XX	LFCMPX99J	223	7.77	15.1					373	8	145	0.4				
2/8/2017	XX	LFCMPX9AC	311	7.71	14.2					358	9	125	0.4				
3/3/2017	XX	LFCMPX9B5	194	7.74	16					352	7	130	0.5				
4/5/2017	XX	LFCMPX996	206	7.95	18.7					349	8	105	3.6				
7/31/2017	XX	LFCMPX9FC	468	7.3	23.9					391	6	250	0.8				
9/28/2017	XX	LFCMPX9JE	492	7.4	18.9					360	8	240	7.1				
10/26/2017	XX	LFCMPXA06	473	6.9	17.7					414	6	160	1.3				
4/28/2018	XX	LFCMPXAAH	395	7.8	16.2					384	8	150	0.3				
6/2/2018	XX	LFCMPXAE1	433	8	19.7					365	7	130	0.3				
7/2/2018	XX	LFCMPXAJ1	483	8	22.4					367	7	180	0.2				
8/17/2018	XX	LFCMPXAJ2	498	7	22.8					355	7	200	5.6				
9/1/2018	XX	LFCMPXB28	485	7.8	19.9					376	7	200	4.8				
10/13/2018	XX	LFCMPXB32	481	7	14.9					374	7	190	1.7				
11/2/2018	XX	LFCMPXB3G	399	7.1	11.3					361	7	150	2.8				
12/7/2018	XX	LFCMPXB7F	309	8	8.4					374	7	175	1.1				
1/3/2019	XX	LFCMPXB89	446	6.7	4.9					373	8	150	2				
2/2/2019	XX	LFCMPXB93	409	7.5	3.2					410	8	200	7				
3/2/2019	XX	LFCMPXB9H	423	7	5					372	7	200	2.2				
4/5/2019	XX	LFCMPXBAB	382	8.2	12.9					354	8	155	1.9				
5/10/2019	XX	LFCMPXBE3	344	7	14.4					321	7	160	3.7				
6/24/2019	XX	LFCMPXBEH	395	7.5	17.1					364	8	200	0.5				
7/30/2019	XX	LFCMPXBFB	410	8	20.6					337	8	210	2.5				
8/20/2019	XX	LFCMPXBG5	376	7.6	25.3					357	6	180	0.3				
9/20/2019	XX	LFCMPXBJI	453	7.2	21.5					370	6	200	0.2				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-COMP)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/14/2019	XX	LFCMPXC0C	410	7.8	18.9					339	6	200	0.3				
11/27/2019	XX	LFCMPXC16	353	7.7	20					384	8	190	1.1				
12/23/2019	XX	LFCMPXC2G	394	7.9	12.7					353	8	135	0.3				
1/17/2020	XX	LFCMPXC3B	374	8.2	11.6					377	10	175	2.4				
2/4/2020	XX	LFCMPXC46	378	8.3	12.4					337	10	175	0.2				
3/27/2020	XX	LFCMPXCF3	328	7.3	11.7					415	6	200	0.4				
4/29/2020	XX	LFCMPXCFH	380	8.2	16.9					334	6	200	0.4				
5/27/2020	XX	LFCMPXCJG	438	7.2	18.4					346	6	200	0.2				
6/28/2020	XX	LFCMPXD0A	401	7.3	21.9					338	5	210	2.8				
7/11/2020	XX	LFCMPXD14	429	7.1	20.7					361	5	250	1.1				
8/3/2020	XX	LFCMPXD52	485	7	21.5					374	6	250	0.6				
9/27/2020	XX	LFCMPXD5I	402	7.2	17.7					409	6	250	14.2				
10/31/2020	XX	LFCMPXD6C	417	8.2	14.3					397	8	250	0.6				
11/29/2020	XX	LFCMPXD76	320	7.6	15.3					410	6	175	15.6				
12/13/2020	XX	LFCMPXD80	217	7	12.5					380	5	105	67.9				
1/10/2021	XX	LFCMPXDEE	258	7.1	15.5					397	6	125	28				
2/28/2021	XX	LFCMPXDE0	101	7.2	10.5					361	8	55	52.4				
3/30/2021	XX	LFCMPXDFC	364	7.1	12.7					412	8	200	181.1				
4/6/2021	XX	LFCOMPDG6	318	7	5.4					346	6.3		2.3				
4/29/2021	XX	LFCMPXDH8	426	7.5	15.4					381	8	250	2.2				
5/19/2021	XX	LFCMPXDI2	440	7.7	21.4					406	8	230	1.4				
6/2/2021	XX	LFCMPXE2D	394	7.9	20.1					334	7	230	3.1				
7/16/2021	XX	LFCMPXE39	473	7.1	24.8					388	6	250	3.9				
8/3/2021	XX	LFCMPXEFB	504	7.5	23.1					404	6	210	82.8				
9/18/2021	XX	LFCMPXEDD	450	7.1	19.4					365	6	225	14.4				
10/16/2021	XX	LFCMPXEEC	370	7.1	17.4					359	8	250	7.1				
11/20/2021	XX	LFCMPXEHA	281	7.3	13.7					329	5	150	18.3				
12/18/2021	XX	LFCMPXEIC	365	7.7	13					341	7	145	13.7				
1/16/2022	XX	LFCMPXF48	281	7.1	15.6					343	10	80	3.7				
2/20/2022	XX	LFCMPXF58	275	7.2	12					313	5	65	12.4				
3/20/2022	XX	LFCMPXF68	292	7	10.7					350	9	130	8.9				
4/15/2022	XX	LFCMPXFBJ	244	7.2	18.5					306	6	125	10				
5/10/2022	XX	LFCMPXFCJ	398	7.5	19.5					343	8	200	625.23				
6/7/2022	XX	LFCMPXFE9	483	8	20.7					327	8	325	13.2				
7/21/2022	XX	LFCMPXFF9	449	7.6	22.7					318	7	300	9.9				
8/8/2022	XX	LFCMPXG2I	370	7.2	18.6					365	6	175	4.9				
9/2/2022	XX	LFCMPXG5A	364	7.3	18.2					359	6	175	5				
10/6/2022	XX	LFCMPXG8C	423	7.8	13.4					293	6	200	8.7				
11/4/2022	XX	LFCMPXGA3	291	7	10					328	6	125	2.6				
12/5/2022	XX	LFCMPXGC8	295	7	9.2					325	6	150	2.5				
1/4/2023	XX	LFCMPXGE0	361	7.1	9					383	6	175	7				
2/1/2023	XX	LFCMPXGFB	342	7.7	11.4					362	6	150	12.8				
3/1/2023	XX	LFCMPXH2F	393	7.8	12					389	6	135	147.5				
4/3/2023	XX	LFCMPXH46	348	7.7	14.1					346	6	150	10.5				
5/3/2023	XX	LFCMPXH65	297	7.5	14.9					306	6	150	27.7				
6/6/2023	XX	LFCMPX028	395	7.2	16.8					336	6	150	58.7				
7/18/2023	XX	LFCMPX03D	338	7.3	23.5					343	6	150	9.6				
8/1/2023	XX	LFCMPX0A9	459	7.8	21.2					300	5	225	7.3				
9/8/2023	XX	LFCMPX0BF	490	7.6	24.1					344	6	200	20.6				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-COMP) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/4/2023	XX	LFCMPX0D7	450	7.2	22.3					343	6	250	10.9				
11/7/2023	XX	LFCMPX0EG	404	6.9	16.8					359	6	200	6.1				
12/20/2023	XX	LFCMPX0GE	288	7.2	10.8					346	5	125	12				
1/2/2024	XX	LFCMPX0IA	199	7.2	12.4					351	6	125	13.1				
2/6/2024	XX	LFCMPX0JJ	471	7.2	13.4					357	6	200	6.3				
3/7/2024	XX	LFCMPX160	196	7.2	11.2					337	6	100	11.4				
4/3/2024	XX	LFCMPX17J	403	7.2	15.9					332	6	160	6				
5/8/2024	XX	LFCMPX19A	490	7	15.1					337	6	190	2.6				
6/5/2024	XX	LFCMPX1AJ	299	7.5	22.4					281	8	125	0.6				
7/15/2024	XX	LFCMPX22E	500	7	21.4					329	6	125	3.4				
8/30/2024	XX	LFCMPX244	542	7.4	21.7					275	6	175	9.2				
9/19/2024	XX	LFCMPX25E	650	7.1	22.9					353	5	125	4.2				
10/17/2024	XX	LFCMPX273	615	7.4	19.9					356	4	175	27.5				
11/12/2024	XX	LFCMPX290	595	7.6	18.8					311	6	250	15.4				
12/31/2024	XX	LFCMPX2A9	434	7.4	16.3					337	10	150	4.1				
LF-LD-11																	
4/7/2021	XX	LFXXXXDG7	795	6.7	18.4					130	2.5		2.1	0.0316			
7/13/2021	XX	LFXXXXE1C	723	6.5	21.2					195	1.5		0.3	0.0348			
8/3/2021	XX	LFXXXXEG8	847	6.8	24.2					420	4	300	0.8				
8/18/2021	XX	LFLD11EGD	864	6.8	24.3					372	4	300	0.8				
8/30/2021	XX	LFLD11EGH	844	6.9	22.8					359	4	350	1.4				
9/18/2021	XX	LFXXXXEEA	869	6.8	21					338	4	500	2.3				
10/5/2021	XX	LFXXXXE88	744	6.5	17.1					261	1.7		0.3	0.0343			
10/23/2021	XX	LFLD11EGK	884	6.8	21.1					368	3	350	1.4				
11/7/2021	XX	LFXXXXEI6	739	6.3	20.2					364	4	450	1.2				
11/20/2021	XX	LFLD1XEI9	740	6.9	15.9					336	3	300	4.9				
12/4/2021	XX	LFXXXXEJ8	748	6.5	16.3					241	5	450	3.8				
12/18/2021	XX	LFLD1XEJB	770	6.5	16.7					148	4	125	15				
1/4/2022	XX	LFLD1XF57	738	6.6	16.9					367	4	250	2.8				
1/16/2022	XX	LFXXXXF54	739	7	15.9					356	7	370	4.6				
2/7/2022	XX	LFXXXXF64	804	6.9	18.7					352	4	500	2.6				
2/16/2022	XX	LFLD1XF67	731	7.9	13.2					344	9	225	4.9				
3/7/2022	XX	LFXXXXF74	1210	6.5	20.4					273	5	300	36.6				
3/20/2022	XX	LFLD1XF77	1245	6.4	15.6					135	3	350	24.6				
4/1/2022	XX	LFLD1XFCI	1197	6.4	20.6					178	5	500	11.3				
4/15/2022	XX	LFXXXXFCF	1027	6.8	19.5					222	5	500 <	4.7				
4/28/2022	XX	LFXXXXF2E	857	6.5	15.5					233	3.2		1.8				
5/10/2022	XX	LFLD1XFDI	895	7	19.7					293	5	500	5.5				
5/25/2022	XX	LFXXXXFDF	767	7	20.9					233	3	325	3.2				
6/7/2022	XX	LFXXXXFF5	945	7.1	21.1					339	8	500	7				
6/20/2022	XX	LFXXXXFGD	916	7.1	18.2					336	6	400	1.9				
7/1/2022	XX	LFXXXXFG5	906	7	23.9					233	6	450	1.6				
7/19/2022	XX	LFXXXXFA9	817	6.7	20.8					193	1.9		0.5	0.0341			
7/21/2022	XX	LFLD1XFG8	893	7	22.8					237	6	425	1.9				
8/8/2022	XX	LFXXXXG3E	899	7.1	19.2					300	6	450	1.3				
8/22/2022	XX	LFXXXXG52	915	7	19.1					315	5	450	2.1				
9/2/2022	XX	LFXXXXG66	926	6.9	19.4					366	5	500	1.3				
9/15/2022	XX	LFLD1XG4F	918	6.9	19.6					362	6	450	2.2				
10/4/2022	XX	LFXXXXG0D	771	6.8	18.8					302	5		0.4				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-11)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/6/2022	XX	LFXXXXG98	881	7	16.8					323	5	350	1.8				
10/24/2022	XX	LFLD1XG8B	906	7.1	18.9					325	6	350	1.3				
11/4/2022	XX	LFXXXXGAJ	861	6.8	15.7					334	5	300	1.2				
11/21/2022	XX	LFLD1XGA2	857	7.1	17.6					326	4	300	1.2				
12/5/2022	XX	LFXXXXGD4	857	6.8	15.3					335	6	300	1.3				
12/26/2022	XX	LFLD1XGC7	850	7	16.1					325	6	300	1.3				
1/4/2023	XX	LFXXXXGEG	842	7	13.7					382	6	400	1.7				
1/19/2023	XX	LFLD1XGDJ	845	7.3	16.2					367	6	350	1.9				
2/1/2023	XX	LFXXXXGG7	809	7.5	14.2					360	5	200	0.8				
2/15/2023	XX	LFLD1XGFA	936	7.3	18.7					379	6	350	0.8				
3/1/2023	XX	LFXXXXH3B	838	7.5	15.2					396	6	350	5				
3/15/2023	XX	LFLD1XH2E	955	7.2	19.9					359	6	350	0.4				
4/3/2023	XX	LFLD1XH45	868	7.5	18.8					348	6	400	4.8				
4/12/2023	XX	LFXXXXH52	1155	7.1	20.8					360	6	300	2				
4/18/2023	XX	LFXXXXH04	770	7	19					357	4.3		0.4	0.035			
5/3/2023	XX	LFXXXXH70	854	7.3	19.3					311	6	350	2.5				
5/16/2023	XX	LFLD1XH64	1092	6.5	20.9					339	6	500	2.1				
6/6/2023	XX	LFXXXX033	954	7.2	21.1					335	6	350	1.3				
6/20/2023	XX	LFLD1X027	933	7.2	21.8					373	6	350	0.6				
7/6/2023	XX	LFXXXX048	1195	6.9	25.9					360	6	350	0.6				
7/11/2023	XX	LFXXXX005	892	6.6	21.5					347	3.1		0.6	0.0189			
7/18/2023	XX	LFLD1X03C	964	7	24.5					342	5	500	1				
8/1/2023	XX	LFXXXX0B4	568	6.6	23.2					266	3	225	15.9				
8/16/2023	XX	LFLD1X0A8	1275	6.8	22.8					384	5	350	2.3				
9/8/2023	XX	LFXXXX0CA	966	7.1	24.8					344	6	300	11				
9/19/2023	XX	LFLD1X0BE	855	7	21.9					363	5	350	3				
10/3/2023	XX	LFXXXX079	D	D	D					D	D	D	D	D			
10/4/2023	XX	LFXXXX0E2	934	6.9	23.6					338	6	450	5				
10/16/2023	XX	LFLD1X0D6	1083	7	19.3					368	6	350	5				
11/7/2023	XX	LFXXXX0FB	871	6.9	18.9					347	5	350	2.8				
11/20/2023	XX	LFLD1X0EF	1052	7.2	18.1					363	6	350	1.1				
12/4/2023	XX	LFXXXX0H9	1059	7.2	18.2					353	6	350	7.6				
12/18/2023	XX	LFLD1X0GD	1078	7	21.1					364	6	350	3.8				
1/2/2024	XX	LFXXXX0J5	839	7.4	15.9					350	6	400	1.3				
1/15/2024	XX	LFLD1X0I9	1126	6.7	17.3					372	6	350	1.5				
2/6/2024	XX	LFXXXX10E	874	7.3	16.4					351	6	350	10.1				
2/19/2024	XX	LFLD1X0JI	1400	7	18.4					371	6	350	2.5				
3/7/2024	XX	LFXXXX16F	767	7.3	17					333	5	350	8.4				
3/19/2024	XX	LFLD1X15J	972	6.6	19.6					362	6	350	1.3				
4/2/2024	XX	LFXXXX13I	815	7.1	19.7					451	5		0.5	0.035			
4/4/2024	XX	LFXXXX18E	898	7.4	18.1					327	6	250	6.6				
4/15/2024	XX	LFLD1X17I	940	7.3	19.6					369	6	350	2				
5/1/2024	XX	LFLD1X199	1103	7.1	22.8					339	5.5	400	1.7				
5/17/2024	XX	LFXXXX1A5	750	7	24.9					340	6	250	0.1 U				
6/4/2024	XX	LFLD1X1AI	789	7.3	24.1					265	5	300	0.1				
6/17/2024	XX	LFXXXX1BG	774	7.2	22.4					294	6	325	0.3				
7/2/2024	XX	LFLD1X22D	750	7	19.8					341	5	350	0.2				
7/15/2024	XX	LFXXXX239	899	7	21.4					314	6	150	0.7	0.035			
7/16/2024	XX	LFXXXX1F4	883	6.8	23					422	5.5		0.3	0.035			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-11) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/31/2024	XX	LFXXXX23K	831	7.1	20.6					355	6	150	0.8				
8/14/2024	XX	LFLD1X243	901	6.9	22.4					376	5	200	0.4	0.0247			
8/28/2024	XX	LFXXXX24J	935	7.1	21.8					291	5	200	0.9	0.0245			
9/9/2024	XX	LFLD1X25D	916	7.2	19.9					364	5	200	0.5	0.0243			
9/27/2024	XX	LFXXXX269	938	6.9	22.4					364	5	200	0.3	0.0238			
10/8/2024	XX	LFXXXX20B	953	6.6	18.9					456	4.4		0.2	0.0076			
10/11/2024	XX	LFLD1X272	978	7	21.1					360	4	113	0.5	0.0236			
10/22/2024	XX	LFXXXX27I	943	7.1	21.9					376	6	250	0.1 U	0.0236			
11/8/2024	XX	LFLD1X28J	907	7	19.9					370	5	200	0.1	0.0234			
11/20/2024	XX	LFXXXX29F	909	7.1	21.1					366	6	225	0.1 U	0.0234			
12/4/2024	XX	LFLD1X2A8	899	7.3	22.7					350	8	113	0.1 U	0.0232			
12/16/2024	XX	LFXXXX2B4	851	7.2	22.1					305	8	200	0.2	0.0232			
LF-LD-12																	
4/7/2021	XX	LFXXXXDG8	444	4.3	17.7					252	3.7		2.3				
7/13/2021	XX	LFXXXXE1D	369	6	19.9					306	0.8		0.2				
8/3/2021	XX	LFXXXXEG9	639	6.3	23.9					389	3	300	6.2				
8/18/2021	XX	LFLD12EGF	689	6.2	22.1					347	1	350	8.8				
8/30/2021	XX	LFLD12EGJ	700	6.5	22.2					340	5	350	3.2				
9/18/2021	XX	LFXXXXEEB	737	6.4	21					317	2	350	2				
10/5/2021	XX	LFXXXXE89	563	6.3	16.8					212	1.3		0.3	0.0245			
10/23/2021	XX	LFLD12EGL	F6	F6	F6					F6	F6		F6	F6			
11/7/2021	XX	LFXXXXEI7	528	6.1	19.7					357	2	250	6				
11/20/2021	XX	LFXXXXEIA	587	6.2	17.2					334	2	300	4.2				
12/4/2021	XX	LFXXXXEJ9	615	6.2	17.4					131	2	250	5.3				
12/18/2021	XX	LFXXXXEJD	573	6	17.8					111	2	255	7.2				
1/4/2022	XX	LFXXXXF55	506	6.2	17.1					164	1	160	15.3				
1/16/2022	XX	LFXXXXF78	528	6.5	15.4					363	5	340	4.9				
2/7/2022	XX	LFXXXXF65	504	6.7	18					211	6	250	3				
2/16/2022	XX	LFXXXXF7A	544	6.8	16.1					352	6	250	14.2				
3/7/2022	XX	LFXXXXF75	627	6.6	19.2					223	7	200	10.8				
3/20/2022	XX	LFXXXXF7C	621	6.3	18.4					74	4	475	47.8				
4/1/2022	XX	LFXXXXFCG	581	6.4	19.8					121	4	250	5.6				
4/15/2022	XX	LFXXXXFDJ	497	6.4	19.8					257	3	250	10.2				
4/28/2022	XX	LFXXXXF2F	470	6.2	17.2					220	1.2		2.2	0.0203			
5/10/2022	XX	LFXXXXFDG	547	6.5	21.1					235	4	275	6.5				
5/25/2022	XX	LFXXXXFE2	577	6.4	20.4					202	2	275	2.3				
6/7/2022	XX	LFXXXXFF6	528	6.5	21.3					298	6	250	1.9				
6/20/2022	XX	LFXXXXFGF	529	6.5	18.3					290	3	250	1.1				
7/1/2022	XX	LFXXXXFG6	539	6.4	23.3					243	3	325	1.4				
7/19/2022	XX	LFXXXXFAA	490	6.2	21.8					226	0.9		0.6	0.0207			
7/21/2022	XX	LFXXXXFHE	545	6.6	23					238	4	350	1.4				
8/8/2022	XX	LFXXXXG3F	531	6.7	19.3					313	5	350	3.3				
8/22/2022	XX	LFXXXXG54	525	6.9	19.1					303	5	325	3.4				
9/2/2022	XX	LFXXXXG6D	553	6.4	20.6					327	5	250	2				
9/15/2022	XX	LFXXXXG67	539	6.8	19.6					335	5	275	1.8				
10/4/2022	XX	LFXXXXG0E	459	6.4	19.9					337	2.4		0.8				
10/6/2022	XX	LFXXXXG99	526	6.4	19.1					319	4	300	2.5				
10/24/2022	XX	LFXXXXG9F	574	6.6	19.7					325	4	250	2				
11/4/2022	XX	LFXXXXGB0	554	6.1	17.6					279	4	200	2.3				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-12)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
11/21/2022	XX	LFXXXXGB6	569	6.6	17.6					331	5	350	2.9				
12/5/2022	XX	LFXXXXGD5	550	6.2	15.8					281	4	200	2.4				
12/26/2022	XX	LFXXXXGDB	565	6.7	16.1					326	6	300	3				
1/4/2023	XX	LFXXXXGEH	532	6.2	15.3					341	6	250	1.3				
1/19/2023	XX	LFXXXXGF3	545	6.7	16.9					377	5	200	3				
2/1/2023	XX	LFXXXXGG8	580	6.8	16.7					346	5	250	2.5				
2/15/2023	XX	LFXXXXGGE	599	6.6	19.8					349	5	250	2.9				
3/1/2023	XX	LFXXXXH3C	573	6.7	17.2					405	6	200	3.2				
3/15/2023	XX	LFXXXXH3I	601	6.6	20.3					317	5	250	1.1				
4/3/2023	XX	LFXXXXH59	595	6.8	19.3					340	5	250	6.8				
4/12/2023	XX	LFXXXXH53	674	6.5	21.6					304	6	250	4.6				
4/18/2023	XX	LFXXXXH05	492	7	17					255	0.8		0.4	0.0176			
5/3/2023	XX	LFXXXXH71	568	6.6	20.2					294	6	250	4.3				
5/16/2023	XX	LFXXXXH76	644	6.3	21.2					315	5	250	2.2				
6/6/2023	XX	LFXXXX034	300	6.1	21.2					281	6	250	13.2				
6/20/2023	XX	LFXXXX039	351	6.3	21.6					302	5	150	2.1				
7/6/2023	XX	LFXXXX049	568	6.4	25.7					290	5	225	0.8				
7/11/2023	XX	LFXXXX006	486	6.1	22.6					252	1.9		0.3	0.0203			
7/18/2023	XX	LFXXXX04E	517	6.6	25					281	4	250	3.1				
8/1/2023	XX	LFXXXX0B5	552	6.6	23.5					240	4	200	8				
8/16/2023	XX	LFXXXX0BA	690	6.4	23.6					264	5	250	4.5				
9/8/2023	XX	LFXXXX0CG	613	6.7	25.9					282	5	300	4.9				
9/19/2023	XX	LFXXXX0CB	454	6.5	22.7					253	6	275	5.5				
10/3/2023	XX	LFXXXX07A	504	6.3	22.6					392	1.2		0.4	0.0207			
10/4/2023	XX	LFXXXX0E3	547	6.3	24.1					285	5	250	12.1				
10/16/2023	XX	LFXXXX0E8	1281	6.7	20.9					156	5	400	10.9				
11/7/2023	XX	LFXXXX0FC	1410	6.3	20.3					192	6	350	3.9				
11/20/2023	XX	LFXXXX0FH	1257	6.5	19.4					195	5	300	3.2				
12/4/2023	XX	LFXXXX0HA	1197	6.6	18.2					205	5	350	7.1				
12/18/2023	XX	LFXXXX0HF	1096	6.5	21.1					217	5	350	14.2				
1/2/2024	XX	LFXXXX0J6	1205	6.7	17.6					218	4	350	5.6				
1/15/2024	XX	LFXXXX0JB	1259	6.2	18.9					229	5	350	10.3				
2/6/2024	XX	LFXXXX10F	1138	6.7	18.2					234	6	350	23.9				
2/19/2024	XX	LFXXXX110	1318	6.4	19.9					212	6	300	5.2				
3/7/2024	XX	LFXXXX171	898	6.5	19.2					236	5	300	17				
3/19/2024	XX	LFXXXX16G	972	6.5	20.4					245	5	350	15.1				
4/2/2024	XX	LFXXXX13J	867	6.2	21.4					330	1.8		0.3	0.0205			
4/4/2024	XX	LFXXXX18F	909	6.7	17.9					228	6	300	12.9				
4/15/2024	XX	LFXXXX190	905	6.8	19.9					237	5	250	13.9				
5/1/2024	XX	LFXXXX1A6	890	6.5	22.6					240	6	300	12.1				
5/17/2024	XX	LFXXXX1AB	787	6.6	25.3					296	6	200	0.7				
6/4/2024	XX	LFXXXX1BH	767	6.5	24.3					311	5	325	4.3				
6/17/2024	XX	LFXXXX1C2	P2	P2	P2					P2	P2	P2	P2				
7/2/2024	XX	LFXXXX23A	800	6.3	19.8					244	4	125	20.1				
7/15/2024	XX	LFXXXX23F	874	6.5	21.4					282	5	150	54.9	0.0352			
7/16/2024	XX	LFXXXX1F5	920	6.2	23.9					233	2.5		0.3	0.035			
7/31/2024	XX	LFXXXX23L	840	6.4	19.8					245	6	175	17.4				
8/14/2024	XX	LFXXXX250	893	6.2	21.8					398	4	100	22.4	0.0201			
8/28/2024	XX	LFXXXX255	894	6.4	20.7					344	4	200	21.3	0.0205			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-12) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
9/9/2024	XX	LFXXXX26A	820	6.6	20.3					279	4	200	15.2	0.0205			
9/27/2024	XX	LFXXXX26F	901	6.4	22.9					250	4	150	3.9	0.0205			
10/8/2024	XX	LFXXXX20C	908	6	20.4					291	5.6		0.4	0.0207			
10/11/2024	XX	LFXXXX27J	964	6.5	20.2					261	4	125	4.7	0.0203			
10/22/2024	XX	LFXXXX284	865	6.5	22.7					239	3	200	0.3	0.0205			
11/8/2024	XX	LFXXXX29G	897	6.4	20.6					248	4	175	6.6	0.0205			
11/20/2024	XX	LFXXXX2A1	859	6.5	20.2					248	4	175	12.9	0.0205			
12/4/2024	XX	LFXXXX2B5	902	6.6	22.4					368	5	150	9.6	0.0205			
12/16/2024	XX	LFXXXX2BA	871	6.8	21.6					325	5	175	6	0.0207			
LF-LD-13																	
9/14/2021	XX	LFXXXXEE7	373	7	21					346	7	75	209				
10/7/2021	XX	LFXXXXEF6	381	7	22.7					361	8	70	1.4				
10/23/2021	XX	LFLD13EGM	305	6.7	18.6					349	4	90	3.1				
11/7/2021	XX	LFXXXXEI4	226	6.3	19					343	4	85	9.2				
11/20/2021	XX	LFXXXXEIB	234	6.7	17.3					321	4	80	1.3				
12/4/2021	XX	LFXXXXEJ6	275	6.7	17.2					148		125	0.9				
12/18/2021	XX	LFXXXXEJC	264	6.6	17.8					123	5	90	1.1				
1/4/2022	XX	LFXXXXF52	230	6.7	16.9					164	5	100	1.2				
1/16/2022	XX	LFXXXXF79	261	6.8	15.6					359	6	75	2.3				
2/7/2022	XX	LFXXXXF62	233	6.9	17.2					197	5	100	1.8				
2/16/2022	XX	LFXXXXF7B	243	7	17.1					345	9	85	1.7				
3/7/2022	XX	LFXXXXF72	185	6.8	19.1					224	6	90	2				
3/20/2022	XX	LFXXXXF7D	340	6.7	18.7					115		125	2.6				
4/1/2022	XX	LFXXXXFCD	341	6.7	19.8					140	5	150	1.1				
4/15/2022	XX	LFXXXXFE0	328	6.7	19.8					273	5	130	2				
4/28/2022	XX	LFXXXXF47	214	6.7	27.9					229	3.6		0.8	0.0158			
5/10/2022	XX	LFXXXXFDD	269	6.9	20.6					242	5	100	1.1				
5/25/2022	XX	LFXXXXFE1	244	6.6	20.2					238	4	90	0.8				
6/7/2022	XX	LFXXXXFF3	282	6.7	21.4					286	5	100	0.9				
6/20/2022	XX	LFXXXXFF4	256	6.7	18.2					287	5	100	0.9				
7/1/2022	XX	LFXXXXFG3	308	6.6	22.8					253	4	125	0.4				
7/19/2022	XX	LFXXXXFB4	320	6.2	21.6					273	1.3		0.8	0.0131			
7/21/2022	XX	LFXXXXFHB	330	6.5	23.1					257	5	250	1.2				
8/8/2022	XX	LFXXXXG3C	276	7	19.4					267	5	125	9.8				
8/22/2022	XX	LFXXXXG56	290	7	19.2					285	5	175	7.8				
9/2/2022	XX	LFXXXXG64	349	6.3	20.4					317	5	175	1.8				
9/15/2022	XX	LFXXXXG4B	376	6.7	20.1					332	5	200	2.2				
10/4/2022	XX	LFXXXXG20	292	7.2	19.8					320	4.8		0.5				
10/6/2022	XX	LFXXXXG96	339	6.5	19.4					304	5	175	1.1				
10/24/2022	XX	LFXXXXG88	333	6.7	19.7					265	5	125	4.7				
11/4/2022	XX	LFXXXXGAH	346	6.1	17.1					291	5	200	3.9				
11/21/2022	XX	LFXXXXG9J	316	6.6	18					318	6	175	12.1				
12/5/2022	XX	LFXXXXGD2	342	6.2	15.8					295	6	200	3.8				
12/26/2022	XX	LFXXXXGC4	323	6.7	16.1					321	6	175	9.4				
1/4/2023	XX	LFXXXXGEE	299	6.2	15.4					354	6	115	0.4				
1/19/2023	XX	LFXXXXGDG	315	6.6	17.5					374	6	100	1				
2/1/2023	XX	LFXXXXGG5	333	6.8	17.6					347	6	100	0.4				
2/15/2023	XX	LFXXXXGF7	340	6.5	20.4					351	6	115	0.9				
3/1/2023	XX	LFXXXXH39	328	6.7	18					404	6	125	2.5				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-13)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
3/15/2023	XX	LFXXXXH2B	354	6.7	20.3					316	6	130	1.3				
4/3/2023	XX	LFXXXXH42	383	6.7	20.1					342	6	115	3.8				
4/12/2023	XX	LFXXXXH50	398	6.4	22.3					305	6	125	4				
4/18/2023	XX	LFXXXXH1B	317	6.6	22.3					335	1.6		0.5	0.0147			
5/3/2023	XX	LFXXXXH6J	387	6.7	21.2					293	6	175	3.8				
5/16/2023	XX	LFXXXXH63	375	6.3	22.9					322	6	145	1.3				
6/6/2023	XX	LFXXXX032	368	6.7	22.1					262	5	125	0.5				
6/20/2023	XX	LFXXXX026	427	7.1	22.4					301	6	200	2.1				
7/6/2023	XX	LFXXXX047	503	6.8	27.2					249	6	200	1.8				
7/11/2023	XX	LFXXXX010	432	6.4	24.8					298	1.3		0.5	0.0145			
7/18/2023	XX	LFXXXX03B	455	6.8	25.7					263	5	200	2.8				
8/1/2023	XX	LFXXXX0B3	458	23.7	6.8					266	5	175	2.3				
8/16/2023	XX	LFXXXX0A7	557	6.5	24.9					260	6	200	6.1				
9/8/2023	XX	LFXXXX0C9	468	6.7	26.3					275	4	175	6.4				
9/19/2023	XX	LFXXXX0BD	354	6.6	22.9					258	6	175	5.5				
10/3/2023	XX	LFXXXX08G	373	6.1	24.4					317	1.8		0.3	0.0145			
10/4/2023	XX	LFXXXX0E1	425	6.3	25					282	6	150	7.2				
10/16/2023	XX	LFXXXX0D5	432	6.8	20.3					249	6	180	7.8				
11/7/2023	XX	LFXXXX0FA	447	6.4	21.2					235	5	150	5.6				
11/20/2023	XX	LFXXXX0EE	447	6.6	20					230	6	175	4.4				
12/4/2023	XX	LFXXXX0H8	439	6.6	19.8					252	6	250	2				
12/18/2023	XX	LFXXXX0GC	462	6.8	21.3					187	4	175	11.7				
1/2/2024	XX	LFXXXX0I8	542	6.8	18.9					244	5	175	2				
1/15/2024	XX	LFXXXX0J4	565	6.6	18.8					171	5	250	7.5				
2/6/2024	XX	LFXXXX10D	560	6.7	19.6					277	6	200	4.2				
2/19/2024	XX	LFXXXX0JH	690	6.5	20.9					247	6	200	6.6				
3/7/2024	XX	LFXXXX16E	484	6.6	19.6					248	5	175	6.8				
3/19/2024	XX	LFXXXX15I	512	6.8	20.4					229	6	175	4.5				
4/2/2024	XX	LFXXXX154	528	6.3	24.1					292	2.1		0.2	0.0147			
4/4/2024	XX	LFXXXX17H	582	6.7	19.2					253	5	200	1.7				
4/15/2024	XX	LFXXXX18D	535	6.9	20.8					211	5	200	9				
5/1/2024	XX	LFXXXX198	550	6.4	23.1					228	5	190	5.4				
5/17/2024	XX	LFXXXX1A4	460	6.8	24.9					283	5	175	15				
6/4/2024	XX	LFXXXX1AH	470	6.6	24.3					314	5	175	2.6				
6/17/2024	XX	LFXXXX1BF	487	6.6	22.9					278	5	150	5.6				
7/2/2024	XX	LFXXXX22C	459	6.5	19.8					262	5	125	7.2				
7/15/2024	XX	LFXXXX238	566	6.5	21.4					272	5	125	4	0.0147			
7/16/2024	XX	LFXXXX1FJ	545	6.1	23.9					310	1.1		0.2	0.0082			
7/17/2024	XX	LFXXXX1H7	153	6.1	25.4					714	3.7		0.2	0.008			
7/31/2024	XX	LFXXXX23M	499	6.6	19.7					275	5	125	4.4				
8/14/2024	XX	LFXXXX242	530	6.4	21.2					364	5	100	3.7	0.0105			
8/28/2024	XX	LFXXXX24I	556	6.3	20.4					347	3	150	2.1	0.0102			
9/9/2024	XX	LFXXXX25C	527	6.6	20.4					265	4	113	2.2				
9/27/2024	XX	LFXXXX268	568	6.5	22.5					279	4	175	0.8	0.0107			
10/8/2024	XX	LFXXXX21H	535	6.1	22.2					249	6.3		0.5	0.0107			
10/11/2024	XX	LFXXXX271	626	6.5	20.6					266	3	125	1.6	0.0111			
10/22/2024	XX	LFXXXX27H	597	6.6	22.7					219	3	150	0.4	0.0109			
11/8/2024	XX	LFXXXX28I	583	6.5	20.6					236	3	125	0.7	0.0109			
11/20/2024	XX	LFXXXX29E	577	6.6	20.8					267	4	125	0.7	0.0111			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-13) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
12/4/2024	XX	LFXXXX2A7	550	6.8	23.2					338	6	100	0.1 U	0.0111			
12/16/2024	XX	LFXXXX2B3	463	6.7	20.8					331	5	125	1.6	0.0109			
LF-LD-14																	
7/26/2022	XX	LFXXXXFHF	397	7	22.2					288	6	200	2.1				
8/8/2022	XX	LFXXXXG4H	419	7.3	18.9					268	6	225	5.5				
8/22/2022	XX	LFXXXXG58	436	7.1	19					294	5	250	5.2				
9/2/2022	XX	LFXXXXG6F	477	7	19.6					183	5	200	18.3				
9/15/2022	XX	LFXXXXG6A	483	7	20.1					187	6	200	15.8				
10/4/2022	XX	LFXXXXG29	407	6.8	14.3					308	3.1		2.6				
10/6/2022	XX	LFXXXXG9H	319	6.5	19.3					294	6	200	11.8				
10/24/2022	XX	LFXXXXG9C	470	7.1	19.5					252	6	225	14				
11/4/2022	XX	LFXXXXGB3	472	6.6	17.2					274	6	275	2.8				
11/21/2022	XX	LFXXXXGB8	466	7	18.1					298	5	200	4.7				
12/5/2022	XX	LFXXXXGD8	469	6.7	15.8					277	6	275	2.7				
12/26/2022	XX	LFXXXXGDD	471	7.1	16.1					300	6	200	4.5				
1/4/2023	XX	LFXXXXGF0	491	6.9	16					335	6	250	20.9				
1/19/2023	XX	LFXXXXGF5	496	7.3	17.2					377	6	225	19.3				
2/1/2023	XX	LFXXXXGGB	508	7.4	16.7					350	6	150	18.8				
2/15/2023	XX	LFXXXXGGG	526	7.3	19.6					336	6	250	14.3				
3/1/2023	XX	LFXXXXH3F	519	7.4	17.6					399	6	200	14.5				
3/15/2023	XX	LFXXXXH40	515	7.4	19.3					313	6	225	10.7				
4/3/2023	XX	LFXXXXH5B	548	7.4	19.2					346	6	250	16.5				
4/12/2023	XX	LFXXXXH56	557	7.3	20.8					297	6	250	14.3				
4/18/2023	XX	LFXXXXH1F	448	6.9	15.1					265	4.1		0.5	0.0045			
5/3/2023	XX	LFXXXXH77	535	7.3	20.9					282	6	300	16.8				
5/16/2023	XX	LFXXXXH73	622	7	21.2					309	6	250	8.8				
6/6/2023	XX	LFXXXX036	590	7.3	21.6					238	6	250	21.6				
6/20/2023	XX	LFXXXX03A	569	7.3	21.4					245	6	250	11.9				
7/6/2023	XX	LFXXXX04F	633	7.1	27.6					254	6	200	7.4				
7/11/2023	XX	LFXXXX01G	565	6.5	22.6					308	1.8		0.8	0.0143			
7/18/2023	XX	LFXXXX04B	670	7	25.6					239	5	400	5.4				
8/1/2023	XX	LFXXXX0BB	648	7	23.9					213	6	350	7.7				
8/16/2023	XX	LFXXXX0B7	803	6.7	24.4					192	5	300	12.1				
9/8/2023	XX	LFXXXX0CD	714	7	26.8					173	5	350	15.4				
9/19/2023	XX	LFXXXX0CH	619	6.9	23.7					204	5	300	7.9				
10/3/2023	XX	LFXXXX08I	699	6.5	22.8					294	2.3		0.2	0.0147			
10/4/2023	XX	LFXXXX0E5	716	6.7	25.4					137	5	350	44.6				
10/16/2023	XX	LFXXXX0E9	708	7.1	20.4					182	5	350	17.3				
11/7/2023	XX	LFXXXX0FI	636	6.6	22.1					215	5	350	6.5				
11/20/2023	XX	LFXXXX0FE	651	6.7	20.4					206	6	300	6.2				
12/4/2023	XX	LFXXXX0HC	647	6.8	19.6					225	6	350	4.7				
12/18/2023	XX	LFXXXX0HG	724	6.9	20.9					201	5	400	7				
1/2/2024	XX	LFXXXX0J8	723	6.9	19.4					178	5	350	12.9				
1/15/2024	XX	LFXXXX0JC	763	6.7	17.9					182	5	400	3.8				
2/6/2024	XX	LFXXXX10H	798	7	18.3					207	5	400	10.1				
2/19/2024	XX	LFXXXX111	1009	6.7	19.7					174	5	350	24.2				
3/7/2024	XX	LFXXXX172	465	6.7	19					209	6	250	11.2				
3/19/2024	XX	LFXXXX16I	718	6.9	20.6					198	6	350	9.1				
4/2/2024	XX	LFXXXX156	673	6.7	20.2					307	4.2		0.3	0.0022			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-14) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/4/2024	XX	LFXXXX18H	769	6.9	18.6					197	5	350	19.3				
4/15/2024	XX	LFXXXX191	756	7.1	20.4					204	5	350	12.8				
5/1/2024	XX	LFXXXX1A8	892	6.9	22.3					188	6	400	13.3				
5/17/2024	XX	LFXXXX1AC	700	6.9	25.4					289	6	350	0.8				
6/4/2024	XX	LFXXXX1BJ	703	6.9	24.3					313	5	200	2.7				
6/17/2024	XX	LFXXXX1C3	705	6.8	22.6					283	5	250	24.2				
7/2/2024	XX	LFXXXX23C	648	6.7	19.9					232	5	250	24.5				
7/15/2024	XX	LFXXXX23G	763	6.6	21.4					236	5	225	2.7	0.0038			
7/16/2024	XX	LFXXXX1GE	761	6.5	24.5					302	3		0.2	0.0036			
7/31/2024	XX	LFXXXX23N	772	6.8	19.8					263	5	250	32.1				
8/14/2024	XX	LFXXXX252	787	6.6	21.2					345	5	200	25	0.0036			
8/28/2024	XX	LFXXXX256	779	6.6	20.5					335	5	200	21.9	0.0129			
9/9/2024	XX	LFXXXX26C	854	6.9	20.5					256	4	225	20.9	0.01			
9/27/2024	XX	LFXXXX26G	777	6.8	22.1					223	5	175	6.2	0.0105			
10/8/2024	XX	LFXXXX21J	741	6.4	20.6					283	6.4		0.4	0.0102			
10/11/2024	XX	LFXXXX281	836	6.8	20.9					230	4	150	7.6	0.0102			
10/22/2024	XX	LFXXXX285	826	6.9	21.7					166	4	250	31.5	0.105			
11/12/2024	XX	LFXXXX29I	780	6.9	18.3					187	4	200	26.5	0.0096			
11/20/2024	XX	LFXXXX2A2	815	6.9	20.9					278	5	225	28.3	0.0102			
12/4/2024	XX	LFXXXX2B7	735	6.9	22.8					345	6	175	8	0.01			
12/16/2024	XX	LFXXXX2BB	731	6.9	20.6					219	5	225	93.9	0.0094			
LF-LD-15																	
7/18/2023	XX	LFXXXX04G	307	7.8	25.3					335	5	150	11.8				
9/27/2023	XX	LFXXXX0CI	605	7.5	20.6					353	6	160	22.9				
10/3/2023	XX	LFXXXX0A3	384	7	18.7					260	4.2		0.4	0.0145			
10/4/2023	XX	LFXXXX0EA	761	7.5	23.9					87	5	175	12.8				
10/16/2023	XX	LDXXXX0ED	398	7.7	18.9					223	6	175	11.5				
11/7/2023	XX	LFXXXX0FJ	580	7.5	20.6					63	5	200	5.4				
11/20/2023	XX	LFXXXX0G3	460	7.5	18.8					201	6	225	9				
12/4/2023	XX	LFXXXX0HH	464	7.5	18.6					209	6	250	4.4				
12/18/2023	XX	LFXXXX0I0	510	7.4	19.7					239	6	250	8.1				
1/2/2024	XX	LFXXXX0JD	504	7.5	17.8					180	6	250	5.1				
1/15/2024	XX	LFXXXX0JG	336	7.3	15.9					172	6	250	2.3				
2/6/2024	XX	LFXXXX115	581	7.6	16.6					259	5	350	4.6				
2/19/2024	XX	LFXXXX112	738	7.4	15.6					191	6	350	7.7				
3/7/2024	XX	LFXXXX176	495	7.1	17.3					175	5	225	5.7				
3/19/2024	XX	LFXXXX173	591	7.2	16.7					235	6	250	2				
4/2/2024	XX	LFXXXX15H	557	6.9	14.5					291	4.8		0.1	0.0022			
4/4/2024	XX	LFXXXX192	613	7.3	15.7					220	6	250	7				
4/15/2024	XX	LFXXXX195	604	7.3	16.9					141	5	250	4.6				
5/1/2024	XX	LFXXXX1AD	657	7.2	19.7					212	6	350	5				
5/17/2024	XX	LFXXXX1AG	529	7.3	24.9					288	6	250	0.3				
6/4/2024	XX	LFXXXX1C4	714	6.5	24.7					321	4	350	0.4				
6/17/2024	XX	LFXXXX1C7	788	6.3	22.6					292	4	350	1.1				
7/2/2024	XX	LFXXXX23H	759	6.3	20.1					262	4	250	0.4				
7/15/2024	XX	LFXXXX241	921	6.3	21.4					276	5	250	0.8	0.0149			
7/16/2024	XX	LFXXXX1H2	925	6.1	18.7					373	7.6		0.3	0.0022			
7/31/2024	XX	LFXXXX23P	894	6.6	20.2					278	5	225	7.5				
8/14/2024	XX	LFXXXX257	872	6.7	21.2					348	5	175	1.9	0.0149			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-15) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
8/28/2024	XX	LFXXXX25A	863	6.7	20.6					329	5	200	0.9	0.0149			
9/9/2024	XX	LFXXXX26H	901	7.1	20.3					274	6	250	1.5	0.015			
9/27/2024	XX	LFXXXX270	915	6.7	21.7					113	4	225	4.6	0.0149			
10/8/2024	XX	LFXXXX227	851	6.2	15.6					494	6.4		0.4	0.0149			
10/11/2024	XX	LFXXXX286	981	6.7	20.1					114	5	150	3.8	0.0149			
10/22/2024	XX	LFXXXX289	927	6.8	20.9					117	4	175	2.3				
11/8/2024	XX	LFXXXX2A3	924	6.8	19.4					104	4	150	3.4	0.0149			
11/20/2024	XX	LFXXXX2A6	871	6.9	20.8					118	3	200	11.3	0.0149			
12/4/2024	XX	LFXXXX2BC	878	7.1	22.6					295	5	200	9.9	0.0149			
12/16/2024	XX	LFXXXX2BF	773	7	20.6					266	4	175	3.1	0.01493			
LF-UD-1																	
2/3/2015	XX	LFUD1X76H	329	7.9	13.8					384	5.5	140	0.46	0.0006			
2/21/2015	XX	LFUD1X778	267	7.6	17.9					377	5.5	150	0.3	0.0003			
3/28/2015	XX	LFUD1X7A6	339	6.9	13.4					404	5.5	160	0.4	0.0003			
4/16/2015	XX	LFUD1X7AJ	306	7.1	17.6					384	7	150	0.83	0.0006			
4/28/2015	XX	LFUD1X792	401	7.4	16.6					300	6.1		1.8	0.0022			
5/22/2015	XX	LFUD1X7F4	197	7.4	18.8					373	8	150	0.5	0.0002			
6/22/2015	XX	LFUD1X7EC	333	7.8	23.2					326	9	165	0.4	0.0002			
7/14/2015	XX	LFUD1X7CE	411	6.9	20.7					313	4.5		0.5	0.002			
7/23/2015	XX	LFUD1X7FG	330	7.4	23.3					367	6	135	0.7	0.0002			
8/24/2015	XX	LFUD1X7G8	354	7.1	21.1					364	8	195	0.5	0.0001			
9/26/2015	XX	LFUD1X801	425	7.3	21.3					365	7	200	0.1	F14			
10/27/2015	XX	LFUD1X7I3	F6	F6	F6					F6	F6		F6	F6			
10/31/2015	XX	LFUD1X80D	378	8.1	16.1					339	8	170	0.6	0.0002			
11/27/2015	XX	LFUD1X815	326	6.8	15.2					376	9	185	0.2	0.0002			
12/30/2015	XX	LFUD1X81I	332	7.2	11.2					362	9	180	0.7	0.0002			
1/14/2016	XX	LFUD1X82A	347	6.9	9.2					338	7	180	1.2	0.0002			
2/18/2016	XX	LFUD1X882	338	8	10.6					357	8	170	0.1	0.0003			
3/17/2016	XX	LFUD1X88E	341	6.8	13.3					342	9	180	0.7	0.0003			
4/5/2016	XX	LFUD1X86D	404	8.1	15.1					342	6.7		0.8	0.0022			
4/21/2016	XX	LFUD1X896	344	6.8	15.8					297	8	145	0.5	0.0004			
5/26/2016	XX	LFUD1X8CC	341	7.6	17.7					309	8	175	0.2	0.0002			
6/27/2016	XX	LFUD1X8DG	382	6.7	20.6					433	8	175	0.9	0.0007			
7/20/2016	XX	LFUD1X8F0	330	7.1	22.1					328	7	175	0.4	0.00006			
7/26/2016	XX	LFUD1X8B3	I	I	I					I	I		I	I			
8/29/2016	XX	LFUD1X90B	F6	F6	F6					F6	F6		F6	F6			
9/23/2016	XX	LFUD1X93A	F6	F6	F6					F6	F6		F6	F6			
10/25/2016	XX	LFUD1X8J2	F6	F6	F6					F6	F6		F6	F6			
10/31/2016	XX	LFUD1X944	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFUD1X94J	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2016	XX	LFUD1X95C	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2017	XX	LFUD1X99B	H8	H8	H8					H8	H8	H8	H8	H8			
2/8/2017	XX	LFUD1X9A4	H8	H8	H8					H8	H8	H8	H8	H8			
3/3/2017	XX	LFUD1X9AH	H8	H8	H8					H8	H8	H8	H8	H8			
4/5/2017	XX	LFUD1X98I	H8	H8	H8					H8	H8	H8	H8	H8			
4/18/2017	XX	LFUD1X978	378	7.3	14					322	8.2		0.8	0.0006			
5/25/2017	XX	LFUD1X9BA	342	7.12	16.7					425	8	125	0.2	0.0003			
6/16/2017	XX	LFUD1X9EB	380	7.8	16.4					356	8	195	0.4	0.0003			
7/25/2017	XX	LFUD1X9D6	423	8.1	20					312	5.9		0.5	0.0006			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/31/2017	XX	LFUD1X9F4	H8	H8	H8					H8	H8	H8	H8	H8			
8/31/2017	XX	LFUD1X9IE	479	6.9	20.2					386	7	180	0.3	0.0002			
9/28/2017	XX	LFUD1X9J6	H8	H8	H8					H8	H8	H8	H8	H8			
10/25/2017	XX	LFUD1X9H1	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFUD1X9JI	H8	H8	H8					H8	H8	H8	H8	H8			
11/30/2017	XX	LFUD1XA0A	444	7.3	11.8					401	6	175	0.3	0.00014			
12/27/2017	XX	LFUD1XA13	424	7.2	10.9					422	8	200	0.4	0.0003			
1/19/2018	XX	LFUD1XA49	437	7.8	6.8					408	10	200	0.5	0.00007			
2/22/2018	XX	LFUD1XA52	384	7.2	6					389	10	150	7.6	0.00006			
3/24/2018	XX	LFUD1XA8I	374	7.4	8.4					428	8	145	1.3	0.00007			
4/3/2018	XX	LFUD1XA30	418	7.8	9					472	11		1.1	0.00167			
4/28/2018	XX	LFUD1XA9B	352	8	15.6					370	10	125	0.5	0.00019			
5/11/2018	XX	LFUD1XAA4	378	7.6	14.3					434	7	125	0.1	0.00019			
6/2/2018	XX	LFUD1XAD8	370	8	18.2					363	8	150	1.1	0.00014			
7/2/2018	XX	LFUD1XAI8	397	7.9	20.2					355	7	160	0.9	0.00002			
7/17/2018	XX	LFUD1XAC1	F6	F6	F6					F6	F6	F6	F6	F6			
8/17/2018	XX	LFUD1XAJ3	H8	H8	H8					H8	H8	H8	H8	H8			
9/1/2018	XX	LFUD1XB29	H8	H8	H8					H8	H8	H8	H8	H8			
10/2/2018	XX	LFUD1XB0J	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFUD1XB33	H8	H8	H8					H8	H8	H8	H8	H8			
11/2/2018	XX	LFUD1XB3H	H8	H8	H8					H8	H8	H8	H8	H8			
12/7/2018	XX	LFUD1XB7G	H8	H8	H8					H8	H8	H8	H8				
1/3/2019	XX	LFUD1XB8A	H8	H8	H8					H8	H8	H8	H8				
2/2/2019	XX	LFUD1XB94	H8	H8	H8					H8	H8	H8	H8				
3/2/2019	XX	LFUD1XB9I	H8	H8	H8					H8	H8	H8	H8				
4/5/2019	XX	LFUD1XBAC	H8	H8	H8					H8	H8	H8	H8	H8			
4/23/2019	XX	LFUD1XB5G	354	7	6.9					341	7.6		0.4	0.0006			
5/10/2019	XX	LFUD1XBE4	H8	H8	H8					H8	H8		H8	H8			
6/24/2019	XX	LFUD1XBEI	H8	H8	H8					H8	H8		H8	H8			
7/16/2019	XX	LFUD1XBC8	F6	F6	F6					F6	F6		F6	F6			
7/30/2019	XX	LFUD1XBFC	H8	H8	H8					H8	H8		H8	H8			
8/20/2019	XX	LFUD1XBG6	H8	H8	H8					H8	H8		H8	H8			
9/20/2019	XX	LFUD1XBJJ	H8	H8	H8					H8	H8		H8	H8			
10/14/2019	XX	LFUD1XC0D	H8	H8	H8					H8	H8		H8	H8			
10/29/2019	XX	LFUD1XBI1	F6	F6	F6					F6	F6		F6	F6			
11/27/2019	XX	LFUD1XC17	H8	H8	H8					H8	H8		H8	H8			
12/23/2019	XX	LFUD1XC2H	355	8.4	12.4					352	8	120	0.6	0.0006			
1/17/2020	XX	LFUD1XC3C	H8	H8	H8					H8	H8	H8	H8	H8			
2/4/2020	XX	LFUD1XC47	H8	H8	H8					H8	H8	H8	H8	H8			
3/27/2020	XX	LFUD1XCF4	H8	H8	H8					H8	H8	H8	H8	H8			
4/28/2020	XX	LFUD1XCD8	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFUD1XCFI	H8	H8	H8					H8	H8	H8	H8	H8			
5/27/2020	XX	LFUD1XCJH	H8	H8	H8					H8	H8	H8	H8	H8			
6/28/2020	XX	LFUD1XD0B	H8	H8	H8					H8	H8	H8	H8	H8			
7/11/2020	XX	LFUD1XD15	H8	H8	H8					H8	H8	H8	H8	H8			
7/21/2020	XX	LFUD1XCI1	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFUD1XD53	H8	H8	H8					H8	H8	H8	H8	H8			
9/27/2020	XX	LFUD1XD5J	H8	H8	H8					H8	H8	H8	H8	H8			
10/27/2020	XX	LFUD1XD35	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/31/2020	XX	LFUD1XD6D	H8	H8	H8					H8	H8	H8	H8	H8			
11/29/2020	XX	LFUD1XD77	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2020	XX	LFUD1XD81	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2021	XX	LFUD1XDEF	H8	H8	H8					H8	H8	H8	H8	H8			
2/28/2021	XX	LFUD1XDE1	H2	H2	H2					H2	H2	H2	H2	H2			
3/30/2021	XX	LFUD1XDFD	H8	H8	H8					H8	H8	H8	H8	H8			
4/6/2021	XX	LFUD1XDC7	H8	H8	H8					H8	H8	H8	H8	H8			
4/29/2021	XX	LFUD1XDH9	H8	H8	H8					H8	H8	H8	H8	H8			
5/19/2021	XX	LFUD1XDI3	H8	H8	H8					H8	H8	H8	H8	H8			
6/2/2021	XX	LFUD1XE2E	H8	H8	H8					H8	H8	H8	H8	H8			
7/13/2021	XX	LFUD1XDJJ	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFUD1XE3A	H8	H8	H8					H8	H8	H8	H8	H8			
8/3/2021	XX	LFUD1XEFC	H8	H8	H8					H8	H8	H8	H8	H8			
9/18/2021	XX	LFUD1XEDE	H8	H8	H8					H8	H8	H8	H8	H8			
10/5/2021	XX	LFUD1XE67	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFUD1XEED	H8	H8	H8					H8	H8	H8	H8	H8			
11/20/2021	XX	LFUD1XEHB	H8	H8	H8					H8	H8	H8	H8	H8			
12/18/2021	XX	LFUD1XEID	H8	H8	H8					H8	H8	H8	H8	H8			
1/16/2022	XX	LFUD1XF49	H8	H8	H8					H8	H8	H8	H8	H8			
2/20/2022	XX	LFUD1XF59	H8	H8	H8					H8	H8	H8	H8	H8			
3/20/2022	XX	LFUD1XF69	H8	H8	H8					H8	H8	H8	H8	H8			
4/15/2022	XX	LFUD1XFC0	H8	H8	H8					H8	H8	H8	H8	H8			
4/26/2022	XX	LFUD1XF0J	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFUD1XFD0	H8	H8	H8					H8	H8	H8	H8	H8			
6/7/2022	XX	LFUD1XFEA	H8	H8	H8					H8	H8	H8	H8	H8			
7/19/2022	XX	LFUD1XF8H	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFUD1XFFA	H8	H8	H8					H8	H8	H8	H8	H8			
8/8/2022	XX	LFUD1XG2J	H8	H8	H8					H8	H8	H8	H8	H8			
9/2/2022	XX	LFUD1XG5B	H8	H8	H8					H8	H8	H8	H8	H8			
10/4/2022	XX	LFUD1XFII	D	D	D					D	D		D	F6			
10/6/2022	XX	LFUD1XG8D	H8	H8	H8					H8	H8		H8	H8			
11/4/2022	XX	LFUD1XGA4	H8	H8	H8					H8	H8		H8	H8			
12/5/2022	XX	LFUD1XGC9	H8	H8	H8					H8	H8		H8	H8			
1/4/2023	XX	LFUD1XGE1	H8	H8	H8					H8	H8		H8	H8			
2/1/2023	XX	LFUD1XGFC	H8	H8	H8					H8	H8		H8	H8			
3/1/2023	XX	LFUD1XH2G	H8	H8	H8					H8	H8		H8	H8			
4/3/2023	XX	LFUD1XH47	H8	H8	H8					H8	H8		H8	H8			
4/18/2023	XX	LFUD1XGI9	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFUD1XH66	H8	H8	H8					H8	H8		H8	H8			
6/6/2023	XX	LFUD1X029	H8	H8	H8					H8	H8		H8	H8			
7/11/2023	XX	LFUD1XH8B	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD1X03E	H8	H8	H8					H8	H8		H8	H8			
8/1/2023	XX	LFUD1X0AA	H8	H8	H8					H8	H8		H8	H8			
9/8/2023	XX	LFUD1X0BG	H8	H8	H8					H8	H8		H8	H8			
10/3/2023	XX	LFUD1X05J	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD1X0D8	H8	H8	H8					H8	H8		H8	H8			
11/7/2023	XX	LFUD1X0EH	H8	H8	H8					H8	H8		H8	H8			
12/20/2023	XX	LFUD1X0GF	H8	H8	H8					H8	H8		H8	H8			
1/2/2024	XX	LFUD1X0IB	H8	H8	H8					H8	H8		H8	H8			

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
2/6/2024	XX	LFUD1X100	H8	H8	H8					H8	H8		H8	H8			
3/7/2024	XX	LFUD1X161	H8	H8	H8					H8	H8		H8	H8			
4/2/2024	XX	LFUD1X129	D	D	D					D	D		D	D			
4/3/2024	XX	LFUD1X180	H8	H8	H8					H8	H8		H8	H8			
5/8/2024	XX	LFUD1X19B	H8	H8	H8					H8	H8		H8	H8			
6/5/2024	XX	LFUD1X1B1	H8	H8	H8					H8	H8		H8	H8			
7/15/2024	XX	LFUD1X22F	H2	H2	H2					H2	H2	H2	H2	H2			
7/16/2024	XX	LFUD1X1DB	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LFUD1X245	H8	H8	H8					H8	H8	H8	H8	H8			
9/19/2024	XX	LFUD1X25F	H8	H8	H8					H8	H8		H8	H8			
10/8/2024	XX	LFUD1X1J2	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFUD1X274	H8	H8	H8					H8	H8		H8	H8			
11/12/2024	XX	LFUD1X291	H8	H8	H8					H8	H8		H8	H8			
12/31/2024	XX	LFUD1X2AA	H8	H8	H8					H8	H8		H8	H8			
LF-UD-2																	
2/3/2015	XX	LFUD2X76I	368	8.1	16.1					370	7	160	0	0.0022			
2/21/2015	XX	LFUD2X779	306	7.4	18					376	4	150	0.46	0.0022			
3/28/2015	XX	LFUD2X7A7	397	6.8	15.1					409	5	150	0.29	0.0022			
4/16/2015	XX	LFUD2X7B0	360	7.1	19.2					385	5.5	170	0.84	0.0028			
4/28/2015	XX	LFUD2X793	398	7.1	16.4					340	6.8		1.1	0.0033			
5/22/2015	XX	LFUD2X7F5	314	7.8	20.4					367	9	170	0.5	0.0017			
6/22/2015	XX	LFUD2X7ED	386	8	26.4					284	8	140	0.2	0.0017			
7/14/2015	XX	LFUD2X7CF	397	6.9	21.4					303	4.7		0.3	0.0033			
7/23/2015	XX	LFUD2X7FH	405	7.2	24.8					375	8	175	0.1	0.0006			
8/24/2015	XX	LFUD2X7G9	405	6.9	20.8					372	7	160	0.3	0.0017			
9/26/2015	XX	LFUD2X802	411	7.1	21.8					367	7	200	0.1	0.0017			
10/27/2015	XX	LFUD2X7I4	403	7.5	14.9					303	5.7		0.5	0.0011			
10/31/2015	XX	LFUD2X80E	394	8.2	16.7					335	7	195	0.6	0.002			
11/27/2015	XX	LFUD2X816	414	7	18.1					376	7	190	0.01	0.002			
12/30/2015	XX	LFUD2X81J	386	7.1	14.7					363	8	190	0.2	0.0011			
1/14/2016	XX	LFUD2X82B	406	6.9	11.2					347	6	170	0.01 U	0.0007			
2/18/2016	XX	LFUD2X883	393	8.3	18.3					360	8	178	0.01	0.0011			
3/17/2016	XX	LFUD2X88F	401	6.9	17.6					345	7	173	0.01	0.0015			
4/5/2016	XX	LFUD2X86E	389	8.4	18.8					271	5.6		0.9	0.0045			
4/21/2016	XX	LFUD2X897	392	6.9	21.2					239	7	165	0.6	0.0017			
5/26/2016	XX	LFUD2X8CD	391	7.8	21.2					308	7	180	0.1	0.0011			
6/27/2016	XX	LFUD2X8DH	420	6.8	21.9					554	7	190	0.4	0.0011			
7/20/2016	XX	LFUD2X8F1	423	7	22.6					329	7	200	0.02	0.0011			
7/26/2016	XX	LFUD2X8B4	447	7.4	22.2					291	4.9		0.4	0.0017			
8/29/2016	XX	LFUD2X90C	449	7.02	23.8					332	7		0.5	0.0007			
9/23/2016	XX	LFUD2X93B	446	8.03	19.7					298	9		0.4	0.0006			
10/25/2016	XX	LFUD2X8J3	458	7.8	13.5					275	6.6		0.8	0.0011			
10/31/2016	XX	LFUD2X945	395	8.3	15.1					315	8	100	0.2	0.0006			
11/29/2016	XX	LFUD2X950	205	7.24	11.6					369	8	130	0.6	0.0001			
12/13/2016	XX	LFUD2X95D	206	8.22	6					353	8	125	1.5	0.0002			
1/10/2017	XX	LFUD2X99C	186	7.32	15.6					378	9	135	0.4	0.0003			
2/8/2017	XX	LFUD2X9A5	210	8.03	15.5					354	9	130	0.2	0.0011			
3/3/2017	XX	LFUD2X9AI	158	7.92	15.7					351	8	155	0.7	0.0002			
4/5/2017	XX	LFUD2X98J	213	8.05	18.7					353	7	130	0.4	0.0017			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-2)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/18/2017	XX	LFUD2X979	366	8.1	14.5					314	8		0.5	0.0022			
5/25/2017	XX	LFUD2X9BB	401	7.1	20.4					408	6	150	0.3	0.0017			
6/16/2017	XX	LFUD2X9EC	437	8	18.6					357	7	205	0.3	0.0015			
7/25/2017	XX	LFUD2X9D7	418	8.3	21.7					308	5.7		0.3	0.0022			
7/31/2017	XX	LFUD2X9F5	334	7	23.6					394	6	190	0.3	0.0011			
8/31/2017	XX	LFUD2X9IF	464	7	21.2					402	7	245	0.2	0.0017			
9/28/2017	XX	LFUD2X9J7	463	8.1	20.1					355	6	180	0.5	0.0004			
10/25/2017	XX	LFUD2X9H2	456	7.2	17.6					379	6.9		2.1	0.0006			
10/26/2017	XX	LFUD2X9JJ	499	6.9	18.9					417	5	240	0.8	0.00028			
11/30/2017	XX	LFUD2XA0B	427	7.5	13.4					409	7	180	0.3	0.00056			
12/27/2017	XX	LFUD2XA14	429	6.9	12.4					426	8	200	0.2	0.0006			
1/19/2018	XX	LFUD2XA4A	438	7.9	9					403	8	175	0.9	0.00074			
2/22/2018	XX	LFUD2XA53	299	6.9	8					411	8	115	0.2	0.00056			
3/24/2018	XX	LFUD2XA8J	453	8	10					427	7	150	2.4	0.00028			
4/3/2018	XX	LFUD2XA31	413	7.7	11.6					465	10.2		0.8	0.00446			
4/28/2018	XX	LFUD2XA9C	417	8.1	18.1					371	8	150	0.2	0.00074			
5/11/2018	XX	LFUD2XAA5	446	8	17.6					420	7	130	0.2	0.00074			
6/2/2018	XX	LFUD2XAD9	434	8.1	19.9					365	6	150	0.3	0.00074			
7/2/2018	XX	LFUD2XAI9	480	7.9	22.3					356	6	175	0.5	0.0006			
7/17/2018	XX	LFUD2XAC2	535	8.1	19					451	4.3		0.8	0.00223			
8/17/2018	XX	LFUD2XAJ4	490	7	22.8					342	7	170	0.3	0.0002			
9/1/2018	XX	LFUD2XB2A	451	7.8	20					365	8	150	0.7	0.0002			
10/2/2018	XX	LFUD2XB10	522	7.8	14.7					443	6.1		0.5	0.00056			
10/13/2018	XX	LFUD2XB34	446	6.7	14.9					361	7	175	2.9	0.0002			
11/2/2018	XX	LFUD2XB3I	418	7.2	10.9					357	9	180	1.4	0.0002			
12/7/2018	XX	LFUD2XB7H	315	8.2	8.6					363	6	180	1.11	0.0002			
1/3/2019	XX	LFUD2XB8B	430	6.8	4.4					375	7	135	1.6	0.0003			
2/2/2019	XX	LFUD2XB95	341	7.4	3					402	7	150	5.3	0.0002			
3/2/2019	XX	LFUD2XB9J	362	7.1	5.1					366	6	175	5.7	0.0002			
4/5/2019	XX	LFUD2XBAD	365	7.9	13.9					403	7	150	5.9	0.0001			
4/23/2019	XX	LFUD2XB5H	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFUD2XBE5	307	7	15.1					311	7	175	8.7	0.0002			
6/24/2019	XX	LFUD2XBEJ	380	7.4	18.4					357	8	150	0.4	0.0003			
7/16/2019	XX	LFUD2XBC9	428	8.1	18.4					383	9.5		0.4	0.0011			
7/30/2019	XX	LFUD2XBFD	400	8.2	20.8					334	8	175	0.5	0.0002			
8/20/2019	XX	LFUD2XBG7	353	8.2	25.8					339	6	160	0.3	0.0001			
9/20/2019	XX	LFUD2XC00	409	7.4	21.5					368	6	150	0.6	0.0017			
10/14/2019	XX	LFUD2XC0E	342	8	19.1					339	6	150	0.1	0.0002			
10/29/2019	XX	LFUD2XBI2	386	8.1	12.8					214	8.7		2.2	0.0011			
11/27/2019	XX	LFUD2XC18	303	8.4	20.9					369	8	125	0.8	0.0002			
12/23/2019	XX	LFUD2XC2I	H8	H8	H8					H8	H8	H8	H8	H8			
1/17/2020	XX	LFUD2XC3D	339	8.5	11.6					382	10	160	2.3	0.0003			
2/4/2020	XX	LFUD2XC48	369	8	13.2					348	10	150	0.4	0.0002			
3/27/2020	XX	LFUD2XCF5	302	8.1	12					401	6	175	0.4	0.0009			
4/28/2020	XX	LFUD2XCD9	439	7.9	7.3					327	7.9		0.5	0.0006			
4/29/2020	XX	LFUD2XCFJ	354	8.1	19					333	6	160	0.1	0.0001			
5/27/2020	XX	LFUD2XCJI	400	7.1	18.8					349	6	175	0.3	0.0001			
6/28/2020	XX	LFUD2XD0C	347	7.8	22.1					316	5	160	0.2	0.0001			
7/11/2020	XX	LFUD2XD16	363	7.3	21.4					357	6	200	1.1	0.0001			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-2)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/21/2020	XX	LFUD2XCI2	429	7.5	17.8					299	8.2		0.8	0.0006			
8/3/2020	XX	LFUD2XD54	399	8	22.3					344	8	200	0.3	0.0001			
9/27/2020	XX	LFUD2XD60	355	8	18.7					406	6	250	1.1	0.00002			
10/27/2020	XX	LFUD2XD36	403	7.3	12					389	7.7		0.4				
10/31/2020	XX	LFUD2XD6E	H8	H8	H8					H8	H8		H8				
11/29/2020	XX	LFUD2XD78	H8	H8	H8					H8	H8		H8				
12/13/2020	XX	LFUD2XD82	H8	H8	H8					H8	H8		H8				
1/10/2021	XX	LFUD2XDEG	H8	H8	H8					H8	H8	H8	H8	H8			
2/28/2021	XX	LFUD2XDE2	H2	H2	H2					H2	H2	H2	H2	H2			
3/30/2021	XX	LFUD2XDFE	H8	H8	H8					H8	H8	H8	H8	H8			
4/6/2021	XX	LFUD2XDC8	H8	H8	H8					H8	H8	H8	H8	H8			
4/29/2021	XX	LFUD2XDHA	H8	H8	H8					H8	H8	H8	H8	H8			
6/2/2021	XX	LFUD2XE2F	H8	H8	H8					H8	H8	H8	H8	H8			
7/13/2021	XX	LFUD2XE00	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFUD2XE3B	H8	H8	H8					H8	H8	H8	H8	H8			
8/3/2021	XX	LFUD2XEFD	H8	H8	H8					H8	H8	H8	H8	H8			
9/18/2021	XX	LFUD2XEDF	H8	H8	H8					H8	H8	H8	H8	H8			
10/5/2021	XX	LFUD2XE68	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFUD2XEEE	H8	H8	H8					H8	H8	H8	H8	H8			
11/20/2021	XX	LFUD2XEHC	H8	H8	H8					H8	H8	H8	H8	H8			
12/18/2021	XX	LFUD2XEIE	H8	H8	H8					H8	H8	H8	H8	H8			
1/16/2022	XX	LFUD2XF4A	H8	H8	H8					H8	H8	H8	H8	H8			
2/20/2022	XX	LFUD2XF5A	H8	H8	H8					H8	H8	H8	H8	H8			
3/20/2022	XX	LFUD2XF6A	H8	H8	H8					H8	H8	H8	H8	H8			
4/15/2022	XX	LFUD2XFC1	H8	H8	H8					H8	H8	H8	H8	H8			
4/26/2022	XX	LFUD2XF10	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFUD2XFD1	H8	H8	H8					H8	H8	H8	H8	H8			
6/7/2022	XX	LFUD2XFEB	H8	H8	H8					H8	H8	H8	H8	H8			
7/19/2022	XX	LFUD2XF8I	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFUD2XFFB	H8	H8	H8					H8	H8	H8	H8	H8			
8/8/2022	XX	LFUD2XG30	H8	H8	H8					H8	H8	H8	H8	H8			
9/2/2022	XX	LFUD2XG5C	H8	H8	H8					H8	H8	H8	H8	H8			
10/4/2022	XX	LFUD2XFIJ	D	D	D					D	D		D	F6			
10/6/2022	XX	LFUD2XG8E	H8	H8	H8					H8	H8		H8	H8			
11/4/2022	XX	LFUD2XGA5	H8	H8	H8					H8	H8		H8	H8			
12/5/2022	XX	LFUD2XGCA	H8	H8	H8					H8	H8		H8	H8			
1/4/2023	XX	LFUD2XGE2	H8	H8	H8					H8	H8		H8	H8			
2/1/2023	XX	LFUD2XGFD	H8	H8	H8					H8	H8		H8	H8			
3/1/2023	XX	LFUD2XH2H	H8	H8	H8					H8	H8		H8	H8			
4/3/2023	XX	LFUD2XH48	H8	H8	H8					H8	H8		H8	H8			
4/18/2023	XX	LFUD2XGIA	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFUD2XH67	H8	H8	H8					H8	H8		H8	H8			
6/6/2023	XX	LFUD2X02A	H8	H8	H8					H8	H8		H8	H8			
7/11/2023	XX	LFUD2XH8C	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD2X03F	H8	H8	H8					H8	H8		H8	H8			
8/1/2023	XX	LFUD2X0AB	H8	H8	H8					H8	H8		H8	H8			
9/8/2023	XX	LFUD2X0BH	H8	H8	H8					H8	H8		H8	H8			
10/3/2023	XX	LFUD2X060	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD2X0D9	H8	H8	H8					H8	H8		H8	H8			

DATA SUMMARY TABLE

Field Parameters

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-2)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
11/7/2023	XX	LFUD2X0EI	H8	H8	H8					H8	H8		H8	H8			
12/20/2023	XX	LFUD2X0GG	H8	H8	H8					H8	H8		H8	H8			
1/2/2024	XX	LFUD2X0IC	H8	H8	H8					H8	H8		H8	H8			
2/6/2024	XX	LFUD2X101	H8	H8	H8					H8	H8		H8	H8			
3/7/2024	XX	LFUD2X162	H8	H8	H8					H8	H8		H8	H8			
4/2/2024	XX	LFUD2X12A	D	D	D					D	D		D	D			
4/3/2024	XX	LFUD2X181	H8	H8	H8					H8	H8		H8	H8			
5/8/2024	XX	LFUD2X19C	H8	H8	H8					H8	H8		H8	H8			
6/5/2024	XX	LFUD2X1B2	H8	H8	H8					H8	H8		H8	H8			
7/15/2024	XX	LFUD2X22G	H2	H2	H2					H2	H2	H2	H2	H2			
7/16/2024	XX	LFUD2X1DC	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LFUD2X246	H2	H2	H2					H2	H2	H2	H2	H2			
9/19/2024	XX	LFUD2X25G	H8	H8	H8					H8	H8		H8	H8			
10/8/2024	XX	LFUD2X1J3	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFUD2X275	H8	H8	H8					H8	H8		H8	H8			
11/12/2024	XX	LFUD2X292	H8	H8	H8					H8	H8		H8	H8			
12/31/2024	XX	LFUD2X2AB	H8	H8	H8					H8	H8		H8	H8			
LF-UD-3A,B																	
2/3/2015	XX	LFXXXX771	H8	H8	H8					H8	H8	H8	H8				
2/21/2015	XX	LFXXXX77C	H8	H8	H8					H8	H8	H8	H8				
3/28/2015	XX	LFXXXX7AA	H8	H8	H8					H8	H8	H8	H8				
4/16/2015	XX	LFXXXX7B3	F6	F6	F6					F6	F6	F6	F6				
4/28/2015	XX	LFXXXX79G	F6	F6	F6					F6	F6	F6	F6				
5/22/2015	XX	LFXXXX7F8	F6	F6	F6					F6	F6	F6	F6				
6/22/2015	XX	LFXXXX7EG	F6	F6	F6					F6	F6	F6	F6				
7/14/2015	XX	LFXXXX7D8	F6	F6	F6					F6	F6	F6	F6				
7/23/2015	XX	LFXXXX7G0	F12	F12	F12					F12	F12	F12	F12				
8/24/2015	XX	LFXXXX7GC	F12	F12	F12					F12	F12	F12	F12				
9/26/2015	XX	LFXXXX805	H8	H8	H8					H8	H8	H8	H8				
10/27/2015	XX	LFXXXX7IF	F6	F6	F6					F6	F6	F6	F6				
10/31/2015	XX	LFXXXX80H	F6	F6	F6					F6	F6	F6	F6				
11/27/2015	XX	LFXXXX819	F6	F6	F6					F6	F6	F6	F6				
12/30/2015	XX	LFXXXX822	F6	F6	F6					F6	F6	F6	F6				
1/14/2016	XX	LFXXXX82E	F6	F6	F6					F6	F6	F6	F6				
2/18/2016	XX	LFXXXX886	F6	F6	F6					F6	F6	F6	F6				
3/17/2016	XX	LFXXXX88I	F6	F6	F6					F6	F6	F6	F6				
4/5/2016	XX	LFXXXX877	F6	F6	F6					F6	F6	F6	F6	F6			
4/21/2016	XX	LFXXXX89A	F6	F6	F6					F6	F6	F6	F6				
5/26/2016	XX	LFXXXX8CG	F6	F6	F6					F6	F6	F6	F6				
6/27/2016	XX	LFXXXX8E0	F6	F6	F6					F6	F6	F6	F6				
7/20/2016	XX	LFXXXX8F4	F6	F6	F6					F6	F6	F6	F6				
7/26/2016	XX	LFXXXX8BH	F6	F6	F6					F6	F6		F6	F6			
8/29/2016	XX	LFXXXX90F	F6	F6	F6					F6	F6		F6	F6			
9/23/2016	XX	LFXXXX93E	F6	F6	F6					F6	F6		F6	F6			
10/25/2016	XX	LFXXXX8JF	F6	F6	F6					F6	F6		F6	F6			
10/31/2016	XX	LFXXXX948	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFXXXX953	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2016	XX	LFXXXX95G	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2017	XX	LFXXXX99F	H8	H8	H8					H8	H8	H8	H8	H8			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-3A,B)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
2/8/2017	XX	LFXXXX9A8	H8	H8	H8					H8	H8	H8	H8	H8			
3/3/2017	XX	LFXXXX9B1	H8	H8	H8					H8	H8	H8	H8	H8			
4/5/2017	XX	LFXXXX992	H8	H8	H8					H8	H8	H8	H8	H8			
4/18/2017	XX	LFXXXX982	F6	F6	F6					F6	F6		F6	F6			
5/25/2017	XX	LFXXXX9BE	F6	F6	F6					F6	F6	F6	F6	F6			
6/16/2017	XX	LFXXXX9EF	F6	F6	F6					F6	F6	F6	F6	F6			
7/25/2017	XX	LFXXXX9DJ	F6	F6	F6					F6	F6	F6	F6	F6			
7/31/2017	XX	LFXXXX9F8	H8	H8	H8					H8	H8	H8	H8	H8			
8/31/2017	XX	LFXXXX9II	F6	F6	F6					F6	F6	F6	F6	F6			
9/28/2017	XX	LFXXXX9JA	H8	H8	H8					H8	H8	H8	H8	H8			
10/25/2017	XX	LFXXXX9HE	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFXXXXA02	H8	H8	H8					H8	H8	H8	H8	H8			
11/30/2017	XX	LFXXXXA0E	F6	F6	F6					F6	F6	F6	F6	F6			
12/27/2017	XX	LFXXXXA17	F6	F6	F6					F6	F6	F6	F6	F6			
1/19/2018	XX	LFXXXXA4D	F6	F6	F6					F6	F6	F6	F6	F6			
2/22/2018	XX	LFXXXXA56	F6	F6	F6					F6	F6	F6	F6	F6			
3/24/2018	XX	LFXXXXA92	F6	F6	F6					F6	F6	F6	F6	F6			
4/3/2018	XX	LFXXXXA3E	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2018	XX	LFXXXXA9F	H8	H8	H8					H8	H8	H8	H8	H8			
5/11/2018	XX	LFXXXXAA8	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2018	XX	LFXXXXADC	H8	H8	H8					H8	H8	H8	H8	H8			
7/2/2018	XX	LFXXXXAIC	H8	H8	H8					H8	H8	H8	H8	H8			
7/17/2018	XX	LFXXXXACE	F6	F6	F6					F6	F6	F6	F6	F6			
8/17/2018	XX	LFXXXXAJ7	H8	H8	H8					H8	H8	H8	H8	H8			
9/1/2018	XX	LFXXXXB2D	H8	H8	H8					H8	H8	H8	H8	H8			
10/2/2018	XX	LFXXXXB1C	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFXXXXB37	H8	H8	H8					H8	H8	H8	H8	H8			
11/2/2018	XX	LFXXXXB41	H8	H8	H8					H8	H8	H8	H8	H8			
12/7/2018	XX	LFXXXXB80	H8	H8	H8					H8	H8	H8	H8				
1/3/2019	XX	LFXXXXB8E	H8	H8	H8					H8	H8	H8	H8				
2/2/2019	XX	LFXXXXB98	H8	H8	H8					H8	H8	H8	H8				
3/2/2019	XX	LFXXXXBA2	H8	H8	H8					H8	H8	H8	H8				
4/5/2019	XX	LFXXXXBAG	H8	H8	H8					H8	H8	H8	H8				
4/23/2019	XX	LFXXXXB6A	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFXXXXBE8	H8	H8	H8					H8	H8	H8	H8	H8			
6/24/2019	XX	LFXXXXBF2	H8	H8	H8					H8	H8	H8	H8	H8			
7/16/2019	XX	LFXXXXBD1	F6	F6	F6					F6	F6	F6	F6	F6			
7/30/2019	XX	LFXXXXBFG	H8	H8	H8					H8	H8	H8	H8	H8			
8/20/2019	XX	LFXXXXBGA	H8	H8	H8					H8	H8	H8	H8	H8			
9/20/2019	XX	LFXXXXC03	H8	H8	H8					H8	H8	H8	H8	H8			
10/14/2019	XX	LFXXXXC0H	H8	H8	H8					H8	H8	H8	H8	H8			
10/29/2019	XX	LFXXXXBID	F6	F6	F6					F6	F6	F6	F6	F6			
11/27/2019	XX	LFXXXXC1B	H8	H8	H8					H8	H8	H8	H8	H8			
12/23/2019	XX	LFXXXXC31	H8	H8	H8					H8	H8	H8	H8	H8			
1/17/2020	XX	LFXXXXC3G	H8	H8	H8					H8	H8	H8	H8	H8			
2/4/2020	XX	LFXXXXC4B	H8	H8	H8					H8	H8	H8	H8	H8			
3/27/2020	XX	LFXXXXCF8	H8	H8	H8					H8	H8	H8	H8	H8			
4/28/2020	XX	LFXXXXCE1	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFXXXXCG2	H8	H8	H8					H8	H8	H8	H8	H8			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-3A,B)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
5/27/2020	XX	LFXXXXD01	H8	H8	H8					H8	H8	H8	H8	H8			
6/28/2020	XX	LFXXXXD0F	H8	H8	H8					H8	H8	H8	H8	H8			
7/11/2020	XX	LFXXXXD19	H8	H8	H8					H8	H8	H8	H8	H8			
7/21/2020	XX	LFXXXXCIE	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFXXXXD57	H8	H8	H8					H8	H8	H8	H8	H8			
9/27/2020	XX	LFXXXXD63	H8	H8	H8					H8	H8	H8	H8	H8			
10/27/2020	XX	LFXXXXD3H	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2020	XX	LFXXXXD6H	H8	H8	H8					H8	H8	H8	H8	H8			
11/29/2020	XX	LFXXXXD7B	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2020	XX	LFXXXXD85	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2021	XX	LFXXXXDEJ	H8	H8	H8					H8	H8	H8	H8	H8			
2/28/2021	XX	LFXXXXDE5	H2	H2	H2					H2	H2	H2	H2	H2			
3/30/2021	XX	LFXXXXDFH	H8	H8	H8					H8	H8	H8	H8	H8			
4/6/2021	XX	LFXXXXDD0	H8	H8	H8					H8	H8	H8	H8	H8			
4/29/2021	XX	LFXXXXDHD	H8	H8	H8					H8	H8	H8	H8	H8			
5/19/2021	XX	LFXXXXDI7	H8	H8	H8					H8	H8	H8	H8	H8			
6/2/2021	XX	LFXXXXE2I	H8	H8	H8					H8	H8	H8	H8	H8			
7/13/2021	XX	LFXXXXE0C	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFXXXXE3E	H8	H8	H8					H8	H8	H8	H8	H8			
8/3/2021	XX	LFXXXXEFG	H8	H8	H8					H8	H8	H8	H8	H8			
9/18/2021	XX	LFXXXXEDI	H8	H8	H8					H8	H8	H8	H8	H8			
10/5/2021	XX	LFXXXXE6J	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFXXXXEEH	H8	H8	H8					H8	H8	H8	H8	H8			
11/20/2021	XX	LFXXXXEHF	H8	H8	H8					H8	H8	H8	H8	H8			
12/18/2021	XX	LFXXXXEIH	H8	H8	H8					H8	H8	H8	H8	H8			
1/16/2022	XX	LFXXXXF4D	H8	H8	H8					H8	H8	H8	H8	H8			
2/20/2022	XX	LFXXXXF5D	H8	H8	H8					H8	H8	H8	H8	H8			
3/20/2022	XX	LFXXXXF6D	H8	H8	H8					H8	H8	H8	H8	H8			
4/15/2022	XX	LFXXXXFC4	H8	H8	H8					H8	H8	H8	H8	H8			
4/26/2022	XX	LFXXXXF1B	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFXXXXFD4	H8	H8	H8					H8	H8	H8	H8	H8			
6/7/2022	XX	LFXXXXFEE	H8	H8	H8					H8	H8	H8	H8	H8			
7/19/2022	XX	LFXXXXF9A	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFXXXXFFE	H8	H8	H8					H8	H8	H8	H8	H8			
8/8/2022	XX	LFXXXXG33	H8	H8	H8					H8	H8	H8	H8	H8			
9/2/2022	XX	LFXXXXG5F	H8	H8	H8					H8	H8	H8	H8	H8			
10/4/2022	XX	LFXXXXFJA	D	D	D					D	D		D	F6			
10/6/2022	XX	LFXXXXG8H	H8	H8	H8					H8	H8		H8	H8			
11/4/2022	XX	LFXXXXGA8	H8	H8	H8					H8	H8		H8	H8			
12/5/2022	XX	LFXXXXGCD	H8	H8	H8					H8	H8		H8	H8			
1/4/2023	XX	LFXXXXGE5	H8	H8	H8					H8	H8		H8	H8			
2/1/2023	XX	LFXXXXGFG	H8	H8	H8					H8	H8		H8	H8			
3/1/2023	XX	LFXXXXH30	H8	H8	H8					H8	H8		H8	H8			
4/3/2023	XX	LFXXXXH4B	H8	H8	H8					H8	H8		H8	H8			
4/18/2023	XX	LFXXXXGJ1	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFXXXXH6A	H8	H8	H8					H8	H8		H8	H8			
6/6/2023	XX	LFXXXX02D	H8	H8	H8					H8	H8		H8	H8			
7/11/2023	XX	LFXXXXH94	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFXXXX03I	H8	H8	H8					H8	H8		H8	H8			

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-3A,B)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
8/1/2023	XX	LFXXXX0AE	H8	H8	H8					H8	H8		H8	H8			
9/8/2023	XX	LFXXXX0C0	H8	H8	H8					H8	H8		H8	H8			
10/3/2023	XX	LFXXXX06A	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFXXXX0DC	H8	H8	H8					H8	H8		H8	H8			
11/7/2023	XX	LFXXXX0F1	H8	H8	H8					H8	H8		H8	H8			
12/20/2023	XX	LFXXXX0GJ	H8	H8	H8					H8	H8		H8	H8			
1/2/2024	XX	LFXXXX0IF	H8	H8	H8					H8	H8		H8	H8			
2/6/2024	XX	LFXXXX104	H8	H8	H8					H8	H8		H8	H8			
3/7/2024	XX	LFXXXX165	H8	H8	H8					H8	H8		H8	H8			
4/2/2024	XX	LFXXXX12J	D	D	D					D	D		D	D			
4/3/2024	XX	LFXXXX184	H8	H8	H8					H8	H8		H8	H8			
5/8/2024	XX	LFXXXX19F	H8	H8	H8					H8	H8		H8	H8			
6/5/2024	XX	LFXXXX1B6	H8	H8	H8					H8	H8		H8	H8			
7/15/2024	XX	LFXXXX22J	H2	H2	H2					H2	H2	H2	H2	H2			
7/16/2024	XX	LFXXXX1E3	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LFXXXX249	H2	H2	H2					H2	H2	H2	H2	H2			
9/19/2024	XX	LFXXXX25J	H8	H8	H8					H8	H8		H8	H8			
10/8/2024	XX	LFXXXX1JC	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFXXXX278	H8	H8	H8					H8	H8		H8	H8			
11/12/2024	XX	LFXXXX295	H8	H8	H8					H8	H8		H8	H8			
12/31/2024	XX	LFXXXX2AE	H8	H8	H8					H8	H8		H8	H8			
LF-UD-4																	
2/3/2015	XX	LFUD4X772	H8	H8	H8					H8	H8	H8	H8	H8			
2/21/2015	XX	LFUD4X77D	H8	H8	H8					H8	H8	H8	H8	H8			
3/28/2015	XX	LFUD4X7AB	H8	H8	H8					H8	H8	H8	H8	H8			
4/16/2015	XX	LFUD4X7B4	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2015	XX	LFXXXX79H	F6	F6	F6					F6	F6	F6	F6	F6			
5/22/2015	XX	LFUD4X7F9	F6	F6	F6					F6	F6	F6	F6	F6			
6/22/2015	XX	LFUD4X7EH	F6	F6	F6					F6	F6	F6	F6	F6			
7/14/2015	XX	LFXXXX7D9	F6	F6	F6					F6	F6	F6	F6	F6			
7/23/2015	XX	LFUD4X7G1	F12	F12	F12					F12	F12	F12	F12	F12			
8/24/2015	XX	LFUD4X7GD	F12	F12	F12					F12	F12	F12	F12	F12			
9/26/2015	XX	LFUD4X806	H8	H8	H8					H8	H8	H8	H8	H8			
10/27/2015	XX	LFXXXX7IG	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2015	XX	LFUD4X80I	F6	F6	F6					F6	F6	F6	F6	F6			
11/27/2015	XX	LFUD4X81A	F6	F6	F6					F6	F6	F6	F6	F6			
12/30/2015	XX	LFUD4X823	F6	F6	F6					F6	F6	F6	F6	F6			
1/14/2016	XX	LFUD4X82F	F6	F6	F6					F6	F6	F6	F6	F6			
2/18/2016	XX	LFUD4X887	F6	F6	F6					F6	F6	F6	F6	F6			
3/17/2016	XX	LFUD4X88J	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2016	XX	LFXXXX878	F6	F6	F6					F6	F6	F6	F6	F6			
4/21/2016	XX	LFUD4X89B	F6	F6	F6					F6	F6	F6	F6	F6			
5/26/2016	XX	LFUD4X8CH	F6	F6	F6					F6	F6	F6	F6	F6			
6/27/2016	XX	LFUD4X8E1	F6	F6	F6					F6	F6	F6	F6	F6			
7/20/2016	XX	LFUD4X8F5	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LFXXXX8BI	435	7.4	21.2					296	4.9		0.8	0.0011			
8/29/2016	XX	LFUD4X90G	F6	F6	F6					F6	F6		F6	F6			
9/23/2016	XX	LFUD4X93F	F6	F6	F6					F6	F6		F6	F6			
10/25/2016	XX	LFXXXX8JG	464	7.7	14.2					253	7		1	0.0006			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/31/2016	XX	LFUD4X949	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFUD4X954	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2016	XX	LFUD4X95H	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2017	XX	LFUD4X99G	H8	H8	H8					H8	H8	H8	H8	H8			
2/8/2017	XX	LFUD4X9A9	H8	H8	H8					H8	H8	H8	H8	H8			
3/3/2017	XX	LFUD4X9B2	H8	H8	H8					H8	H8	H8	H8	H8			
4/5/2017	XX	LFUD4X993	H8	H8	H8					H8	H8	H8	H8	H8			
4/18/2017	XX	LFXXXX983	371	8.1	13.3					292	8.3		0.8	0.0011			
5/25/2017	XX	LFUD4X9BF	387	7.38	18.5					392	8	175	0.6	0.0009			
6/16/2017	XX	LFUD4X9EG	F6	F6	F6					F6	F6	F6	F6	F6			
7/25/2017	XX	LFXXXX9E0	415	8.2	20.7					283	5.7		0.4	0.0017			
7/31/2017	XX	LFUD4X9F9	H8	H8	H8					H8	H8	H8	H8	H8			
8/31/2017	XX	LFUD4X9IJ	F6	F6	F6					F6	F6	F6	F6	F6			
9/28/2017	XX	LFUD4X9JB	H8	H8	H8					H8	H8	H8	H8	H8			
10/25/2017	XX	LFXXXX9HF	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFUD4XA03	H8	H8	H8					H8	H8	H8	H8	H8			
11/30/2017	XX	LFUD4XA0F	F6	F6	F6					F6	F6	F6	F6	F6			
12/27/2017	XX	LFUD4XA18	F6	F6	F6					F6	F6	F6	F6	F6			
1/19/2018	XX	LFUD4XA4E	F6	F6	F6					F6	F6	F6	F6	F6			
2/22/2018	XX	LFUD4XA57	F6	F6	F6					F6	F6	F6	F6	F6			
3/24/2018	XX	LFUD4XA93	F6	F6	F6					F6	F6	F6	F6	F6			
4/3/2018	XX	LFXXXXA3F	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2018	XX	LFUD4XA9G	H8	H8	H8					H8	H8	H8	H8	H8			
5/11/2018	XX	LFUD4XAA9	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2018	XX	LFUD4XADD	H8	H8	H8					H8	H8	H8	H8	H8			
7/2/2018	XX	LFUD4XAID	H8	H8	H8					H8	H8	H8	H8	H8			
7/17/2018	XX	LFXXXXACF	520	8	19					474	4.2		1.1	0.0011			
8/17/2018	XX	LFUD4XAJ8	H8	H8	H8					H8	H8	H8	H8	H8			
9/1/2018	XX	LFUD4XB2E	H8	H8	H8					H8	H8	H8	H8	H8			
10/2/2018	XX	LFXXXXB1D	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFUD4XB38	H8	H8	H8					H8	H8	H8	H8	H8			
11/2/2018	XX	LFUD4XB42	H8	H8	H8					H8	H8	H8	H8	H8			
12/7/2018	XX	LFUD4XB81	H8	H8	H8					H8	H8	H8	H8				
1/3/2019	XX	LFUD4XB8F	H8	H8	H8					H8	H8	H8	H8				
2/2/2019	XX	LFUD4XB99	H8	H8	H8					H8	H8	H8	H8				
3/2/2019	XX	LFUD4XBA3	H8	H8	H8					H8	H8	H8	H8				
4/5/2019	XX	LFUD4XBAH	H8	H8	H8					H8	H8	H8	H8				
4/23/2019	XX	LFXXXXB6B	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFUD4XBE9	H8	H8	H8					H8	H8	H8	H8	H8			
6/24/2019	XX	LFUD4XBF3	H8	H8	H8					H8	H8	H8	H8	H8			
7/16/2019	XX	LFXXXXBD2	F6	F6	F6					F6	F6	F6	F6	F6			
7/30/2019	XX	LFUD4XBFH	H8	H8	H8					H8	H8	H8	H8	H8			
8/20/2019	XX	LFUD4XBGB	H8	H8	H8					H8	H8	H8	H8	H8			
9/20/2019	XX	LFUD4XC04	H8	H8	H8					H8	H8		H8	H8			
10/14/2019	XX	LFUD4XC0I	H8	H8	H8					H8	H8		H8	H8			
10/29/2019	XX	LFXXXXBIE	383	8.1	13.3					259	10.3		2.6	0.0006			
11/27/2019	XX	LFUD4XC1C	365	8	20.3					377	6	250	0.5	0.0002			
12/23/2019	XX	LFUD4XC32	390	8.1	13.2					353	8	200	0.4	0.0001			
1/17/2020	XX	LFUD4XC3H	H8	H8	H8					H8	H8	H8	H8	H8			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
2/4/2020	XX	LFUD4XC4C	H8	H8	H8					H8	H8	H8	H8	H8			
3/27/2020	XX	LFUD4XCF9	H8	H8	H8					H8	H8	H8	H8	H8			
4/28/2020	XX	LFXXXXCE2	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFUD4XCG3	H8	H8	H8					H8	H8	H8	H8	H8			
5/27/2020	XX	LFUD4XD02	H8	H8	H8					H8	H8	H8	H8	H8			
6/28/2020	XX	LFUD4XD0G	H8	H8	H8					H8	H8	H8	H8	H8			
7/11/2020	XX	LFUD4XD1A	H8	H8	H8					H8	H8	H8	H8	H8			
7/21/2020	XX	LFXXXXCIF	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFUD4XD58	H8	H8	H8					H8	H8	H8	H8	H8			
9/27/2020	XX	LFUD4XD64	H8	H8	H8					H8	H8	H8	H8	H8			
10/27/2020	XX	LFXXXXD3I	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2020	XX	LFUD4XD6I	H8	H8	H8					H8	H8	H8	H8	H8			
11/29/2020	XX	LFUD4XD7C	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2020	XX	LFUD4XD86	H2	H2	H2					H2	H2	H2	H2	H2			
1/10/2021	XX	LFUD4XDF0	H2	H2	H2					H2	H2	H2	H2	H2			
2/28/2021	XX	LFUD4XDE6	H2	H2	H2					H2	H2	H2	H2	H2			
3/30/2021	XX	LFUD4XDFI	H2	H2	H2					H2	H2	H2	H2	H2			
4/6/2021	XX	LFXXXXDD1	H8	H8	H8					H8	H8	H8	H8	H8			
4/29/2021	XX	LFUD4XDHE	H8	H8	H8					H8	H8	H8	H8	H8			
5/19/2021	XX	LFUD4XDI8	H8	H8	H8					H8	H8	H8	H8	H8			
6/2/2021	XX	LFUD4XE2J	H8	H8	H8					H8	H8	H8	H8	H8			
7/13/2021	XX	LFXXXXE0D	340	7.4	15.4					293	5.8		0.5	0.0003			
7/16/2021	XX	LFUD4XE3F	H8	H8	H8					H8	H8	H8	H8	H8			
8/3/2021	XX	LFUD4XEFH	H8	H8	H8					H8	H8		H8	H8			
9/18/2021	XX	LFUD4XEDJ	H8	H8	H8					H8	H8		H8	H8			
10/5/2021	XX	LFXXXXE70	343	7.5	15.9					251	5.4		0.1	0.0006			
10/16/2021	XX	LFUD4XEEI	H8	H8	H8					H8	H8		H8	H8			
11/20/2021	XX	LFUD4XEHG	H8	H8	H8					H8	H8		H8	H8			
12/18/2021	XX	LFUD4XEII	H8	H8	H8					H8	H8		H8	H8			
1/16/2022	XX	LFUD4XF4E	H8	H8	H8					H8	H8		H8	H8			
2/20/2022	XX	LFUD4XF5E	H8	H8	H8					H8	H8		H8	H8			
3/20/2022	XX	LFUD4XF6E	H8	H8	H8					H8	H8		H8	H8			
4/15/2022	XX	LFUD4XFC5	H8	H8	H8					H8	H8		H8	H8			
4/26/2022	XX	LFXXXXF1C	321	7.3	8					265	7.3		0.2	0.0002			
5/10/2022	XX	LFUD4XFD5	H8	H8	H8					H8	H8		H8	H8			
6/7/2022	XX	LFUD4XFEF	H8	H8	H8					H8	H8		H8	H8			
7/19/2022	XX	LFXXXXF9B	D	D	D					D	D		D	D			
7/21/2022	XX	LFUD4XFFF	H8	H8	H8					H8	H8		H8	H8			
8/8/2022	XX	LFUD4XG34	H8	H8	H8					H8	H8		H8	H8			
9/2/2022	XX	LFUD4XG5G	H8	H8	H8					H8	H8		H8	H8			
10/4/2022	XX	LFXXXXFJB	153	7.4	10.4					358	4.4		0.3	0.0006			
10/6/2022	XX	LFUD4XG8I	H8	H8	H8					H8	H8		H8	H8			
11/4/2022	XX	LFUD4XGA9	H8	H8	H8					H8	H8		H8	H8			
12/5/2022	XX	LFUD4XGCE	H8	H8	H8					H8	H8		H8	H8			
1/4/2023	XX	LFUD4XGE6	H8	H8	H8					H8	H8		H8	H8			
2/1/2023	XX	LFUD4XGFH	H8	H8	H8					H8	H8		H8	H8			
3/1/2023	XX	LFUD4XH31	H8	H8	H8					H8	H8		H8	H8			
4/3/2023	XX	LFUD4XH4C	H8	H8	H8					H8	H8		H8	H8			
4/18/2023	XX	LFXXXXGJ2	F6	F6	F6					F6	F6		F6	F6			

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
5/3/2023	XX	LFUD4XH6B	H8	H8	H8					H8	H8		H8	H8			
6/6/2023	XX	LFUD4X02E	H8	H8	H8					H8	H8		H8	H8			
7/11/2023	XX	LFXXXXH95	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD4X03J	H8	H8	H8					H8	H8		H8	H8			
8/1/2023	XX	LFUD4X0AF	H8	H8	H8					H8	H8		H8	H8			
9/8/2023	XX	LFUD4X0C1	H8	H8	H8					H8	H8		H8	H8			
10/3/2023	XX	LFXXXX06B	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD4X0DD	H8	H8	H8					H8	H8		H8	H8			
11/7/2023	XX	LFUD4X0F2	H8	H8	H8					H8	H8		H8	H8			
12/20/2023	XX	LFUD4X0H0	H8	H8	H8					H8	H8		H8	H8			
1/2/2024	XX	LFUD4X0IG	H8	H8	H8					H8	H8		H8	H8			
2/6/2024	XX	LFUD4X105	H8	H8	H8					H8	H8		H8	H8			
3/7/2024	XX	LFUD4X166	H8	H8	H8					H8	H8		H8	H8			
4/2/2024	XX	LFXXXX130	D	D	D					D	D		D	D			
4/3/2024	XX	LFUD4X185	H8	H8	H8					H8	H8		H8	H8			
5/8/2024	XX	LFUD4X19G	H8	H8	H8					H8	H8		H8	H8			
6/5/2024	XX	LFUD4X1B7	H2	H2	H2					H2	H2		H2	H2			
7/15/2024	XX	LFUD4X230	H2	H2	H2					H2	H2	H2	H2	H2			
7/16/2024	XX	LFXXXX1E4	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LFUD4X24A	H2	H2	H2					H2	H2	H2	H2	H2			
9/19/2024	XX	LFUD4X260	H8	H8	H8					H8	H8		H8	H8			
10/8/2024	XX	LFXXXX1JD	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFUD4X279	H8	H8	H8					H8	H8		H8	H8			
11/12/2024	XX	LFUD4X296	H8	H8	H8					H8	H8		H8	H8			
12/31/2024	XX	LFUD4X2AF	H8	H8	H8					H8	H8		H8	H8			
LF-UD-5and6																	
2/3/2015	XX	LFXXXX773	F	F	F					F	F	F	F	F			
2/21/2015	XX	LFXXXX77E	318	7.7	17.6					387	4	155	1.17	0.0003			
3/28/2015	XX	LFXXXX7AC	F6	F6	F6					F6	F6	F6	F6	F6			
4/16/2015	XX	LFXXXX7B5	367	7.5	17.3					382	7	180	0.5	0.0003			
4/28/2015	XX	LFXXXX79I	422	8	11.6					347	9.3		2.3	0.0017			
5/22/2015	XX	LFXXXX7FA	430	7.9	19.1					371	8	220	0.5	0.0003			
6/22/2015	XX	LFXXXX7EI	474	8	26.5					319	9	240	0.2	0.0003			
7/14/2015	XX	LFXXXX7DA	I	I	I					I	I	I	I	I			
7/23/2015	XX	LFXXXX7G2	456	7.4	24.2					375	8	250	0.2	0.0002			
8/24/2015	XX	LFXXXX7GE	447	7.3	19.1					371	8	200	0.6	0.0001			
9/26/2015	XX	LFXXXX807	397	8	19.7					351	8	180	0.3	0.0002			
10/27/2015	XX	LFXXXX7IH	350	8.3	14					265	7.5		1	0.0006			
10/31/2015	XX	LFXXXX80J	380	8.1	13.7					336	9	200	0.5	0.0002			
11/27/2015	XX	LFXXXX81B	384	7.3	15.1					373	7	210	0.4	0.0003			
12/30/2015	XX	LFXXXX824	256	7.6	10.7					357	9	200	0.2	0.0003			
1/14/2016	XX	LFXXXX82G	386	7.6	10.4					343	8	220	0.01 U	0.0002			
2/18/2016	XX	LFXXXX888	392	8.3	15.3					363	7	208	0.01	0.0003			
3/17/2016	XX	LFXXXX890	409	7.3	13.5					337	9	200	0.2	0.0003			
4/5/2016	XX	LFXXXX879	399	8.3	11.1					339	8.1		0.4	0.0017			
4/21/2016	XX	LFXXXX89C	435	7.3	17.3					303	8	190	0.01 U	0.0002			
5/26/2016	XX	LFXXXX8D0	415	8	17.6					306	7	200	0.01	0.0002			
6/27/2016	XX	LFXXXX8E2	440	7.4	17.4					515	9	250	0.1	0.0002			
7/20/2016	XX	LFXXXX8F6	416	7.5	19.3					325	8	220	0.2	0.0002			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-5and6)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/26/2016	XX	LFXXXX8BJ	421	7.3	19.9					319	5.6		2.1	0.0006			
8/29/2016	XX	LFXXXX90H	406	7.49	22.1					319	9		0.3	0.0002			
9/23/2016	XX	LFXXXX93G	373	8.11	17.4					303	9		2	0.00004			
10/25/2016	XX	LFXXXX8JH	286	7.3	9.5					285	6.9		0.6	0.0006			
10/31/2016	XX	LFXXXX94A	324	8.32	11.3					313	8		0.2				
11/29/2016	XX	LFXXXX955	310	7.47	7.3					349	8	120	0.5	0.0001			
12/13/2016	XX	LFXXXX95I	155	7.72	4.2					341	8	125	1.2	0.0001			
1/10/2017	XX	LFXXXX99H	164	8.12	12.8					358	9	120	0.5	0.0001			
2/8/2017	XX	LFXXXX9AA	162	8.06	10.2					351	10	105	0.3	0.0002			
3/3/2017	XX	LFXXXX9B3	162	8.05	14.8					348	8	125	0.3	0.0004			
4/5/2017	XX	LFXXXX994	117	8.01	17.8					348	8	120	0.4	0.0006			
4/18/2017	XX	LFXXXX984	312	8	9.2					349	10.8		0.8	0.0011			
5/25/2017	XX	LFXXXX9BG	340	7.66	16.1					328	8	150	0.5	0.0004			
6/16/2017	XX	LFXXXX9EH	400	8.1	17.3					354	8	205	0.7	0.0003			
7/25/2017	XX	LFXXXX9E1	332	7.9	17.2					297	6.7		0.6	0.0006			
7/31/2017	XX	LFXXXX9FA	426	7.7	19.3					386	7	245	0.2	0.0004			
8/31/2017	XX	LFXXXX9J0	378	8	19.1					383	6	205	0.1	0.00037			
9/28/2017	XX	LFXXXX9JC	375	8	17.9					363	6	205	0.9	0.0002			
10/25/2017	XX	LFXXXX9HG	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFXXXXA04	373	8.2	17.3					392	6	185	0.5	0.00003			
11/30/2017	XX	LFXXXXA0G	337	7.7	10.9					426	6	150	0.3	0.00028			
12/27/2017	XX	LFXXXXA19	F	F	F					F	F	F	F	F			
1/19/2018	XX	LFXXXXA4F	310	8	6.1					409	7	130	0.5	0.00014			
2/22/2018	XX	LFXXXXA58	314	7.3	8.4					409	9	125	0.1	0.00037			
3/24/2018	XX	LFXXXXA94	338	8	10.4					428	9	130	0.3	0.00056			
4/3/2018	XX	LFXXXXA3G	307	8.2	9.8					484	12.8		0.8	0.00056			
4/28/2018	XX	LFXXXXA9H	317	8.1	15.4					411	8	150	0.3	0.00022			
5/11/2018	XX	LFXXXXAAA	344	7.8	13.2					441	9	150	0.4	0.00037			
6/2/2018	XX	LFXXXXADE	360	7.9	16.2					374	8	140	0.5	0.00045			
7/2/2018	XX	LFXXXXAIE	376	7.8	19.5					364	8	150	0.2	0.0002			
7/17/2018	XX	LFXXXXACG	387	8.2	16.7					486	8.2		0.8	0.00056			
8/17/2018	XX	LFXXXXAJ9	377	7.2	20.6					360	8	150	0.2	0.00017			
9/1/2018	XX	LFXXXXB2F	362	8	19.5					380	7	175	2.4	0.0002			
10/2/2018	XX	LFXXXXB1E	371	8.1	12.2					485	8.1		0.3	0.00056			
10/13/2018	XX	LFXXXXB39	339	7.5	13.2					371	7	150	1.1	0.0001			
11/2/2018	XX	LFXXXXB43	330	7.6	11.6					362	7	150	0.7	0.0002			
12/7/2018	XX	LFXXXXB82	232	8.1	8.6					387	7	70	1.7	0.0002			
1/3/2019	XX	LFXXXXB8G	F	F	F					F	F	F	F	F			
2/2/2019	XX	LFXXXXB9A	F6	F6	F6					F6	F6	F6	F6	F6			
3/2/2019	XX	LFXXXXBA4	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2019	XX	LFXXXXBAI	F	F	F					F	F	F	F	F			
4/23/2019	XX	LFXXXXB6C	289	8.2	7.6					357	9.7		0.4	0.0011			
5/10/2019	XX	LFXXXXBEA	280	6.9	15.2					317	6	175	0.8	0.0002			
6/24/2019	XX	LFXXXXBF4	328	7.8	17.3					356	8	175	0.1 U	0.0003			
7/16/2019	XX	LFXXXXBD3	333	7.9	17.3					346	12.8		1.2	0.0006			
7/30/2019	XX	LFXXXXBFI	330	8.2	20.5					336	8	180	0.6	0.0002			
8/20/2019	XX	LFXXXXBGC	327	8.2	25.3					341	6	175	0.4	0.0001			
9/20/2019	XX	LFXXXXC05	338	7.6	21.8					357	6	150	2.5	0.0001			
10/14/2019	XX	LFXXXXC0J	304	8.3	19.6					331	6	175	4.8	0.0001			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-5and6)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/29/2019	XX	LFXXXXBIF	225	8	13.8					332	9.5		1.8	0.0006			
11/27/2019	XX	LFXXXXC1D	295	8.3	20.5					376	8	155	8.1	0.0001			
12/23/2019	XX	LFXXXXC33	279	8.3	12.8					343	8	140	20.2	0.0001			
1/17/2020	XX	LFXXXXC3I	305	8.4	7.6					386	10	150	0.6	0.0002			
2/4/2020	XX	LFXXXXC4D	284	8.3	13.2					331	10	150	0.1	0.0002			
3/27/2020	XX	LFXXXXCFA	249	8.3	13.2					392	6	150	0.3	0.0014			
4/28/2020	XX	LFXXXXCE3	322	8.2	8.9					403	9.3		1.6	0.0006			
4/29/2020	XX	LFXXXXCG4	266	8.3	16.5					330	6	150	0.1	0.0002			
5/27/2020	XX	LFXXXXD03	320	7.9	19.7					331	6	150	0.7	0.0002			
6/28/2020	XX	LFXXXXD0H	280	8.3	21.6					334	5	175	1.2	0.0002			
7/11/2020	XX	LFXXXXD1B	314	7.5	21.2					353	5	200	0.5	0.0001			
7/21/2020	XX	LFXXXXCIG	308	7.9	18.5					361	7.5		0.4	0.0002			
8/3/2020	XX	LFXXXXD59	325	7.9	21.1					352	6	175	0.1	0.0001			
9/27/2020	XX	LFXXXXD65	312	8.1	18.6					401	5	175	11.1	0.00003			
10/27/2020	XX	LFXXXXD3J	D	D	D					D	D	D	D	D			
10/31/2020	XX	LFXXXXD6J	326	8.5	14					404	8	200	51.3	0.00004			
11/29/2020	XX	LFXXXXD7D	313	8.4	15.6					383	8	140	22.6	0.0001			
12/13/2020	XX	LFXXXXD87	286	8	13.4					359	5	155	38.52	0.0001			
1/10/2021	XX	LFXXXXDF1	295	8.4	16.2					360	8	160	0.5	0.0001			
2/28/2021	XX	LFXXXXDE7	272	8.3	13.1					349	8	175	18.6	0.00005			
3/30/2021	XX	LFXXXXDFJ	289	8	15.6					389	8	145	9.3	0.0001			
4/6/2021	XX	LFXXXXDD2	264	7.9	8					371	8.5		1	0.0004			
4/29/2021	XX	LFXXXXDHF	297	7.5	16.2					384	6	150	5.7	0.0001			
5/19/2021	XX	LFXXXXDI9	327	8.5	21.1					532	6	190	1.7	0.0002			
6/2/2021	XX	LFXXXXE30	268	8.5	20.3					314	8	165	1.4	0.0001			
7/13/2021	XX	LFXXXXE0E	339	7	18.9					338	7.2		0.7	0.0003			
7/16/2021	XX	LFXXXXE3G	398	7.8	25.4					380	7	175	0.7	0.0001			
8/3/2021	XX	LFXXXXEFI	342	8.5	24.1					377	6	185	1	0.0033			
9/18/2021	XX	LFXXXXEE0	450	7.6	20.2					358	7	175	16.1	0.0033			
10/5/2021	XX	LFXXXXE71	296	7.8	13.1					258	7.6		0.6	0.0011			
10/16/2021	XX	LFXXXXEEJ	297	7.4	17.8					352	6	180	4.1	0.0053			
11/20/2021	XX	LFXXXXEHH	293	8.4	13.7					327	7	130	13.8	0.0001			
12/18/2021	XX	LFXXXXEIJ	297	8.4	13.2					329	6	135	2.1	0.0001			
1/16/2022	XX	LFXXXXF4F	270	7.7	15.8					340	6	130	6.3	0.0001			
2/20/2022	XX	LFXXXXF5F	253	7.2	7.4					338	11	150	5.6	0.0001			
3/20/2022	XX	LFXXXXF6F	316	8	12.6					98	8	150	13.7	0.0001			
4/15/2022	XX	LFXXXXFC6	319	7.7	18.7					302	6	175	5.6	0.0002			
4/26/2022	XX	LFXXXXF1D	275	7	9.8					368	7.4		0.3	0.0006			
5/10/2022	XX	LFXXXXFD6	326	7.6	18.9					339	6	175	10.4	0.0001			
6/7/2022	XX	LFXXXXFEG	365	8.3	20.8					315	6		57.7	0.0001			
7/19/2022	XX	LFXXXXF9C	334	6.9	20.6					285	4.9		0.7	0.0004			
7/21/2022	XX	LFXXXXFFG	382	7.9	23					322	6	200	50.5	0.0001			
8/8/2022	XX	LFXXXXG35	390	7.3	18.6					335	5	200	11.2	0.0001			
9/2/2022	XX	LFXXXXG5H	389	8.3	18.6					334	6	200	10.4	0.0001			
10/4/2022	XX	LFXXXXFJC	282	7.5	13.1					303	5.1		0.8	0.0006			
10/6/2022	XX	LFXXXXG8J	328	8.4	13.2					286	5	175	8.9	0.0001			
11/4/2022	XX	LFXXXXGAA	329	7.9	9.9					316	6	150	2.8	0.0001			
12/5/2022	XX	LFXXXXGCF	330	7.8	9.2					320	6	175	2.4	0.0001			
1/4/2023	XX	LFXXXXGE7	313	8.3	9.4					364	6	150	2.6	0.0001			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-5and6)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
2/1/2023	XX	LFXXXXGFI	314	8.4	11.7					352	6	135	8.8	0.0001			
3/1/2023	XX	LFXXXXH32	315	8.4	12.3					384	6	125	9.8	0.0003			
4/3/2023	XX	LFXXXXH4D	338	8.4	15.3					340	6	145	8.6	0.0002			
4/18/2023	XX	LFXXXXGJ3	266	7.5	10.4					429	7.6		0.4	0.0006			
5/3/2023	XX	LFXXXXH6C	325	8.3	14.7					300	6	125	7.9	0.0001			
6/6/2023	XX	LFXXXX02F	338	7.3	16.8					335	6	150	12.4	0.0001			
7/11/2023	XX	LFXXXXH96	303	7.7	17.3					465	7.3		0.6	0.0011			
7/18/2023	XX	LFXXXX040	328	7.6	23.1					331	8	150	2.4	0.0002			
8/1/2023	XX	LFXXXX0AG	343	8.3	21.3					294	6	150	1.7	0.0001			
9/8/2023	XX	LFXXXX0C2	379	8.1	24.2					335	6	200	20.1	0.0001			
10/3/2023	XX	LFXXXX06C	310	7.4	15.4					466	8.1		0.5	0.0006			
10/4/2023	XX	LFXXXX0DE	335	8.1	22.6					324	6		5.7	0.0001			
11/7/2023	XX	LFXXXX0F3	325	7.3	16.7					353	6	125	2.9	0.0001			
12/20/2023	XX	LFXXXX0H1	322	7.7	12.6					327	6	150	4.3	0.0001			
1/2/2024	XX	LFXXXX0IH	294	7.3	13.3					351	6	135	1.7	0.0001			
2/6/2024	XX	LFXXXX106	342	7.9	13.4					344	6	125	7.4	0.0001			
3/7/2024	XX	LFXXXX167	274	7.6	11.9					331	6	175	33.5	0.0001			
4/2/2024	XX	LFXXXX131	285	7.9	9					439	8.8		0.6	0.0022			
4/3/2024	XX	LFXXXX186	326	7.8	15.1					323	6	150	6.4				
5/8/2024	XX	LFXXXX19H	352	7.1	16.2					333	6	180	1.6	0.0001			
6/5/2024	XX	LFXXXX1B8	303	8	22					281	8	125	0.2	0.0001			
7/15/2024	XX	LFXXXX231	323	7.5	21.5					299	8	80	2.7	0.0001			
7/16/2024	XX	LFXXXX1E5	311	7.1	19.2					410	5.8		0.7	0.0006			
8/30/2024	XX	LFXXXX24B	I	I	I					I	I	I	I	I			
9/19/2024	XX	LFXXXX261	I	I	I					I	I		I	I			
10/8/2024	XX	LFXXXX1JE	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFXXXX27A	371	8.3	19.6					331	8	175	8.3				
11/12/2024	XX	LFXXXX297	F6	F6	F6					F6	F6	F6	F6				
12/31/2024	XX	LFXXXX2AG	F6	F6	F6					F6	F6	F6	F6				
LF-UD-6																	
2/3/2015	XX	LFUD6X774	F	F	F					F	F	F	F				
2/21/2015	XX	LFUD6X77F	F6	F6	F6					F6	F6	F6	F6				
3/28/2015	XX	LFUD6X7AD	798	7.5	16.2					412	5	200	5.6				
4/16/2015	XX	LFUD6X7B6	754	7.6	17.1					380	6	200	8.75				
4/28/2015	XX	LFUD6X7A0	839	7.4	12.6					309	6.2		2.2	0.0022			
5/22/2015	XX	LFUD6X7FB	815	7.8	19.1					375	10	335	0.5				
6/22/2015	XX	LFUD6X7EJ	840	7.6	23.4					334	8	375	0.16				
7/14/2015	XX	LFUD6X7DC	823	7.4	18					349	7.2		0.8	0.0022			
7/23/2015	XX	LFUD6X7G3	834	7.5	23.5					377	8	275	0.1				
8/24/2015	XX	LFUD6X7GF	845	7.5	17.1					370	7	400	0.8				
9/26/2015	XX	LFUD6X808	816	7.5	20.6					362	6	350	0.3				
10/27/2015	XX	LFUD6X7IJ	764	7.7	14.9					348	4.3		1.2	0.0022			
10/31/2015	XX	LFUD6X810	851	7.6	15.7					347	7	475	1.2				
11/27/2015	XX	LFUD6X81C	864	7.6	16.9					373	8	380	0.8				
12/30/2015	XX	LFUD6X825	F6	F6	F6					F6	F6	F6	F6				
1/14/2016	XX	LFUD6X82H	F6	F6	F6					F6	F6	F6	F6				
2/18/2016	XX	LFUD6X889	F6	F6	F6					F6	F6	F6	F6	F6			
3/17/2016	XX	LFUD6X891	859	7.3	16.1					329	7	375	2.3				
4/5/2016	XX	LFUD6X87B	850	7.7	10.6					312	6.8		1.1	0.0022			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-6)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/21/2016	XX	LFUD6X89D	870	7.4	20.6					311	9	260	0.3				
5/26/2016	XX	LFUD6X8CJ	F6	F6	F6					F6	F6	F6	F6				
6/27/2016	XX	LFUD6X8E3	F6	F6	F6					F6	F6	F6	F6				
7/20/2016	XX	LFUD6X8F7	F6	F6	F6					F6	F6	F6	F6				
7/26/2016	XX	LFUD6X8C1	D	D	D					D	D		D	D			
8/29/2016	XX	LFUD6X90I	871	7.37	23.8					322	9	300	4.3				
9/23/2016	XX	LFUD6X93H	592	7.7	18.7					312	9	225	6.7				
10/25/2016	XX	LFUD6X8JJ	I	I	I					I	I	I	I	I			
10/31/2016	XX	LFUD6X94B	H8	H8	H8					H8	H8	H8	H8				
11/29/2016	XX	LFUD6X956	F6	F6	F6					F6	F6	F6	F6	F6			
12/13/2016	XX	LFUD6X95J	F6	F6	F6					F6	F6	F6	F6	F6			
1/10/2017	XX	LFUD6X99I	F6	F6	F6					F6	F6	F6	F6	F6			
2/8/2017	XX	LFUD6X9AB	F6	F6	F6					F6	F6	F6	F6	F6			
3/3/2017	XX	LFUD6X9B4	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2017	XX	LFUD6X995	F6	F6	F6					F6	F6	F6	F6	F6			
4/18/2017	XX	LFUD6X986	439	7.6	14.2					366	7.5		1.2	0.0022			
5/25/2017	XX	LFUD6X9BH	355	7.33	17.2					426	6	175	0.7				
6/16/2017	XX	LFUD6X9EI	486	8.5	22.1					338	7	250	126.9				
7/25/2017	XX	LFUD6X9E3	I	I	I					I	I	I	I	I			
7/31/2017	XX	LFUD6X9FB	398	7.7	20.8					391	6	165	22.2				
8/31/2017	XX	LFUD6X9J1	327	7.2	22.4					413	8	145	0.7				
9/28/2017	XX	LFUD6X9JD	F6	F6	F6					F6	F6	F6	F6	F6			
10/25/2017	XX	LFUD6X9HI	413	7.2	18.9					407	5.7		2.1	0.0022			
10/26/2017	XX	LFUD6XA05	442	7.5	19.3					405	6	215	32.3				
11/30/2017	XX	LFUD6XA0H	293	7	14.9					436	6	125	1.4				
12/27/2017	XX	LFUD6XA1A	270	7.3	15.8					426	7	103	2.7				
1/19/2018	XX	LFUD6XA4G	277	7.4	9.1					425	7	100	1.7				
2/22/2018	XX	LFUD6XA59	292	7	11					420	8	90	0.2				
3/24/2018	XX	LFUD6XA95	301	7.1	11.8					439	7	110	0.7				
4/3/2018	XX	LFUD6XA3I	302	7.6	15					461	4.5		1.3	0.00223			
4/28/2018	XX	LFUD6XA9I	212	7.3	17.7					418	8	100	0.4				
5/11/2018	XX	LFUD6XAAB	263	7.2	17.9					454	7	105	1				
6/2/2018	XX	LFUD6XADF	262	7	20.1					394	6	115	1.2				
7/2/2018	XX	LFUD6XAIF	F6	F6	F6					F6	F6		F6				
7/17/2018	XX	LFUD6XACI	328	8.4	20.4					466	3.6		1.4	0.00223			
8/17/2018	XX	LFUD6XAJA	268	6.7	23.9					374	6	115	0.9				
9/1/2018	XX	LFUD6XB2G	281	7	21.7					406	6	100	2.6				
10/2/2018	XX	LFUD6XB1G	294	7.3	16.7					487	4.8		0.5	0.00056			
10/13/2018	XX	LFUD6XB3A	246	6.9	15.4					383	5	75	7.4				
11/2/2018	XX	LFUD6XB44	241	6.8	13.2					381	7	70	1.6				
12/7/2018	XX	LFUD6XB83	243	7.4	8.1					380	7	140	0.6				
1/3/2019	XX	LFUD6XB8H	297	6.8	11.3					386	7	70	2.1				
2/2/2019	XX	LFUD6XB9B	F	F	F					F	F	F	F				
3/2/2019	XX	LFUD6XBA5	337	7.7	15.3					340	5	75	0.8				
4/5/2019	XX	LFUD6XBAJ	320	8.3	14.1					354	6	100	1.4				
4/23/2019	XX	LFUD6XB6E	380	7.1	14.7					375	6.8		0.8	0.0022			
5/10/2019	XX	LFUD6XBEB	201	7.1	15.4					314	6	35	1.4				
6/24/2019	XX	LFUD6XBF5	239	7.4	21					359	8	60	0.2				
7/16/2019	XX	LFUD6XBD5	184	7.8	20.7					379	9		0.8	0.0006			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-6)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/30/2019	XX	LFUD6XBFJ	70	7.3	21.2					343	8	35	0.9				
8/20/2019	XX	LFUD6XBGD	82	7.4	24.8					349	6	40	0.4				
9/20/2019	XX	LFUD6XC06	112	7.1	21.9					353	6	45	13.8				
10/14/2019	XX	LFUD6XC10	204	6.4	20.3					373	5	180	43.6				
10/29/2019	XX	LFUD6XBIH	267	6.3	17.5					282	6.6		1.5	0.0011			
11/27/2019	XX	LFUD6XC1E	310	5.2	20.4					449	6	TK	2.2				
12/23/2019	XX	LFUD6XC34	L	L	L					L	L	L	L				
1/4/2020	XX	LFXXXXC3A	515	4.3	14					434	8	TK	1.6				
1/17/2020	XX	LFXXXXC45	460	4.4	14.8					520	8	TK	19.4				
2/4/2020	XX	LFXXXXC50	225	4	18.6					488	6	TK	0.8				
3/27/2020	XX	LFXXXXCFG	315	4.1	17.7					512	6		0.3				
4/28/2020	XX	LFUD6XCE5	579	4.2	14.1					605	7		0.6	0.0006			
4/29/2020	XX	LFXXXXCGA	H8	H8	H8					H8	H8	H8	H8	H8			
5/27/2020	XX	LFXXXXD09	F6	F6	F6					F6	F6	F6	F6	F6			
6/28/2020	XX	LFXXXXD13	F6	F6	F6					F6	F6	F6	F6	F6			
7/11/2020	XX	LFXXXXD1H	F6	F6	F6					F6	F6	F6	F6	F6			
7/21/2020	XX	LFUD6XCII	D	D	D					D	D	D	D	D			
8/3/2020	XX	LFXXXXD5F	F6	F6	F6					F6	F6	F6	F6	F6			
9/27/2020	XX	LFXXXXD6B	F6	F6	F6					F6	F6	F6	F6	F6			
10/27/2020	XX	LFUD6XD41	D	D	D					D	D	D	D	D			
10/31/2020	XX	LFXXXXD75	F6	F6	F6					F6	F6	F6	F6	F6			
11/29/2020	XX	LFXXXXD7J	F6	F6	F6					F6	F6	F6	F6	F6			
12/13/2020	XX	LFXXXXD8D	F6	F6	F6					F6	F6	F6	F6	F6			
1/10/2021	XX	LFXXXXDF7	F6	F6	F6					F6	F6	F6	F6	F6			
2/28/2021	XX	LFXXXXDED	F6	F6	F6					F6	F6	F6	F6	F6			
3/30/2021	XX	LFXXXXDG5	F6	F6	F6					F6	F6	F6	F6	F6			
4/6/2021	XX	LFUD6XDD4	1154	5.1	15.9					504	5.3		1.1	0.0006			
4/29/2021	XX	LFXXXXDI1	F6	F6	F6					F6	F6	F6	F6	F6			
5/19/2021	XX	LFXXXXDIF	758	4	22.2					495	5	TK	3.7	0.0003			
6/2/2021	XX	LFXXXXE36	642	4.6	20.2					370	8	TK	42.1	0.00002			
7/13/2021	XX	LFUD6XE0G	I	I	I					I	I	I	I	I			
7/16/2021	XX	LFXXXXE42	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2021	XX	LFXXXXEG5	1365	3.8	24.4					487	6	TK	7	I			
9/18/2021	XX	LFXXXXEE6	F6	F6	F6					F6	F6	F6	F6	F6			
10/5/2021	XX	LFUD6XE72	295	5.6	14					426	5.2		0.5	0.0022			
10/16/2021	XX	LFXXXXEF5	F6	F6	F6					F6	F6	F6	F6	F6			
11/20/2021	XX	LFXXXXEI3	F6	F6	F6					F6	F6	F6	F6	F6			
12/18/2021	XX	LFXXXXEJ5	F6	F6	F6					F6	F6	F6	F6	F6			
1/16/2022	XX	LFXXXXF51	F6	F6	F6					F6	F6	F6	F6	F6			
2/20/2022	XX	LFXXXXF61	F6	F6	F6					F6	F6	F6	F6	F6			
3/20/2022	XX	LFXXXXF71	F6	F6	F6					F6	F6	F6	F6	F6			
4/15/2022	XX	LFXXXXFCC	F6	F6	F6					F6	F6	F6	F6	F6			
4/26/2022	XX	LFUD6XF1E	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFXXXXFDC	F6	F6	F6					F6	F6	F6	F6	F6			
6/7/2022	XX	LFXXXXFF2	F6	F6	F6					F6	F6	F6	F6	F6			
7/19/2022	XX	LFUD6XF9E	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFXXXXFG2	F6	F6	F6					F6	F6	F6	F6	F6			
8/8/2022	XX	LFXXXXG3B	F6	F6	F6					F6	F6	F6	F6	F6			
9/2/2022	XX	LFXXXXG63	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-6)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
10/4/2022	XX	LFUD6XFJD	D	D	D					D	D		D	F6			
10/6/2022	XX	LFXXXXG95	F6	F6	F6					F6	F6		F6	F6			
11/4/2022	XX	LFXXXXGAG	F6	F6	F6					F6	F6		F6	F6			
12/5/2022	XX	LFXXXXGD1	F6	F6	F6					F6	F6		F6	F6			
1/4/2023	XX	LFXXXXGED	F6	F6	F6					F6	F6		F6	F6			
2/1/2023	XX	LFXXXXGG4	F6	F6	F6					F6	F6		F6	F6			
3/1/2023	XX	LFXXXXH38	F6	F6	F6					F6	F6		F6	F6			
4/3/2023	XX	LFXXXXH4J	F6	F6	F6					F6	F6		F6	F6			
4/18/2023	XX	LFUD6XGJ4	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFXXXXH6I	F6	F6	F6					F6	F6		F6	F6			
6/6/2023	XX	LFXXXX031	F6	F6	F6					F6	F6		F6	F6			
7/11/2023	XX	LFUD6XH98	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFXXXX046	F6	F6	F6					F6	F6		F6	F6			
8/1/2023	XX	LFXXXX0B2	F6	F6	F6					F6	F6		F6	F6			
9/8/2023	XX	LFXXXX0C8	F6	F6	F6					F6	F6		F6	F6			
10/3/2023	XX	LFUD6X06D	D	D	D					D	D		D	D			
10/4/2023	XX	LFXXXX0E0	F6	F6	F6					F6	F6		F6	F6			
11/7/2023	XX	LFXXXX0F9	F6	F6	F6					F6	F6		F6	F6			
12/20/2023	XX	LFXXXX0H7	F6	F6	F6					F6	F6		F6	F6			
1/2/2024	XX	LFXXXX0J3	F6	F6	F6					F6	F6		F6	F6			
2/6/2024	XX	LFXXXX10C	F6	F6	F6					F6	F6		F6	F6			
3/7/2024	XX	LFXXXX16D	F6	F6	F6					F6	F6		F6	F6			
4/3/2024	XX	LFXXXX18C	F6	F6	F6					F6	F6		F6	F6			
5/8/2024	XX	LFXXXX1A3	F6	F6	F6					F6	F6		F6	F6			
6/5/2024	XX	LFXXXX1BE	F6	F6	F6					F6	F6		F6	F6			
7/15/2024	XX	LFXXXX237	D	D	D					D	D	D	D	D			
7/16/2024	XX	LFUD6X1E7	D	D	D					D	D		D	D			
8/30/2024	XX	LFXXXX24H	F6	F6	F6					F6	F6		F6	F6			
9/19/2024	XX	LFXXXX267	D	D	D					D	D		D	D			
10/8/2024	XX	LFUD6X1JF	D	D	D					D	D		D	D			
10/17/2024	XX	LFXXXX27G	!1	!1	!1					!1	!1		!1	!1			
11/12/2024	XX	LFXXXX29D	F6	F6	F6					F6	F6		F6	F6			
12/31/2024	XX	LFXXXX2B2	F6	F6	F6					F6	F6		F6	F6			
LF-UD-7																	
2/3/2015	XX	LFUD7X776	H8	H8	H8					H8	H8	H8	H8				
2/21/2015	XX	LFUD7X77H	H8	H8	H8					H8	H8	H8	H8				
3/28/2015	XX	LFUD7X7AF	H8	H8	H8					H8	H8	H8	H8				
4/16/2015	XX	LFUD7X7B8	F6	F6	F6					F6	F6	F6	F6				
4/28/2015	XX	LFUD7X7A1	F6	F6	F6					F6	F6	F6	F6				
5/22/2015	XX	LFUD7X7FD	F6	F6	F6					F6	F6	F6	F6				
6/22/2015	XX	LFUD7X7F1	F6	F6	F6					F6	F6	F6	F6				
7/14/2015	XX	LFUD7X7DD	F6	F6	F6					F6	F6	F6	F6				
7/23/2015	XX	LFUD7X7G5	F12	F12	F12					F12	F12	F12	F12				
8/24/2015	XX	LFUD7X7GH	F12	F12	F12					F12	F12	F12	F12				
9/26/2015	XX	LFUD7X80A	F6	F6	F6					F6	F6	F6	F6				
10/27/2015	XX	LFUD7X7J0	F6	F6	F6					F6	F6	F6	F6				
10/31/2015	XX	LFUD7X812	F6	F6	F6					F6	F6	F6	F6				
11/27/2015	XX	LFUD7X81E	F6	F6	F6					F6	F6	F6	F6				
12/30/2015	XX	LFUD7X827	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-7)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
1/14/2016	XX	LFUD7X82J	F6	F6	F6					F6	F6	F6	F6	F6			
2/18/2016	XX	LFUD7X88B	F6	F6	F6					F6	F6	F6	F6	F6			
3/17/2016	XX	LFUD7X893	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2016	XX	LFUD7X87C	F6	F6	F6					F6	F6	F6	F6	F6			
4/21/2016	XX	LFUD7X89F	F6	F6	F6					F6	F6	F6	F6	F6			
5/26/2016	XX	LFUD7X8D1	F6	F6	F6					F6	F6	F6	F6	F6			
6/27/2016	XX	LFUD7X8E5	F6	F6	F6					F6	F6	F6	F6	F6			
7/20/2016	XX	LFUD7X8F9	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LFUD7X8C2	F6	F6	F6					F6	F6		F6	F6			
8/29/2016	XX	LFUD7X91B	F6	F6	F6					F6	F6		F6	F6			
9/23/2016	XX	LFUD7X93J	F6	F6	F6					F6	F6		F6	F6			
10/25/2016	XX	LFUD7X900	F6	F6	F6					F6	F6		F6	F6			
10/31/2016	XX	LFUD7X94D	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFUD7X958	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2016	XX	LFUD7X961	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2017	XX	LFUD7X9A0	H8	H8	H8					H8	H8	H8	H8	H8			
2/8/2017	XX	LFUD7X9AD	H8	H8	H8					H8	H8	H8	H8	H8			
3/3/2017	XX	LFUD7X9B6	H8	H8	H8					H8	H8	H8	H8	H8			
4/5/2017	XX	LFUD7X997	H8	H8	H8					H8	H8	H8	H8	H8			
4/18/2017	XX	LFUD7X987	F6	F6	F6					F6	F6		F6	F6			
5/25/2017	XX	LFUD7X9BJ	F6	F6	F6					F6	F6	F6	F6	F6			
6/16/2017	XX	LFUD7X9F0	F6	F6	F6					F6	F6	F6	F6	F6			
7/25/2017	XX	LFUD7X9E4	F6	F6	F6					F6	F6	F6	F6	F6			
7/31/2017	XX	LFUD7X9FD	H8	H8	H8					H8	H8	H8	H8	H8			
8/31/2017	XX	LFUD7X9J3	F6	F6	F6					F6	F6	F6	F6	F6			
9/28/2017	XX	LFUD7X9JF	H8	H8	H8					H8	H8	H8	H8	H8			
10/25/2017	XX	LFUD7X9HJ	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFUD7XA07	H8	H8	H8					H8	H8	H8	H8	H8			
11/30/2017	XX	LFUD7XA0J	F6	F6	F6					F6	F6	F6	F6	F6			
12/27/2017	XX	LFUD7XA1C	F6	F6	F6					F6	F6	F6	F6	F6			
1/19/2018	XX	LFUD7XA4I	F6	F6	F6					F6	F6	F6	F6	F6			
2/22/2018	XX	LFUD7XA5B	F6	F6	F6					F6	F6	F6	F6	F6			
3/24/2018	XX	LFUD7XA97	F6	F6	F6					F6	F6	F6	F6	F6			
4/3/2018	XX	LFUD7XA3J	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2018	XX	LFUD7XAA0	H8	H8	H8					H8	H8	H8	H8	H8			
5/11/2018	XX	LFUD7XAAD	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2018	XX	LFUD7XADH	H8	H8	H8					H8	H8	H8	H8	H8			
7/2/2018	XX	LFUD7XAIH	H8	H8	H8					H8	H8	H8	H8	H8			
7/17/2018	XX	LFUD7XACJ	F6	F6	F6					F6	F6	F6	F6	F6			
8/17/2018	XX	LFUD7XAJC	H8	H8	H8					H8	H8	H8	H8	H8			
9/1/2018	XX	LFUD7XB2I	H8	H8	H8					H8	H8	H8	H8	H8			
10/2/2018	XX	LFUD7XB1H	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFUD7XB3C	H8	H8	H8					H8	H8	H8	H8	H8			
11/2/2018	XX	LFUD7XB46	H8	H8	H8					H8	H8	H8	H8	H8			
12/7/2018	XX	LFUD7XB85	H8	H8	H8					H8	H8	H8	H8				
1/3/2019	XX	LFUD7XB8J	H8	H8	H8					H8	H8	H8	H8				
2/2/2019	XX	LFUD7XB9D	H8	H8	H8					H8	H8	H8	H8				
3/2/2019	XX	LFUD7XBA7	H8	H8	H8					H8	H8	H8	H8				
4/5/2019	XX	LFUD7XBB1	H8	H8	H8					H8	H8	H8	H8				

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-7)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/23/2019	XX	LFUD7XB6F	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFUD7XBED	H8	H8	H8					H8	H8	H8	H8	H8			
6/24/2019	XX	LFUD7XBF7	H8	H8	H8					H8	H8	H8	H8	H8			
7/16/2019	XX	LFUD7XBD6	F6	F6	F6					F6	F6	F6	F6	F6			
7/30/2019	XX	LFUD7XBG1	H8	H8	H8					H8	H8	H8	H8	H8			
8/20/2019	XX	LFUD7XBGF	H8	H8	H8					H8	H8	H8	H8	H8			
9/20/2019	XX	LFUD7XC08	H8	H8	H8					H8	H8	H8	H8	H8			
10/14/2019	XX	LFUD7XC12	H8	H8	H8					H8	H8	H8	H8	H8			
10/29/2019	XX	LFUD7XBII	F6	F6	F6					F6	F6	F6	F6	F6			
11/27/2019	XX	LFUD7XC1G	H8	H8	H8					H8	H8	H8	H8	H8			
12/23/2019	XX	LFUD7XC36	H8	H8	H8					H8	H8	H8	H8	H8			
1/17/2020	XX	LFUD7XC41	H8	H8	H8					H8	H8	H8	H8	H8			
2/4/2020	XX	LFUD7XC4G	H8	H8	H8					H8	H8	H8	H8	H8			
3/27/2020	XX	LFUD7XCFC	H8	H8	H8					H8	H8	H8	H8	H8			
4/28/2020	XX	LFUD7XCE6	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFUD7XCG6	H8	H8	H8					H8	H8	H8	H8	H8			
5/27/2020	XX	LFUD7XD05	H8	H8	H8					H8	H8	H8	H8	H8			
6/28/2020	XX	LFUD7XD0J	H8	H8	H8					H8	H8	H8	H8	H8			
7/11/2020	XX	LFUD7XD1D	H8	H8	H8					H8	H8	H8	H8	H8			
7/21/2020	XX	LFUD7XCIJ	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFUD7XD5B	H8	H8	H8					H8	H8	H8	H8	H8			
9/27/2020	XX	LFUD7XD67	H8	H8	H8					H8	H8	H8	H8	H8			
10/27/2020	XX	LFUD7XD42	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2020	XX	LFUD7XD71	H8	H8	H8					H8	H8	H8	H8	H8			
11/29/2020	XX	LFUD7XD7F	H8	H8	H8					H8	H8	H8	H8	H8			
12/13/2020	XX	LFUD7XD89	H8	H8	H8					H8	H8	H8	H8	H8			
1/10/2021	XX	LFUD7XDF3	H8	H8	H8					H8	H8	H8	H8	H8			
2/28/2021	XX	LFUD7XDE9	H2	H2	H2					H2	H2	H2	H2	H2			
3/30/2021	XX	LFUD7XDG1	H8	H8	H8					H8	H8	H8	H8	H8			
4/6/2021	XX	LFUD7XDD5	H8	H8	H8					H8	H8	H8	H8	H8			
4/29/2021	XX	LFUD7XDHH	H8	H8	H8					H8	H8	H8	H8	H8			
5/19/2021	XX	LFUD7XDIB	H8	H8	H8					H8	H8	H8	H8	H8			
6/2/2021	XX	LFUD7XE32	H8	H8	H8					H8	H8	H8	H8	H8			
7/13/2021	XX	LFUD7XE0H	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFUD7XE3I	H8	H8	H8					H8	H8	H8	H8	H8			
8/3/2021	XX	LFUD7XEG0	H8	H8	H8					H8	H8	H8	H8	H8			
9/18/2021	XX	LFUD7XEE2	H8	H8	H8					H8	H8	H8	H8	H8			
10/5/2021	XX	LFUD7XE73	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFUD7XEF1	H8	H8	H8					H8	H8	H8	H8	H8			
11/20/2021	XX	LFUD7XEHJ	H8	H8	H8					H8	H8	H8	H8	H8			
12/18/2021	XX	LFUD7XEJ1	H8	H8	H8					H8	H8	H8	H8	H8			
1/16/2022	XX	LFUD7XF4H	H8	H8	H8					H8	H8	H8	H8	H8			
2/20/2022	XX	LFUD7XF5H	H8	H8	H8					H8	H8	H8	H8	H8			
3/20/2022	XX	LFUD7XF6H	H8	H8	H8					H8	H8	H8	H8	H8			
4/15/2022	XX	LFUD7XFC8	H8	H8	H8					H8	H8	H8	H8	H8			
4/26/2022	XX	LFUD7XF1F	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFUD7XFD8	H8	H8	H8					H8	H8	H8	H8	H8			
6/7/2022	XX	LFUD7XFEI	H8	H8	H8					H8	H8	H8	H8	H8			
7/19/2022	XX	LFUD7XF9F	D	D	D					D	D	D	D	D			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-7) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/21/2022	XX	LFUD7XFFI	H8	H8	H8					H8	H8	H8	H8	H8			
8/8/2022	XX	LFUD7XG37	H8	H8	H8					H8	H8	H8	H8	H8			
9/2/2022	XX	LFUD7XG5J	H8	H8	H8					H8	H8	H8	H8	H8			
10/4/2022	XX	LFUD7XFJE	D	D	D					D	D		D	F6			
10/6/2022	XX	LFUD7XG91	H8	H8	H8					H8	H8		H8	H8			
11/4/2022	XX	LFUD7XGAC	H8	H8	H8					H8	H8		H8	H8			
12/5/2022	XX	LFUD7XGCH	H8	H8	H8					H8	H8		H8	H8			
1/4/2023	XX	LFUD7XGE9	H8	H8	H8					H8	H8		H8	H8			
2/1/2023	XX	LFUD7XGG0	H8	H8	H8					H8	H8		H8	H8			
3/1/2023	XX	LFUD7XH34	H8	H8	H8					H8	H8		H8	H8			
4/3/2023	XX	LFUD7XH4F	H8	H8	H8					H8	H8		H8	H8			
4/18/2023	XX	LFUD7XGJ5	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFUD7XH6E	H8	H8	H8					H8	H8		H8	H8			
6/6/2023	XX	LFUD7X02H	H8	H8	H8					H8	H8		H8	H8			
7/11/2023	XX	LFUD7XH99	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD7X042	H8	H8	H8					H8	H8		H8	H8			
8/1/2023	XX	LFUD7X0AI	H8	H8	H8					H8	H8		H8	H8			
9/8/2023	XX	LFUD7X0C4	H8	H8	H8					H8	H8		H8	H8			
10/3/2023	XX	LFUD7X06E	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD7X0DG	H8	H8	H8					H8	H8		H8	H8			
11/7/2023	XX	LFUD7X0F5	H8	H8	H8					H8	H8		H8	H8			
12/20/2023	XX	LFUD7X0H3	H8	H8	H8					H8	H8		H8	H8			
1/2/2024	XX	LFUD7X0IJ	H8	H8	H8					H8	H8		H8	H8			
2/6/2024	XX	LFUD7X108	H8	H8	H8					H8	H8		H8	H8			
3/7/2024	XX	LFUD7X169	H8	H8	H8					H8	H8		H8	H8			
4/2/2024	XX	LFUD7X133	D	D	D					D	D		D	D			
4/3/2024	XX	LFUD7X188	H8	H8	H8					H8	H8		H8	H8			
5/8/2024	XX	LFUD7X19J	H8	H8	H8					H8	H8		H8	H8			
6/5/2024	XX	LFUD7X1BA	H8	H8	H8					H8	H8		H8	H8			
7/15/2024	XX	LFUD7X233	H2	H2	H2					H2	H2		H2	H2			
7/16/2024	XX	LFUD7X1E8	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LFUD7X24D	H2	H2	H2					H2	H2	H2	H2	H2			
9/19/2024	XX	LFUD7X263	H8	H8	H8					H8	H8		H8	H8			
10/8/2024	XX	LFUD7X1JG	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFUD7X27C	H8	H8	H8					H8	H8		H8	H8			
11/12/2024	XX	LFUD7X299	H8	H8	H8					H8	H8		H8	H8			
12/31/2024	XX	LFUD7X2AI	H8	H8	H8					H8	H8		H8	H8			
LF-UD-8																	
2/3/2015	XX	LFUD8X777	F	F	F					F	F	F	F	F			
2/21/2015	XX	LFUD8X77I	F6	F6	F6					F6	F6	F6	F6	F6			
3/28/2015	XX	LFUD8X7AG	F6	F6	F6					F6	F6	F6	F6	F6			
4/16/2015	XX	LFUD8X7B9	F12	F12	F12					F12	F12	F12	F12	F12			
4/28/2015	XX	LFUD8X7A2	100	7.9	9.7					375	10.8		1.8	0.0045			
5/22/2015	XX	LFUD8X7FE	F12	F12	F12					F12	F12	F12	F12	F12			
6/22/2015	XX	LFUD8X7F2	F12	F12	F12					F12	F12	F12	F12	F12			
7/14/2015	XX	LFUD8X7DE	I	I	I					I	I	I	I	I			
7/23/2015	XX	LFUD8X7G6	F12	F12	F12					F12	F12	F12	F12	F12			
8/24/2015	XX	LFUD8X7GI	F12	F12	F12					F12	F12	F12	F12	F12			
9/26/2015	XX	LFUD8X80B	H8	H8	H8					H8	H8	H8	H8	H8			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/27/2015	XX	LFUD8X7J1	F6	F6	F6					F6	F6		F6	F6			
10/31/2015	XX	LFUD8X813	F12	F12	F12					F12	F12	F12	F12	F12			
11/27/2015	XX	LFUD8X81F	F6	F6	F6					F6	F6	F6	F6	F6			
12/30/2015	XX	LFUD8X828	F12	F12	F12					F12	F12	F12	F12	F12			
1/14/2016	XX	LFUD8X830	F12	F12	F12					F12	F12	F12	F12	F12			
2/18/2016	XX	LFUD8X88C	F12	F12	F12					F12	F12	F12	F12	F12			
3/17/2016	XX	LFUD8X894	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2016	XX	LFUD8X87D	F6	F6	F6					F6	F6	F6	F6	F6			
4/21/2016	XX	LFUD8X89G	F12	F12	F12					F12	F12	F12	F12	F12			
5/26/2016	XX	LFUD8X8D2	F12	F12	F12					F12	F12	F12	F12	F12			
6/27/2016	XX	LFUD8X8E6	F6	F6	F6					F6	F6	F6	F6	F6			
7/20/2016	XX	LFUD8X8FA	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LFUD8X8C3	F6	F6	F6					F6	F6		F6	F6			
8/29/2016	XX	LFUD8X91C	F6	F6	F6					F6	F6		F6	F6			
9/23/2016	XX	LFUD8X940	F6	F6	F6					F6	F6		F6	F6			
10/25/2016	XX	LFUD8X901	D	D	D					D	D		D	D			
10/31/2016	XX	LFUD8X94E	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFUD8X959	F6	F6	F6					F6	F6		F6	F6			
12/13/2016	XX	LFUD8X962	F6	F6	F6					F6	F6		F6	F6			
1/10/2017	XX	LFUD8X9A1	A	A	A					A	A	A	A	A			
2/8/2017	XX	LFUD8X9AE	A	A	A					A	A	A	A	A			
3/3/2017	XX	LFUD8X9B9	A	A	A					A	A	A	A	A			
4/5/2017	XX	LFUD8X998	A	A	A					A	A	A	A	A			
4/18/2017	XX	LFUD8X988	65	7.4	9.5					315	9.3		1.2	0.0006			
5/25/2017	XX	LFUD8X9C0	F12	F12	F12					F12	F12	F12	F12	F12			
6/16/2017	XX	LFUD8X9F1	F6	F6	F6					F6	F6	F6	F6	F6			
7/25/2017	XX	LFUD8X9E5	D	D	D					D	D	D	D	D			
7/31/2017	XX	LFUD8X9FE	F6	F6	F6					F6	F6	F6	F6	F6			
8/31/2017	XX	LFUD8X9J4	F6	F6	F6					F6	F6	F6	F6	F6			
9/28/2017	XX	LFUD8X9JG	F6	F6	F6					F6	F6	F6	F6	F6			
10/25/2017	XX	LFUD8X9I0	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LFUD8XA08	F6	F6	F6					F6	F6	F6	F6	F6			
11/30/2017	XX	LFUD8XA10	F6	F6	F6					F6	F6	F6	F6	F6			
12/27/2017	XX	LFUD8XA1D	F	F	F					F	F	F	F	F			
1/19/2018	XX	LFUD8XA4J	F6	F6	F6					F6	F6	F6	F6	F6			
2/22/2018	XX	LFUD8XA5C	F6	F6	F6					F6	F6	F6	F6	F6			
3/24/2018	XX	LFUD8XA98	F12	F12	F12					F12	F12	F12	F12	F12			
4/3/2018	XX	LFUD8XA40	90	8.5	2.8					482	6.8		2.6	0.00223			
4/28/2018	XX	LFUD8XAA1	F12	F12	F12					F12	F12	F12	F12	F12			
5/11/2018	XX	LFUD8XAAE	F12	F12	F12					F12	F12	F12	F12	F12			
6/2/2018	XX	LFUD8XADI	F12	F12	F12					F12	F12	F12	F12	F12			
7/2/2018	XX	LFUD8XAII	F12	F12	F12					F12	F12	F12	F12	F12			
7/17/2018	XX	LFUD8XAD0	D	D	D					D	D	D	D	D			
8/17/2018	XX	LFUD8XAJD	F6	F6	F6					F6	F6	F6	F6	F6			
9/1/2018	XX	LFUD8XB2J	F6	F6	F6					F6	F6	F6	F6	F6			
10/2/2018	XX	LFUD8XB1I	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFUD8XB3D	F6	F6	F6					F6	F6	F6	F6	F6			
11/2/2018	XX	LFUD8XB47	F6	F6	F6					F6	F6	F6	F6	F6			
12/7/2018	XX	LFUD8XB86	F6	F6	F6					F6	F6	F6	F6				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
1/3/2019	XX	LFUD8XB90	F6	F6	F6					F6	F6	F6	F6				
2/2/2019	XX	LFUD8XB9E	F6	F6	F6					F6	F6	F6	F6				
3/2/2019	XX	LFUD8XBA8	F6	F6	F6					F6	F6	F6	F6				
4/5/2019	XX	LFUD8XBB2	F6	F6	F6					F6	F6	F6	F6	F6			
4/23/2019	XX	LFUD8XB6G	88	6.8	7.9					347	9.3		1.2	0.0022			
5/10/2019	XX	LFUD8XBEE	F6	F6	F6					F6	F6		F6	F6			
6/24/2019	XX	LFUD8XBF8	F12	F12	F12					F12	F12		F12	F12			
7/16/2019	XX	LFUD8XBD7	71	8.3	26.9					305	6		2.1				
7/30/2019	XX	LFUD8XBG2	F6	F6	F6					F6	F6		F6				
8/20/2019	XX	LFUD8XBGG	H6	H6	H6					H6	H6		H6				
9/20/2019	XX	LFUD8XC09	F6	F6	F6					F6	F6		F6	F6			
10/14/2019	XX	LFUD8XC13	F6	F6	F6					F6	F6		F6	F6			
10/29/2019	XX	LFUD8XBIJ	105	8	10					250	10.9		2.1	0.0011			
11/27/2019	XX	LFUD8XC1H	F	F	F					F	F		F	F			
12/23/2019	XX	LFUD8XC37	F	F	F					F	F		F	F			
1/17/2020	XX	LFUD8XC42	F	F	F					F	F		F	F			
2/4/2020	XX	LFUD8XC4H	F6	F6	F6					F6	F6		F6	F6			
3/27/2020	XX	LFUD8XCFD	F6	F6	F6					F6	F6		F6	F6			
4/28/2020	XX	LFUD8XCE7	F6	F6	F6					F6	F6		F6	F6			
4/29/2020	XX	LFUD8XCG7	F6	F6	F6					F6	F6		F6	F6			
5/27/2020	XX	LFUD8XD06	F6	F6	F6					F6	F6		F6	F6			
6/28/2020	XX	LFUD8XD10	F6	F6	F6					F6	F6		F6	F6			
7/11/2020	XX	LFUD8XD1E	F6	F6	F6					F6	F6		F6	F6			
7/21/2020	XX	LFUD8XCJ0	F6	F6	F6					F6	F6		F6	F6			
8/3/2020	XX	LFUD8XD5C	F6	F6	F6					F6	F6		F6	F6			
9/27/2020	XX	LFUD8XD68	F6	F6	F6					F6	F6		F6	F6			
10/27/2020	XX	LFUD8XD43	D	D	D					D	D		D	D			
10/31/2020	XX	LFUD8XD72	F6	F6	F6					F6	F6		F6	F6			
11/29/2020	XX	LFUD8XD7G	F6	F6	F6					F6	F6		F6	F6			
12/13/2020	XX	LFUD8XD8A	F6	F6	F6					F6	F6		F6	F6			
1/10/2021	XX	LFUD8XDF4	A	A	A					A	A	A	A	A			
2/28/2021	XX	LFUD8XDEA	A	A	A					A	A	A	A	A			
3/30/2021	XX	LFUD8XDG2	F6	F6	F6					F6	F6	F6	F6	F6			
4/6/2021	XX	LFUD8XDD6	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2021	XX	LFUD8XDHI	F6	F6	F6					F6	F6	F6	F6	F6			
5/19/2021	XX	LFUD8XDIC	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2021	XX	LFUD8XE33	F6	F6	F6					F6	F6	F6	F6	F6			
7/13/2021	XX	LFUD8XE0I	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFUD8XE3J	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2021	XX	LFUD8XEG1	F6	F6	F6					F6	F6	F6	F6	F6			
9/18/2021	XX	LFUD8XEE3	F6	F6	F6					F6	F6	F6	F6	F6			
10/5/2021	XX	LFUD8XE74	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFUD8XEF2	F6	F6	F6					F6	F6	F6	F6	F6			
11/20/2021	XX	LFUD8XEI0	F6	F6	F6					F6	F6	F6	F6	F6			
12/18/2021	XX	LFUD8XEJ2	F6	F6	F6					F6	F6	F6	F6	F6			
1/16/2022	XX	LFUD8XF4I	F6	F6	F6					F6	F6	F6	F6	F6			
2/20/2022	XX	LFUD8XF5I	F6	F6	F6					F6	F6	F6	F6	F6			
3/20/2022	XX	LFUD8XF6I	F6	F6	F6					F6	F6	F6	F6	F6			
4/15/2022	XX	LFUD8XFC9	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
4/26/2022	XX	LFUD8XF1G	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFUD8XFD9	F6	F6	F6					F6	F6	F6	F6	F6			
6/7/2022	XX	LFUD8XFEJ	H8	H8	H8					H8	H8	H8	H8	H8			
7/19/2022	XX	LFUD8XF9G	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFUD8XFFJ	F6	F6	F6					F6	F6	F6	F6	F6			
8/8/2022	XX	LFUD8XG38	F6	F6	F6					F6	F6	F6	F6	F6			
9/2/2022	XX	LFUD8XG60	F6	F6	F6					F6	F6	F6	F6	F6			
10/4/2022	XX	LFUD8XFJF	D	D	D					D	D		D	F6			
10/6/2022	XX	LFUD8XG92	F6	F6	F6					F6	F6		F6	F6			
11/4/2022	XX	LFUD8XGAD	F6	F6	F6					F6	F6		F6	F6			
12/5/2022	XX	LFUD8XGCI	F6	F6	F6					F6	F6		F6	F6			
1/4/2023	XX	LFUD8XGEA	F6	F6	F6					F6	F6		F6	F6			
2/1/2023	XX	LFUD8XGG1	F6	F6	F6					F6	F6		F6	F6			
3/1/2023	XX	LFUD8XH35	F6	F6	F6					F6	F6		F6	F6			
4/3/2023	XX	LFUD8XH4G	F6	F6	F6					F6	F6		F6	F6			
4/18/2023	XX	LFUD8XGJ6	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFUD8XH6F	F6	F6	F6					F6	F6		F6	F6			
6/6/2023	XX	LFUD8X02I	F6	F6	F6					F6	F6		F6	F6			
7/11/2023	XX	LFUD8XH9A	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD8X043	F6	F6	F6					F6	F6		F6	F6			
8/1/2023	XX	LFUD8X0AJ	F6	F6	F6					F6	F6		F6	F6			
9/8/2023	XX	LFUD8X0C5	F6	F6	F6					F6	F6		F6	F6			
10/3/2023	XX	LFUD8X06F	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD8X0DH	F6	F6	F6					F6	F6		F6	F6			
11/7/2023	XX	LFUD8X0F6	F6	F6	F6					F6	F6		F6	F6			
12/20/2023	XX	LFUD8X0H4	F6	F6	F6					F6	F6		F6	F6			
1/2/2024	XX	LFUD8X0J0	F6	F6	F6					F6	F6		F6	F6			
2/6/2024	XX	LFUD8X109	F6	F6	F6					F6	F6		F6	F6			
3/7/2024	XX	LFUD8X16A	F6	F6	F6					F6	F6		F6	F6			
4/2/2024	XX	LFUD8X134	F6	F6	F6					F6	F6		F6	F6			
4/3/2024	XX	LFUD8X189	F6	F6	F6					F6	F6		F6	F6			
5/8/2024	XX	LFUD8X1A0	F6	F6	F6					F6	F6		F6	F6			
6/5/2024	XX	LFUD8X1BB	F6	F6	F6					F6	F6		F6	F6			
7/15/2024	XX	LFUD8X234	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2024	XX	LFUD8X1E9	D	D	D					D	D		D	D			
8/30/2024	XX	LFUD8X24E	F6	F6	F6					F6	F6	F6	F6	F6			
9/19/2024	XX	LFUD8X264	F6	F6	F6					F6	F6		F6	F6			
10/8/2024	XX	LFUD8X1JH	D	D	D					D	D		D	D			
10/17/2024	XX	LFUD8X27D	F6	F6	F6					F6	F6		F6	F6			
11/12/2024	XX	LFUD8X29A	F6	F6	F6					F6	F6		F6	F6			
12/31/2024	XX	LFUD8X2AJ	F6	F6	F6					F6	F6		F6	F6			
LF-UD-9																	
4/5/2016	XX	LFUD9X881	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LFUD9X8CA	F12	F12	F12					F12	F12		F12	F12			
10/25/2016	XX	LFUD9X905	F6	F6	F6					F6	F6		F6	F6			
10/31/2016	XX	LFUD9X94G	H8	H8	H8					H8	H8		H8	H8			
11/29/2016	XX	LFUD9X95B	F6	F6	F6					F6	F6		F6	F6			
12/13/2016	XX	LFUD9X964	F6	F6	F6					F6	F6		F6	F6			
1/10/2017	XX	LFUD9X9A3	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-9)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
2/8/2017	XX	LFUD9X9AG	F6	F6	F6					F6	F6	F6	F6	F6			
3/3/2017	XX	LFUD9X9B9	F6	F6	F6					F6	F6	F6	F6	F6			
4/5/2017	XX	LFUD9X99A	F6	F6	F6					F6	F6	F6	F6	F6			
4/18/2017	XX	LFUD9X98F	292	7.6	7.1					375	10.8		1.2	0.0011			
5/25/2017	XX	LFUD9X9C2	F6	F6	F6					F6	F6	F6	F6	F6			
6/16/2017	XX	LFUD9X9F3	DE	DE	DE					DE	DE	DE	DE	DE			
10/25/2017	XX	LFUD9X9I4	F6	F6	F6					F6	F6	F6	F6	F6			
1/19/2018	XX	LFUD9XA4H	F6	F6	F6					F6	F6	F6	F6	F6			
2/22/2018	XX	LFUD9XA5A	F6	F6	F6					F6	F6	F6	F6	F6			
3/24/2018	XX	LFUD9XA96	176	7.3	8					458	9	50 U	44.8	0.00334			
4/3/2018	XX	LFUD9XA47	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2018	XX	LFUD9XA9J	F6	F6	F6					F6	F6	F6	F6	F6			
5/11/2018	XX	LFUD9XAAC	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2018	XX	LFUD9XADG	F6	F6	F6					F6	F6	F6	F6	F6			
7/2/2018	XX	LFUD9XAIG	F6	F6	F6					F6	F6	F6	F6	F6			
7/17/2018	XX	LFUD9XAD4	D	D	D					D	D	D	D	D			
8/17/2018	XX	LFUD9XAJB	F6	F6	F6					F6	F6	F6	F6	F6			
9/1/2018	XX	LFUD9XB2H	F6	F6	F6					F6	F6	F6	F6	F6			
10/2/2018	XX	LFUD9XB22	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFUD9XB3B	F6	F6	F6					F6	F6	F6	F6	F6			
11/2/2018	XX	LFUD9XB45	135	7.3	10.7					379	7	25	49.6	0.0045			
12/7/2018	XX	LFUD9XB84	F6	F6	F6					F6	F6	F6	F6				
1/3/2019	XX	LFUD9XB8I	F6	F6	F6					F6	F6	F6	F6				
2/2/2019	XX	LFUD9XB9C	F6	F6	F6					F6	F6	F6	F6				
3/2/2019	XX	LFUD9XBA6	F6	F6	F6					F6	F6	F6	F6				
4/5/2019	XX	LFUD9XBB0	F6	F6	F6					F6	F6	F6	F6				
4/23/2019	XX	LFUD9XB73	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFUD9XBEC	201	6.6	15.1					278	7	30	9.6	0.0004			
6/24/2019	XX	LFUD9XBF6	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2019	XX	LFUD9XBDD	F6	F6	F6					F6	F6	F6	F6	F6			
7/30/2019	XX	LFUD9XBG0	F6	F6	F6					F6	F6	F6	F6	F6			
8/20/2019	XX	LFUD9XBGE	F6	F6	F6					F6	F6	F6	F6	F6			
9/20/2019	XX	LFUD9XC07	F6	F6	F6					F6	F6	F6	F6	F6			
10/14/2019	XX	LFUD9XC11	F6	F6	F6					F6	F6	F6	F6	F6			
10/29/2019	XX	LFUD9XBJ3	F6	F6	F6					F6	F6	F6	F6	F6			
11/27/2019	XX	LFUD9XC1F	F6	F6	F6					F6	F6	F6	F6	F6			
12/23/2019	XX	LFUD9XC35	F6	F6	F6					F6	F6	F6	F6	F6			
1/17/2020	XX	LFUD9XC40	F6	F6	F6					F6	F6	F6	F6	F6			
2/4/2020	XX	LFUD9XC4F	F6	F6	F6					F6	F6	F6	F6	F6			
3/27/2020	XX	LFUD9XCFB	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2020	XX	LFUD9XCED	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFUD9XCG5	F6	F6	F6					F6	F6	F6	F6	F6			
5/27/2020	XX	LFUD9XD04	F6	F6	F6					F6	F6	F6	F6	F6			
6/28/2020	XX	LFUD9XD0I	F6	F6	F6					F6	F6	F6	F6	F6			
7/11/2020	XX	LFUD9XD1C	F6	F6	F6					F6	F6	F6	F6	F6			
7/21/2020	XX	LFUD9XCJ6	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFUD9XD5A	F6	F6	F6					F6	F6	F6	F6	F6			
9/27/2020	XX	LFUD9XD66	F6	F6	F6					F6	F6	F6	F6	F6			
10/27/2020	XX	LFUD9XD47	D	D	D					D	D	D	D	D			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-9)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/31/2020	XX	LFUD9XD70	F6	F6	F6					F6	F6	F6	F6	F6			
11/29/2020	XX	LFUD9XD7E	F6	F6	F6					F6	F6	F6	F6	F6			
12/13/2020	XX	LFUD9XD88	F6	F6	F6					F6	F6	F6	F6	F6			
1/10/2021	XX	LFUD9XDF2	F6	F6	F6					F6	F6	F6	F6	F6			
2/28/2021	XX	LFUD9XDE8	A	A	A					A	A	A	A	A			
3/30/2021	XX	LFUD9XDG0	F6	F6	F6					F6	F6	F6	F6	F6			
4/6/2021	XX	LFUD9XDDA	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2021	XX	LFUD9XDHG	F6	F6	F6					F6	F6	F6	F6	F6			
5/19/2021	XX	LFUD9XDIA	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2021	XX	LFUD9XE31	F6	F6	F6					F6	F6	F6	F6	F6			
7/13/2021	XX	LFUD9XE11	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFUD9XE3H	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2021	XX	LFUD9XEFJ	F6	F6	F6					F6	F6	F6	F6	F6			
9/18/2021	XX	LFUD9XEE1	F6	F6	F6					F6	F6	F6	F6	F6			
10/5/2021	XX	LFUD9XE78	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFUD9XEF0	F6	F6	F6					F6	F6	F6	F6	F6			
11/20/2021	XX	LFUD9XEHI	F6	F6	F6					F6	F6	F6	F6	F6			
12/18/2021	XX	LFUD9XEJ0	F6	F6	F6					F6	F6	F6	F6	F6			
1/16/2022	XX	LFUD9XF4G	F6	F6	F6					F6	F6	F6	F6	F6			
2/20/2022	XX	LFUD9XF5G	F6	F6	F6					F6	F6	F6	F6	F6			
3/20/2022	XX	LFUD9XF6G	F6	F6	F6					F6	F6	F6	F6	F6			
4/15/2022	XX	LFUD9XFC7	F6	F6	F6					F6	F6	F6	F6	F6			
4/26/2022	XX	LFUD9XF1J	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFUD9XFD7	F6	F6	F6					F6	F6	F6	F6	F6			
6/7/2022	XX	LFUD9XFEH	F6	F6	F6					F6	F6	F6	F6	F6			
7/19/2022	XX	LFUD9XF9J	D	D	D					D	D	D	D	D			
7/21/2022	XX	LFUD9XFFH	F6	F6	F6					F6	F6	F6	F6	F6			
8/8/2022	XX	LFUD9XG36	F6	F6	F6					F6	F6	F6	F6	F6			
9/2/2022	XX	LFUD9XG5I	F6	F6	F6					F6	F6	F6	F6	F6			
10/4/2022	XX	LFUD9XFJI	D	D	D					D	D		D	F6			
10/6/2022	XX	LFUD9XG90	F6	F6	F6					F6	F6		F6	F6			
11/4/2022	XX	LFUD9XGAB	F6	F6	F6					F6	F6		F6	F6			
12/5/2022	XX	LFUD9XGCG	F6	F6	F6					F6	F6		F6	F6			
1/4/2023	XX	LFUD9XGE8	F6	F6	F6					F6	F6		F6	F6			
2/1/2023	XX	LFUD9XGFJ	F6	F6	F6					F6	F6		F6	F6			
3/1/2023	XX	LFUD9XH33	F6	F6	F6					F6	F6		F6	F6			
4/3/2023	XX	LFUD9XH4E	F6	F6	F6					F6	F6		F6	F6			
4/18/2023	XX	LFUD9XGJ9	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFUD9XH6D	F6	F6	F6					F6	F6		F6	F6			
6/6/2023	XX	LFUD9X02G	F6	F6	F6					F6	F6		F6	F6			
7/11/2023	XX	LFUD9XH9D	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFUD9X041	F6	F6	F6					F6	F6		F6	F6			
8/1/2023	XX	LFUD9X0AH	F6	F6	F6					F6	F6		F6	F6			
9/8/2023	XX	LFUD9X0C3	F6	F6	F6					F6	F6		F6	F6			
10/3/2023	XX	LFUD9X06H	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LFUD9X0DF	F6	F6	F6					F6	F6		F6	F6			
11/7/2023	XX	LFUD9X0F4	F6	F6	F6					F6	F6		F6	F6			
12/20/2023	XX	LFUD9X0H2	F6	F6	F6					F6	F6		F6	F6			
1/2/2024	XX	LFUD9X0II	F6	F6	F6					F6	F6		F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-9) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
2/6/2024	XX	LFUD9X107	F6	F6	F6					F6	F6		F6	F6			
3/7/2024	XX	LFUD9X168	F6	F6	F6					F6	F6		F6	F6			
4/2/2024	XX	LFUD9X136	D	D	D					D	D		D	D			
4/3/2024	XX	LFUD9X187	F6	F6	F6					F6	F6		F6	F6			
5/8/2024	XX	LFUD9X19I	F6	F6	F6					F6	F6		F6	F6			
6/5/2024	XX	LFUD9X1B9	F6	F6	F6					F6	F6		F6	F6			
7/15/2024	XX	LFUD9X232	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2024	XX	LFUD9X1EB	D	D	D					D	D		D	D			
8/30/2024	XX	LFUD9X24C	F6	F6	F6					F6	F6	F6	F6	F6			
9/19/2024	XX	LFUD9X262	L	L	L					L	L		L	L			
10/8/2024	XX	LFUD9X1JJ	D	D	D					D	D		D	D			
10/17/2024	XX	LFUD9X27B	!1	!1	!1					!1	!1		!1	!1			
11/12/2024	XX	LFUD9X298	H11	H11	H11					H11	H11		H11	H11			
12/31/2024	XX	LFUD9X2AH	H11	H11	H11					H11	H11		H11	H11			
LF-UD-10																	
10/25/2017	XX	LFXXXX9ID	F6	F6	F6					F6	F6		F6	F6			
12/27/2017	XX	LFXXXXA1F	F6	F6	F6					F6	F6		F6	F6			
1/19/2018	XX	LFXXXXA51	F6	F6	F6					F6	F6		F6	F6			
2/22/2018	XX	LFXXXXA5E	119	6.8	5.1					420	9		12.9	0.00056			
3/24/2018	XX	LFXXXXA9A	175	7	8.8					455	8	50 U	43.4	0.00334			
4/3/2018	XX	LFXXXXA48	F6	F6	F6					F6	F6		F6	F6			
4/28/2018	XX	LFXXXXAA3	F6	F6	F6					F6	F6	F6	F6	F6			
5/11/2018	XX	LFXXXXAAG	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2018	XX	LFXXXXAE0	F6	F6	F6					F6	F6		F6	F6			
7/2/2018	XX	LFXXXXAJ0	F6	F6	F6					F6	F6		F6	F6			
7/17/2018	XX	LFU10XAD6	D	D	D					D	D		D	D			
8/17/2018	XX	LFXXXXAJF	F6	F6	F6					F6	F6		F6	F6			
9/1/2018	XX	LFXXXXB31	F6	F6	F6					F6	F6		F6	F6			
10/3/2018	XX	LFXXXXB27	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LFXXXXB3F	F6	F6	F6					F6	F6		F6	F6			
11/2/2018	XX	LFXXXXB49	134	7.3	10.6					387	7	25	49.6	0.0045			
12/7/2018	XX	LFXXXXB88	F6	F6	F6					F6	F6	F6	F6				
1/3/2019	XX	LFXXXXB92	F6	F6	F6					F6	F6	F6	F6				
2/2/2019	XX	LFXXXXB9G	F6	F6	F6					F6	F6	F6	F6				
3/2/2019	XX	LFXXXXBAA	F6	F6	F6					F6	F6	F6	F6				
4/5/2019	XX	LFXXXXBB4	F6	F6	F6					F6	F6	F6	F6				
4/23/2019	XX	LFXXXXB74	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2019	XX	LFXXXXBEG	111	7.3	14.9					295	7	0 D3	49.5	0.0178			
6/24/2019	XX	LFXXXXBFA	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2019	XX	LFXXXXBDE	F6	F6	F6					F6	F6	F6	F6	F6			
7/30/2019	XX	LFXXXXBG4	F6	F6	F6					F6	F6	F6	F6	F6			
8/20/2019	XX	LFXXXXBGI	F6	F6	F6					F6	F6	F6	F6	F6			
9/20/2019	XX	LFXXXXC0B	F6	F6	F6					F6	F6	F6	F6	F6			
10/14/2019	XX	LFXXXXC15	F6	F6	F6					F6	F6	F6	F6	F6			
10/29/2019	XX	LFXXXXBJ7	F6	F6	F6					F6	F6	F6	F6	F6			
11/27/2019	XX	LFXXXXC1J	F6	F6	F6					F6	F6	F6	F6	F6			
12/23/2019	XX	LFXXXXC39	F6	F6	F6					F6	F6	F6	F6	F6			
1/17/2020	XX	LFXXXXC44	F6	F6	F6					F6	F6	F6	F6	F6			
2/4/2020	XX	LFXXXXC4J	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-10)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
3/27/2020	XX	LFXXXXCFF	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2020	XX	LFXXXXCEE	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2020	XX	LFXXXXCG9	F6	F6	F6					F6	F6	F6	F6	F6			
5/27/2020	XX	LFXXXXD08	F6	F6	F6					F6	F6	F6	F6	F6			
6/28/2020	XX	LFXXXXD12	F6	F6	F6					F6	F6	F6	F6	F6			
7/11/2020	XX	LFXXXXD1G	F6	F6	F6					F6	F6	F6	F6	F6			
7/21/2020	XX	LFXXXXCJ7	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2020	XX	LFXXXXD5E	F6	F6	F6					F6	F6	F6	F6	F6			
9/27/2020	XX	LFXXXXD6A	F6	F6	F6					F6	F6	F6	F6	F6			
10/27/2020	XX	LFXXXXD4B	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2020	XX	LFXXXXD74	F6	F6	F6					F6	F6	F6	F6	F6			
11/29/2020	XX	LFXXXXD7I	F6	F6	F6					F6	F6	F6	F6	F6			
12/13/2020	XX	LFXXXXD8C	F6	F6	F6					F6	F6	F6	F6	F6			
1/10/2021	XX	LFXXXXDF6	F6	F6	F6					F6	F6	F6	F6	F6			
2/28/2021	XX	LFXXXXDEC	A	A	A					A	A	A	A	A			
3/30/2021	XX	LFXXXXDG4	F6	F6	F6					F6	F6	F6	F6	F6			
4/6/2021	XX	LFXXXXDDB	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2021	XX	LFXXXXDI0	F6	F6	F6					F6	F6	F6	F6	F6			
5/19/2021	XX	LFXXXXDIE	F6	F6	F6					F6	F6	F6	F6	F6			
6/2/2021	XX	LFXXXXE35	F6	F6	F6					F6	F6	F6	F6	F6			
7/13/2021	XX	LFXXXXE12	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LFXXXXE41	F6	F6	F6					F6	F6	F6	F6	F6			
8/3/2021	XX	LFXXXXEG4	F6	F6	F6					F6	F6	F6	F6	F6			
9/18/2021	XX	LFXXXXEE5	F6	F6	F6					F6	F6	F6	F6	F6			
10/5/2021	XX	LFXXXXE7C	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LFXXXXEF4	F6	F6	F6					F6	F6	F6	F6	F6			
11/20/2021	XX	LFXXXXEI2	F6	F6	F6					F6	F6	F6	F6	F6			
12/18/2021	XX	LFXXXXEJ4	F6	F6	F6					F6	F6	F6	F6	F6			
1/16/2022	XX	LFXXXXF50	F6	F6	F6					F6	F6	F6	F6	F6			
2/20/2022	XX	LFXXXXF60	F6	F6	F6					F6	F6	F6	F6	F6			
3/20/2022	XX	LFXXXXF70	F6	F6	F6					F6	F6	F6	F6	F6			
4/15/2022	XX	LFXXXXFCB	F6	F6	F6					F6	F6	F6	F6	F6			
4/26/2022	XX	LFXXXXF23	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LFXXXXFDB	F6	F6	F6					F6	F6	F6	F6	F6			
6/7/2022	XX	LFXXXXFF1	F6	F6	F6					F6	F6		F6				
7/19/2022	XX	LFXXXXFA0	D	D	D					D	D		D	D			
7/21/2022	XX	LFXXXXFG1	F6	F6	F6					F6	F6		F6				
8/8/2022	XX	LFXXXXG3A	F6	F6	F6					F6	F6		F6				
9/2/2022	XX	LFXXXXG62	F6	F6	F6					F6	F6		F6				
10/4/2022	XX	LFXXXXG02	D	D	D					D	D		D	F6			
10/6/2022	XX	LFXXXXG94	F6	F6	F6					F6	F6		F6	F6			
11/4/2022	XX	LFXXXXGAF	F6	F6	F6					F6	F6		F6	F6			
12/5/2022	XX	LFXXXXGD0	F6	F6	F6					F6	F6		F6	F6			
1/4/2023	XX	LFXXXXGEC	F6	F6	F6					F6	F6		F6	F6			
2/1/2023	XX	LFXXXXGG3	F6	F6	F6					F6	F6		F6	F6			
3/1/2023	XX	LFXXXXH37	F6	F6	F6					F6	F6		F6	F6			
4/3/2023	XX	LFXXXXH4I	F6	F6	F6					F6	F6		F6	F6			
4/18/2023	XX	LFXXXXGJD	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LFXXXXH6H	F6	F6	F6					F6	F6		F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-10) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
6/6/2023	XX	LFXXXX030	F6	F6	F6					F6	F6		F6	F6			
7/11/2023	XX	LFXXXXH9E	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LFXXXX045	F6	F6	F6					F6	F6		F6	F6			
8/1/2023	XX	LFXXXX0B1	F6	F6	F6					F6	F6		F6	F6			
9/8/2023	XX	LFXXXX0C7	F6	F6	F6					F6	F6		F6	F6			
10/3/2023	XX	LFXXXX06I	D	D	D					D	D		D	D			
10/4/2023	XX	LFXXXX0DJ	F6	F6	F6					F6	F6		F6	F6			
11/7/2023	XX	LFXXXX0F8	F6	F6	F6					F6	F6		F6	F6			
12/20/2023	XX	LFXXXX0H6	F6	F6	F6					F6	F6		F6	F6			
1/2/2024	XX	LFXXXX0J2	F6	F6	F6					F6	F6		F6	F6			
2/6/2024	XX	LFXXXX10B	F6	F6	F6					F6	F6		F6	F6			
3/7/2024	XX	LFXXXX16C	F6	F6	F6					F6	F6		F6	F6			
4/2/2024	XX	LFXXXX137	D	D	D					D	D		D	D			
4/3/2024	XX	LFXXXX18B	F6	F6	F6					F6	F6		F6	F6			
5/8/2024	XX	LFXXXX1A2	F6	F6	F6					F6	F6		F6	F6			
6/5/2024	XX	LFXXXX1BD	F6	F6	F6					F6	F6		F6	F6			
7/15/2024	XX	LFXXXX236	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2024	XX	LFXXXX1EC	D	D	D					D	D		D	D			
8/30/2024	XX	LFXXXX24G	F6	F6	F6					F6	F6	F6	F6	F6			
9/19/2024	XX	LFXXXX266	L	L	L					L	L		L	L			
10/8/2024	XX	LFXXXX200	D	D	D					D	D		D	D			
10/17/2024	XX	LFXXXX27F	!1	!1	!1					!1	!1		!1	!1			
11/12/2024	XX	LFXXXX29C	H11	H11	H11					H11	H11		H11	H11			
12/31/2024	XX	LFXXXX2B1	H11	H11	H11					H11	H11		H11	H11			
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB	D	D	D					D	D		D	D			
8/8/2022	XX	GWXXXXG4G	F6	F6	F6					F6	F6		F6				
9/2/2022	XX	LFXXXXG69	F6	F6	F6					F6	F6		F6				
10/4/2022	XX	LFXXXXG2A	D	D	D					D	D		D				
10/6/2022	XX	LFXXXXG9B	I	I	I					I	I		I				
11/4/2022	XX	LFXXXXGB2	I	I	I					I	I		I				
12/5/2022	XX	LFXXXXGD7	F6	F6	F6					F6	F6		F6				
1/4/2023	XX	LFXXXXGEJ	146	7.8	10.7					361	6	50 <	14.1	0.0001			
2/1/2023	XX	LFXXXXGGA	100	7.7	9.4					347	6	500 >	8.3	0.0001			
3/1/2023	XX	LFXXXXH3E	FI	FI	FI					FI	FI	FI	FI	FI			
4/3/2023	XX	LFXXXXH55	F6	F6	F6					F6	F6	F6	F6	F6			
4/18/2023	XX	LFXXXXH1G	130	7.5	10.9					337	8.9		0.6	0.0011			
5/3/2023	XX	LFXXXXH72	F6	F6	F6					F6	F6	F6	F6	F6			
6/6/2023	XX	LFXXXX035	F6	F6	F6					F6	F6	F6	F6	F6			
7/11/2023	XX	LFXXXX01F	138	6.2	20.1					427	4.9		0.5	0.0011			
7/18/2023	XX	LFXXXX04A	F6	F6	F6					F6	F6	F6	F6	F6			
8/1/2023	XX	LFXXXX0B6	756	7.9	23					305	5	110	120.8	0.0001			
9/8/2023	XX	LFXXXX0CC	F6	F6	F6					F6	F6	F6	F6	F6			
10/3/2023	XX	LFXXXX0A2	F6	F6	F6					F6	F6	F6	F6	F6			
10/4/2023	XX	LFXXXX0E4	F6	F6	F6					F6	F6	F6	F6	F6			
11/7/2023	XX	LFXXXX0FD	F6	F6	F6					F6	F6	F6	F6	F6			
12/20/2023	XX	LFXXXX0HB	187	7.9	11.4					315	6	135	35.4	0.0001			
1/2/2024	XX	LFXXXX0J7	F6	F6	F6					F6	F6	F6	F6	F6			
2/6/2024	XX	LFXXXX10G	F6	F6	F6					F6	F6	F6	F6	F6			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-12+13+14)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
3/7/2024	XX	LFXXXX16H	131	7.8	11.8					318	6	175	89.1	0.0017			
4/2/2024	XX	LFXXXX15G	142	6.9	0.8					442	8.4		0.6	0.0006			
4/3/2024	XX	LFXXXX18G	F6	F6	F6					F6	F6		F6	F6			
5/8/2024	XX	LFXXXX1A7	F6	F6	F6					F6	F6		F6	F6			
6/5/2024	XX	LFXXXX1BI	F6	F6	F6					F6	F6		F6	F6			
7/15/2024	XX	LFXXXX23B	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2024	XX	LFXXXX1GD	D	D	D					D	D		D	D			
8/30/2024	XX	LFXXXX251	A	A	A					A	A	A	A	A			
9/19/2024	XX	LFXXXX26B	L	L	L					L	L		L	L			
10/8/2024	XX	LFXXXX226	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LFXXXX280	A	A	A					A	A		A	A			
11/12/2024	XX	LFXXXX29H	H11	H11	H11					H11	H11		H11	H11			
12/31/2024	XX	LFXXXX2B6	H11	H11	H11					H11	H11		H11	H11			
LP-COMP																	
3/28/2015	XX	LPCMPX7AH	320	7.1	11.4					387	4.5	135	1.78				
4/16/2015	XX	LPCMPX7BA	261	7.5	17.6					370	8	125	1.74				
7/23/2015	XX	LPCMPX7G7	326	7.2	20.2					350	9	155	0.4				
8/24/2015	XX	LPCMPX7GJ	317	7	20.2					361	6	160	0.2				
10/31/2015	XX	LPCMPX814	284	7.4	13.8					353	8	130	0.5				
11/27/2015	XX	LPCMPX81G	312	7	15					377	8	170	0.8				
12/2/2015	XX	LPCOMX62D	271	7.3	20.4					331	8	160	0.4				
12/30/2015	XX	LPCMPX829	306	7.2	8.8					361	10	160	0.9				
1/14/2016	XX	LPCMPX831	307	6.4	6.2					327	8	150	0.5				
2/18/2016	XX	LPCMPX88D	285	7.2	11.2					346	8	145	1				
3/17/2016	XX	LPCMPX895	305	7	11.3					331	10	155	0.4				
4/21/2016	XX	LPCMPX89H	302	7.1	11.9					335	9	120	1.3				
5/26/2016	XX	LPCMPX8D3	313	7	16.6					285	7	160	0.3				
6/27/2016	XX	LPCMPX8E7	333	6.6	17.9					520	7	165	0.8				
7/20/2016	XX	LPCMPX8FB	328	6.7	20.3					362	7	155	0.3				
8/29/2016	XX	LPCMPX91D	261	6.44	21.2					346	7	125	0.5				
9/23/2016	XX	LPCMPX941	265	6.63	18					313	7	130	0.3				
10/31/2016	XX	LPCMPX94F	250	6.84	15.1					347	4	75	0.3				
11/29/2016	XX	LPCMPX95A	269	7.25	7.5					378	6	110	0.6				
12/13/2016	XX	LPCMPX963	143	7.5	5.8					362	9	115	0.2				
1/10/2017	XX	LPCMPX9A2	122	7.05	13.6					364	7	110	0.4				
2/8/2017	XX	LPCMPX9AF	123	6.95	10.5					377	5	95	0.7				
3/3/2017	XX	LPCMPX9B8	92	6.91	15.1					370	6	75	2				
4/5/2017	XX	LPCMPX999	115	6.88	18.4					362	6	95	0.4				
5/25/2017	XX	LPCMPX9C1	205	6.6	13.8					359	3	90	0.6				
6/16/2017	XX	LPCMPX9F2	235	6.9	14					346	7	115	0.6				
7/31/2017	XX	LPCMPX9FF	333	7.1	21.2					330	7	180	0.6				
8/31/2017	XX	LPCMPX9J5	325	6.8	19.1					346	7	180	0.2				
9/28/2017	XX	LPCMPX9JH	324	7.3	18.3					330	7	125	0.3				
10/26/2017	XX	LPCMPXA09	317	6.8	17.1					415	7	165	1.7				
11/30/2017	XX	LPCMPXA11	311	7.3	12					367	6	165	0.7				
12/27/2017	XX	LPCMPXA1E	304	6.2	11.4					376	7	140	1				
1/19/2018	XX	LPCMPXA50	306	7	6.9					389	8	150	0.2				
2/22/2018	XX	LPCMPXA5D	297	7.5	7					386	9	110	1.3				
3/24/2018	XX	LPCMPXA99	310	6.5	9.1					396	9	120	2.1				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-COMP)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/28/2018	XX	LPCMPXAA2	257	7.2	14.6					415	10	125	0.5				
5/11/2018	XX	LPCMPXAAF	294	6.9	10.8					415	9	110	2				
6/2/2018	XX	LPCMPXADJ	472	6.7	13.8					373	7	120	0.4				
7/2/2018	XX	LPCMPXAIJ	332	7.2	19.1					359	8	130	0.6				
8/17/2018	XX	LPCMPXAJE	335	6.7	21.3					324	8	130	3.2				
9/1/2018	XX	LPCMPXB30	320	6.7	18.7					369	7	130	0.9				
10/13/2018	XX	LPCMPXB3E	313	6	15.3					363	6	130	1.2				
11/2/2018	XX	LPCMPXB48	269	6.6	12.1					354	8	110	2.2				
12/7/2018	XX	LPCMPXB87	235	6.1	8.2					359	8	125	2.5				
1/3/2019	XX	LPCMPXB91	310	6.8	5.2					375	7	125	4.7				
2/2/2019	XX	LPCMPXB9F	429	7.7	3.4					378	7	130	7.4				
3/2/2019	XX	LPCMPXBA9	289	6.4	6					356	6	130	2.1				
4/5/2019	XX	LPCMPXBB3	260	8.1	13.1					363	7	130	0.9				
5/10/2019	XX	LPCMPXBEF	248	6.8	13.8					327	6	130	0.9				
6/24/2019	XX	LPCMPXBF9	270	7.2	15.1					366	8	125	0.5				
7/30/2019	XX	LPCMPXBG3	280	7.1	20					354	8	150	0.4				
8/20/2019	XX	LPCMPXBGH	273	7.4	25.1					352	8	140	0.2				
9/20/2019	XX	LPCMPXC0A	294	7.2	21.7					361	6	125	0.2				
10/14/2019	XX	LPCMPXC14	267	7.3	18.5					347	10	140	0.3				
11/27/2019	XX	LPCMPXC1I	245	7.5	21					389	8	145	1.6				
12/23/2019	XX	LPCMPXC38	285	7.3	9.3					378		125	0.6				
1/17/2020	XX	LPCMPXC43	247	7.2	7.8					415	10	135	1.8				
2/4/2020	XX	LPCMPXC4I	256	7.2	10.2					361	10	100	1.1				
3/27/2020	XX	LPCMPXCFE	225	7.3	10.7					418	6	135	0.5				
4/29/2020	XX	LPCMPXCG8	268	7.2	14.8					352	8	140	1.6				
5/27/2020	XX	LPCMPXD07	238	7.1	21.3					348	6	150	0.3				
6/28/2020	XX	LPCMPXD11	275	7	22.4					322	6	150	1.8				
7/11/2020	XX	LPCMPXD1F	293	6.9	22.2					352	5	175	0.2				
8/3/2020	XX	LPCMPXD5D	303	7	22.4					360	6	160	0.1				
9/27/2020	XX	LPCMPXD69	285	7.2	18					416	5	175	0.1				
10/31/2020	XX	LPCMPXD73	288	7.4	14.5					403	8	150	1.2				
11/29/2020	XX	LPCMPXD7H	286	7.3	14.9					426	6	150	0.8				
12/13/2020	XX	LPCMPXD8B	274	7.1	11.9					385	6	135	2.7				
1/10/2021	XX	LPCMPXDF5	289	7.4	15.7					390	6	150	0.8				
2/28/2021	XX	LPCMPXDEB	267	7.4	11.9					350	8	150	1.4				
3/30/2021	XX	LPCMPXDG3	261	7.3	14.9					402	8	130	6.5				
4/29/2021	XX	LPCMPXDHJ	314	7.3	15					373	8	150	0.9				
5/19/2021	XX	LPCMPXDID	314	7.5	21.2					394	7	145	1.3				
6/2/2021	XX	LPCMPXE34	262	7.2	19.6					344	6	150	0.8				
7/16/2021	XX	LPCMPXE40	333	6.9	23.8					386	9	160	0.8				
8/3/2021	XX	LPCMPXEG3	306	7	23.4					409	8	160	2.5				
9/18/2021	XX	LPCMPXEE4	365	6.7	19.9					366	7	150	21.3				
10/16/2021	XX	LPCMPXEF3	253	7	17.6					352	5	160	8.1				
11/20/2021	XX	LPCMPXEI1	362	7.8	13.9					328	6	175	5.8				
12/18/2021	XX	LPCMPXEJ3	277	7.2	13.5					341	6	150	15.2				
1/16/2022	XX	LPCMPXF4J	254	7	15.4					337	8	110	4.8				
2/20/2022	XX	LPCMPXF5J	245	6.8	11.3					335	6	130	5.6				
3/20/2022	XX	LPCMPXF6J	288	7	10.9					346	8	150	2.8				
4/15/2022	XX	LPCMPXFCA	292	7	19.4					304	8	140	4.8				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(LP-COMP) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
5/10/2022	XX	LPCMPXFDA	294	7.3	19.8					342	8	150	42.7				
6/7/2022	XX	LPCMPXFF0	328	2.2	21.1					329	6	175	1.2				
7/21/2022	XX	LPCMPXFG0	332	7.2	22.2					325	5	175	1.2				
8/8/2022	XX	LPCMPXG39	F6	F6	F6					F6	F6	F6	F6				
9/2/2022	XX	LPCMPXG61	336	7	18					365	5	150	5.9				
10/6/2022	XX	LPCMPXG93	308	7.1	13.8					299	6	150	1.2				
11/4/2022	XX	LPCMPXGAE	314	6.7	10.2					332	6	150	2.8				
12/5/2022	XX	LPCMPXGCJ	320	6.7	9.2					326	6	175	2.3				
1/4/2023	XX	LPCMPXGEB	321	7.1	8.4					385	6	110	0.4				
2/1/2023	XX	LPCMPXGG2	318	7.5	11.6					360	6	125	3.9				
3/1/2023	XX	LPCMPXH36	316	7.6	12					381	6	125	11.7				
4/3/2023	XX	LPCMPXH4H	309	7.5	14.9					351	6	115	49.2				
5/3/2023	XX	LPCMPXH6G	296	7.2	13.9					311	6	125	37.5				
6/6/2023	XX	LPCMPX02J	352	7.3	16.8					333	6	120	29.5				
7/18/2023	XX	LPCMPX044	482	6.8	22.7					357	6	135	20.9				
8/1/2023	XX	LPCMPX0B0	332	7	21					312	8	135	11.9				
9/8/2023	XX	LPCMPX0C6	344	7.1	23.9					342	5	140	53.1				
10/4/2023	XX	LPCMPX0DI	334	6.9	22.3					341	6	150	15.4				
11/7/2023	XX	LPCMPX0F7	321	6.9	16.7					361	6	150	6				
12/20/2023	XX	LPCMPX0H5	298	7.2	10.9					342	6	125	6.1				
1/2/2024	XX	LPCMPX0J1	288	7.1	13.3					346	6	135	2.4				
2/6/2024	XX	LPCMPX10A	357	7.4	13.1					351	6	150	1.8				
3/7/2024	XX	LPCMPX16B	267	7.2	11.9					341	6	135	3.8				
4/3/2024	XX	LPCMPX18A	321	7.2	15.2					345	6	125	2.2				
5/8/2024	XX	LPCMPX1A1	339	6.6	14.7					351	6	175	3.5				
6/5/2024	XX	LPCMPX1BC	309	7.3	22.1					297	8	125	0.8				
7/15/2024	XX	LPCMPX235	326	6.7	21.4					314	8	80	1.8				
8/30/2024	XX	LPCMPX24F	327	7.2	22.2					214	6	112.5	37.2				
9/19/2024	XX	LPCMPX265	384	7.1	23.4					374	5	125	1.4				
10/17/2024	XX	LPCMPX27E	346	7.3	20.8					344	6	125	3.3				
11/12/2024	XX	LPCMPX29B	342	7.6	18.6					297	8	150	6.8				
12/31/2024	XX	LPCMPX2B0	347	7.2	17.2					318	10	150	3				
LP-UD-1																	
2/3/2015	XX	LPUD1X76J	F12	F12	F12					F12	F12	F12	F12				
2/21/2015	XX	LPUD1X77A	F6	F6	F6					F6	F6	F6	F6				
3/28/2015	XX	LPUD1X7A8	H9	H9	H9					H9	H9	H9	H9				
4/16/2015	XX	LPUD1X7B1	H9	H9	H9					H9	H9	H9	H9				
4/28/2015	XX	LPUD1X794	F6	F6	F6					F6	F6	F6	F6				
5/22/2015	XX	LPUD1X7F6	F6	F6	F6					F6	F6	F6	F6				
6/22/2015	XX	LPUD1X7EE	F6	F6	F6					F6	F6	F6	F6				
7/14/2015	XX	LPUD1X7CG	F6	F6	F6					F6	F6	F6	F6				
7/23/2015	XX	LPUD1X7FI	H9	H9	H9					H9	H9	H9	H9				
8/24/2015	XX	LPUD1X7GA	H9	H9	H9					H9	H9	H9	H9				
9/26/2015	XX	LPUD1X803	F6	F6	F6					F6	F6	F6	F6				
10/26/2015	XX	LPUD1X7I5	F6	F6	F6					F6	F6		F6				
10/31/2015	XX	LPUD1X80F	H9	H9	H9					H9	H9	H9	H9	H9			
11/27/2015	XX	LPUD1X817	H9	H9	H9					H9	H9	H9	H9	H9			
12/30/2015	XX	LPUD1X820	H9	H9	H9					H9	H9	H9	H9	H9			
1/14/2016	XX	LPUD1X82C	H9	H9	H9					H9	H9	H9	H9	H9			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-1)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
2/18/2016	XX	LPUD1X884	H9	H9	H9					H9	H9	H9	H9	H9			
3/17/2016	XX	LPUD1X88G	H9	H9	H9					H9	H9	H9	H9	H9			
4/5/2016	XX	LPUD1X86F	F6	F6	F6					F6	F6	F6	F6	F6			
4/21/2016	XX	LPUD1X898	H9	H9	H9					H9	H9	H9	H9	H9			
5/26/2016	XX	LPUD1X8CE	H9	H9	H9					H9	H9	H9	H9	H9			
6/27/2016	XX	LPUD1X8DI	H9	H9	H9					H9	H9	H9	H9	H9			
7/20/2016	XX	LPUD1X8F2	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LPUD1X8B5	F6	F6	F6					F6	F6	F6	F6	F6			
8/29/2016	XX	LPUD1X90D	F6	F6	F6					F6	F6	F6	F6	F6			
9/23/2016	XX	LPUD1X93C	F12	F12	F12					F12	F12	F12	F12	F12			
10/25/2016	XX	LPUD1X8J4	F6	F6	F6					F6	F6	F6	F6	F6			
10/31/2016	XX	LPUD1X946	H9	H9	H9					H9	H9	H9	H9	H9			
11/29/2016	XX	LPUD1X951	H9	H9	H9					H9	H9	H9	H9	H9			
12/13/2016	XX	LPUD1X95E	H9	H9	H9					H9	H9	H9	H9	H9			
1/10/2017	XX	LPUD1X99D	H9	H9	H9					H9	H9	H9	H9	H9			
2/8/2017	XX	LPUD1X9A6	H9	H9	H9					H9	H9	H9	H9	H9			
3/3/2017	XX	LPUD1X9AJ	H9	H9	H9					H9	H9	H9	H9	H9			
4/5/2017	XX	LPUD1X990	H9	H9	H9					H9	H9	H9	H9	H9			
4/18/2017	XX	LPUD1X97A	F6	F6	F6					F6	F6	F6	F6	F6			
5/25/2017	XX	LPUD1X9BC	H9	H9	H9					H9	H9	H9	H9	H9			
6/16/2017	XX	LPUD1X9ED	H9	H9	H9					H9	H9	H9	H9	H9			
7/25/2017	XX	LPUD1X9D8	F6	F6	F6					F6	F6	F6	F6	F6			
7/31/2017	XX	LPUD1X9F6	H9	H9	H9					H9	H9	H9	H9	H9			
8/31/2017	XX	LPUD1X9IG	H9	H9	H9					H9	H9	H9	H9	H9			
9/28/2017	XX	LPUD1X9J8	H9	H9	H9					H9	H9	H9	H9	H9			
10/25/2017	XX	LPUD1X9H3	F6	F6	F6					F6	F6	F6	F6	F6			
10/26/2017	XX	LPUD1XA00	H9	H9	H9					H9	H9	H9	H9	H9			
11/30/2017	XX	LPUD1XA0C	H9	H9	H9					H9	H9	H9	H9	H9			
12/27/2017	XX	LPUD1XA15	H9	H9	H9					H9	H9	H9	H9	H9			
1/19/2018	XX	LPUD1XA4B	H9	H9	H9					H9	H9	H9	H9	H9			
2/22/2018	XX	LPUD1XA54	H9	H9	H9					H9	H9	H9	H9	H9			
3/24/2018	XX	LPUD1XA90	H9	H9	H9					H9	H9	H9	H9	H9			
4/3/2018	XX	LPUD1XA32	F6	F6	F6					F6	F6	F6	F6	F6			
4/28/2018	XX	LPUD1XA9D	H9	H9	H9					H9	H9	H9	H9	H9			
5/11/2018	XX	LPUD1XAA6	H9	H9	H9					H9	H9	H9	H9	H9			
6/2/2018	XX	LPUD1XADA	H9	H9	H9					H9	H9	H9	H9	H9			
7/2/2018	XX	LPUD1XAIA	H9	H9	H9					H9	H9	H9	H9	H9			
7/17/2018	XX	LPUD1XAC3	F6	F6	F6					F6	F6	F6	F6	F6			
8/17/2018	XX	LPUD1XAJ5	H9	H9	H9					H9	H9	H9	H9	H9			
9/1/2018	XX	LPUD1XB2B	H9	H9	H9					H9	H9	H9	H9	H9			
10/2/2018	XX	LPUD1XB11	F6	F6	F6					F6	F6	F6	F6	F6			
10/13/2018	XX	LPUD1XB35	H9	H9	H9					H9	H9	H9	H9	H9			
11/2/2018	XX	LPUD1XB3J	H9	H9	H9					H9	H9	H9	H9	H9			
12/7/2018	XX	LPUD1XB7I	H9	H9	H9					H9	H9	H9	H9				
1/3/2019	XX	LPUD1XB8C	H9	H9	H9					H9	H9	H9	H9				
2/2/2019	XX	LPUD1XB96	H9	H9	H9					H9	H9	H9	H9				
3/2/2019	XX	LPUD1XBA0	H9	H9	H9					H9	H9	H9	H9				
4/5/2019	XX	LPUD1XBAE	H9	H9	H9					H9	H9	H9	H9	H9			
4/23/2019	XX	LPUD1XB5I	241	7.1	6.2					370	2.5		0.4	0.0011			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-1)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
5/10/2019	XX	LPUD1XBE6	H9	H9	H9					H9	H9		H9	H9			
6/24/2019	XX	LPUD1XBF0	H9	H9	H9					H9	H9		H9	H9			
7/16/2019	XX	LPUD1XBCA	F6	F6	F6					F6	F6		F6	F6			
7/30/2019	XX	LPUD1XBFE	H9	H9	H9					H9	H9		H9	H9			
8/20/2019	XX	LPUD1XBG8	H9	H9	H9					H9	H9		H9	H9			
9/20/2019	XX	LPUD1XC01	H9	H9	H9					H9	H9		H9	H9			
10/14/2019	XX	LPUD1XC0F	H9	H9	H9					H9	H9		H9	H9			
10/29/2019	XX	LPUD1XBI3	F6	F6	F6					F6	F6		F6	F6			
11/27/2019	XX	LPUD1XC19	H9	H9	H9					H9	H9		H9	H9			
12/23/2019	XX	LPUD1XC2J	H9	H9	H9					H9	H9		H9	H9			
1/17/2020	XX	LPUD1XC3E	H9	H9	H9					H9	H9		H9	H9			
2/4/2020	XX	LPUD1XC49	H9	H9	H9					H9	H9		H9	H9			
3/27/2020	XX	LPUD1XCF6	H9	H9	H9					H9	H9		H9	H9			
4/28/2020	XX	LPUD1XCDA	F6	F6	F6					F6	F6		F6	F6			
4/29/2020	XX	LPUD1XCG0	H9	H9	H9					H9	H9		H9	H9			
5/27/2020	XX	LPUD1XCJJ	H9	H9	H9					H9	H9		H9	H9			
6/28/2020	XX	LPUD1XD0D	H9	H9	H9					H9	H9		H9	H9			
7/11/2020	XX	LPUD1XD17	H9	H9	H9					H9	H9		H9	H9			
7/22/2020	XX	LPUD1XCI3	F6	F6	F6					F6	F6		F6	F6			
8/3/2020	XX	LPUD1XD55	H9	H9	H9					H9	H9		H9	H9			
9/27/2020	XX	LPUD1XD61	H9	H9	H9					H9	H9		H9	H9			
10/27/2020	XX	LPUD1XD37	F6	F6	F6					F6	F6		F6	F6			
10/31/2020	XX	LPUD1XD6F	H9	H9	H9					H9	H9		H9	H9			
12/13/2020	XX	LPUD1XD83	H9	H9	H9					H9	H9		H9	H9			
1/10/2021	XX	LPUD1XDEH	H9	H9	H9					H9	H9	H9	H9	H9			
2/28/2021	XX	LPUD1XDE3	H9	H9	H9					H9	H9	H9	H9	H9			
3/30/2021	XX	LPUD1XDFF	H9	H9	H9					H9	H9	H9	H9	H9			
4/6/2021	XX	LPUD1XDC9	F6	F6	F6					F6	F6	F6	F6	F6			
4/29/2021	XX	LPUD1XDHB	H9	H9	H9					H9	H9	H9	H9	H9			
5/19/2021	XX	LPUD1XDI5	H9	H9	H9					H9	H9	H9	H9	H9			
6/2/2021	XX	LPUD1XE2G	H9	H9	H9					H9	H9	H9	H9	H9			
7/13/2021	XX	LPUD1XE01	F6	F6	F6					F6	F6	F6	F6	F6			
7/16/2021	XX	LPUD1XE3C	H9	H9	H9					H9	H9	H9	H9	H9			
8/3/2021	XX	LPUD1XEFE	H9	H9	H9					H9	H9	H9	H9	H9			
9/18/2021	XX	LPUD1XEDG	357	6.7	20.4					365	6	125	11	0.143			
10/5/2021	XX	LPUD1XE69	F6	F6	F6					F6	F6	F6	F6	F6			
10/16/2021	XX	LPUD1XEEF	251	6.9	19.8					349	6	150	5	0.2152			
11/20/2021	XX	LPUD1XEHD	H9	H9	H9					H9	H9	H9	H9	H9			
12/18/2021	XX	LPUD1XEIF	H9	H9	H9					H9	H9	H9	H9	H9			
1/16/2022	XX	LPUD1XF4B	H9	H9	H9					H9	H9	H9	H9	H9			
2/20/2022	XX	LPUD1XF5B	H9	H9	H9					H9	H9	H9	H9	H9			
3/20/2022	XX	LPUD1XF6B	H9	H9	H9					H9	H9	H9	H9	H9			
4/15/2022	XX	LPUD1XFC2	H9	H9	H9					H9	H9	H9	H9	H9			
4/26/2022	XX	LPUD1XF11	F6	F6	F6					F6	F6	F6	F6	F6			
5/10/2022	XX	LPUD1XFD2	H9	H9	H9					H9	H9	H9	H9	H9			
6/7/2022	XX	LPUD1XFEC	H9	H9	H9					H9	H9	H9	H9	H9			
7/19/2022	XX	LPUD1XF8J	D	D	D					D	D	D	D	D			
7/21/2022	XX	LPUD1XFFC	H9	H9	H9					H9	H9	H9	H9	H9			
8/8/2022	XX	LPUD1XG31	H9	H9	H9					H9	H9	H9	H9	H9			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-1) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
9/2/2022	XX	LPUD1XG5D	H9	H9	H9					H9	H9	H9	H9	H9			
10/4/2022	XX	LPUD1XFJ0	D	D	D					D	D		D	F6			
10/6/2022	XX	LPUD1XG8F	H9	H9	H9					H9	H9		H9	H9			
11/4/2022	XX	LPUD1XGA6	H9	H9	H9					H9	H9		H9	H9			
12/5/2022	XX	LPUD1XGCB	H9	H9	H9					H9	H9		H9	H9			
1/4/2023	XX	LPUD1XGE3	H9	H9	H9					H9	H9		H9	H9			
2/1/2023	XX	LPUD1XGFE	H9	H9	H9					H9	H9		H9	H9			
3/1/2023	XX	LPUD1XH2I	H9	H9	H9					H9	H9		H9	H9			
4/3/2023	XX	LPUD1XH49	H9	H9	H9					H9	H9		H9	H9			
4/18/2023	XX	LPUD1XGIB	F6	F6	F6					F6	F6		F6	F6			
5/3/2023	XX	LPUD1XH68	H9	H9	H9					H9	H9		H9	H9			
6/6/2023	XX	LPUD1X02B	H9	H9	H9					H9	H9		H9	H9			
7/11/2023	XX	LPUD1XH8D	F6	F6	F6					F6	F6		F6	F6			
7/18/2023	XX	LPUD1X03G	H9	H9	H9					H9	H9		H9	H9			
8/1/2023	XX	LPUD1X0AC	H9	H9	H9					H9	H9		H9	H9			
9/8/2023	XX	LPUD1X0BI	H9	H9	H9					H9	H9		H9	H9			
10/3/2023	XX	LPUD1X061	F6	F6	F6					F6	F6		F6	F6			
10/4/2023	XX	LPUD1X0DA	H9	H9	H9					H9	H9		H9	H9			
11/7/2023	XX	LPUD1X0EJ	H9	H9	H9					H9	H9		H9	H9			
12/20/2023	XX	LPUD1X0GH	H9	H9	H9					H9	H9		H9	H9			
1/2/2024	XX	LPUD1X0ID	H9	H9	H9					H9	H9		H9	H9			
2/6/2024	XX	LPUD1X102	H9	H9	H9					H9	H9		H9	H9			
3/7/2024	XX	LPUD1X163	H9	H9	H9					H9	H9		H9	H9			
4/2/2024	XX	LPUD1X12B	F6	F6	F6					F6	F6		F6	F6			
4/3/2024	XX	LPUD1X182	H9	H9	H9					H9	H9		H9	H9			
5/8/2024	XX	LPUD1X19D	H9	H9	H9					H9	H9		H9	H9			
6/5/2024	XX	LPUD1X1B4	H9	H9	H9					H9	H9		H9	H9			
7/15/2024	XX	LPUD1X22H	H9	H9	H9					H9	H9	H9	H9	H9			
7/16/2024	XX	LPUD1X1DD	F6	F6	F6					F6	F6		F6	F6			
8/30/2024	XX	LPUD1X247	H9	H9	H9					H9	H9	H9	H9	H9			
9/19/2024	XX	LPUD1X25H	H9	H9	H9					H9	H9		H9	H9			
10/8/2024	XX	LPUD1X1J4	F6	F6	F6					F6	F6		F6	F6			
10/17/2024	XX	LPUD1X276	H9	H9	H9					H9	H9		H9	H9			
11/12/2024	XX	LPUD1X293	H9	H9	H9					H9	H9		H9	H9			
12/31/2024	XX	LPUD1X2AC	H9	H9	H9					H9	H9		H9	H9			
LP-UD-2																	
2/3/2015	XX	LPUD2X770	310	7.6	12.6					375	5.5	150	0.27	0.0011			
2/21/2015	XX	LPUD2X77B	241	7.8	17.5					352	7.5	150	0.87	0.0007			
3/28/2015	XX	LPUD2X7A9	281	7.1	11.7					393	5.5	125	1.06	0.0017			
4/16/2015	XX	LPUD2X7B2	294	7.6	18.8					370	9	125	0.95	0.0015			
4/28/2015	XX	LPUD2X795	302	7.4	7.2					333	8.8		1.3	0.0033			
5/22/2015	XX	LPUD2X7F7	174	7.2	18.8					370	8	150	0.7	0.0006			
6/22/2015	XX	LPUD2X7EF	321	7.1	21.8					287	7	160	0.34	0.0006			
7/14/2015	XX	LPUD2X7CH	309	7	15.5					335	7.6		0.4	0.0045			
7/23/2015	XX	LPUD2X7FJ	324	7.1	19.6					363	7	130	0.1				
8/24/2015	XX	LPUD2X7GB	329	7	19					350	7	165	0.4	0.0007			
9/26/2015	XX	LPUD2X804	309	7	19.9					364	7	155	0.1	0.0004			
10/27/2015	XX	LPUD2X7I6	283	7.7	12.5					336	8		0.3	0.0033			
10/31/2015	XX	LPUD2X80G	H5	H5	H5					H5	H5	H5	H5	H5			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-2)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
11/27/2015	XX	LPUD2X818	315	7.2	13.3					374	9	160	0.3	0.0007			
12/30/2015	XX	LPUD2X821	305	7.2	7.8					361	9	140	0.03	0.0004			
1/14/2016	XX	LPUD2X82D	310	6.8	4.4					332	8	155	0.01 U	0.0006			
2/18/2016	XX	LPUD2X885	283	7.3	9.6					354	8	155	0.7	0.0006			
3/17/2016	XX	LPUD2X88H	311	7.1	9.4					333	9	160	0.4	0.0006			
4/5/2016	XX	LPUD2X86G	302	7.5	5.1					205	9.2		0.6	0.0033			
4/21/2016	XX	LPUD2X899	305	7.2	10.9					290	9	150	0.3	0.0006			
5/26/2016	XX	LPUD2X8CF	312	7.1	13.8					309	9	145	0.2	0.0004			
6/27/2016	XX	LPUD2X8DJ	H9	H9	H9					H9	H9	H9	H9	H9			
7/20/2016	XX	LPUD2X8F3	F6	F6	F6					F6	F6	F6	F6	F6			
7/26/2016	XX	LPUD2X8B6	339	6.8	15.4					332	4.6		0.4	0.0022			
8/29/2016	XX	LPUD2X90E	F12	F12	F12					F12	F12		F12	F12			
9/23/2016	XX	LPUD2X93D	F12	F12	F12					F12	F12		F12	F12			
10/25/2016	XX	LPUD2X8J5	466	7.4	12.9					157	2.6		0.8	0.0017			
10/31/2016	XX	LPUD2X947	H9	H9	H9					H9	H9		H9	H9			
11/29/2016	XX	LPUD2X952	F12	F12	F12					F12	F12		F12	F12			
12/13/2016	XX	LPUD2X95F	H9	H9	H9					H9	H9		H9	H9			
1/10/2017	XX	LPUD2X99E	H5	H5	H5					H5	H5	H5	H5	H5			
2/8/2017	XX	LPUD2X9A7	H5	H5	H5					H5	H5	H5	H5	H5			
3/3/2017	XX	LPUD2X9B0	H5	H5	H5					H5	H5	H5	H5	H5			
4/5/2017	XX	LPUD2X991	H5	H5	H5					H5	H5	H5	H5	H5			
4/18/2017	XX	LPUD2X97B	390	6.8	6.2					405	4.5		0.5	0.0011			
5/25/2017	XX	LPUD2X9BD	H5	H5	H5					H5	H5	H5	H5	H5			
6/16/2017	XX	LPUD2X9EE	327	7.4	19.8					365	7	175	0.4	0.0007			
7/25/2017	XX	LPUD2X9D9	305	7.7	15.4					413	8.3		0.3	0.0022			
7/31/2017	XX	LPUD2X9F7	341	7	18.2					372	6	170	0.3	0.0006			
8/31/2017	XX	LPUD2X9IH	332	6.7	17.8					378	7	155	0.2	0.0006			
9/28/2017	XX	LPUD2X9J9	330	7	16.9					347	6	140	0.2	0.0006			
10/25/2017	XX	LPUD2X9H4	293	7.3	15.2					340	8		1.2	0.0006			
10/26/2017	XX	LPUD2XA01	332	6.8	16.1					401	6	155	0.3	0.00056			
11/30/2017	XX	LPUD2XA0D	313	7.2	1.3					390	7	150	0.2	0.00111			
12/27/2017	XX	LPUD2XA16	306	6.5	9.7					415	9	130	0.1	0.0007			
1/19/2018	XX	LPUD2XA4C	303	7	9.2					399	9	125	0.3	0.00111			
2/22/2018	XX	LPUD2XA55	456	7.6	8.9					373	9	160	0.2	0.00167			
3/24/2018	XX	LPUD2XA91	308	6.8	8.5					423	9	125	0.5	0.00037			
4/3/2018	XX	LPUD2XA33	267	7.2	8.3					463	8		1.2	0.00334			
4/28/2018	XX	LPUD2XA9E	263	7.1	13.6					420	10	120	0.5	0.00056			
5/11/2018	XX	LPUD2XAA7	309	6.9	13.3					415	8	120	0.2	0.00111			
6/2/2018	XX	LPUD2XADB	359	6.6	15.3					356	7	125	0.7	0.00111			
7/2/2018	XX	LPUD2XAIB	364	7.3	20.1					372	7	120	0.5	0.0011			
7/17/2018	XX	LPUD2XAC4	327	8.5	15.2					393	7.2		1.1	0.00056			
8/17/2018	XX	LPUD2XAJ6	390	6.7	23.8					344	7	140	1.1	0.00037			
9/1/2018	XX	LPUD2XB2C	353	6.7	18.3					375	6	125	0.7	0.0004			
10/2/2018	XX	LPUD2XB12	314	7.7	14.4					476	6.7		0.8	0.00056			
10/13/2018	XX	LPUD2XB36	391	5.7	15.4					370	7	150	1.9	0.0004			
11/2/2018	XX	LPUD2XB40	273	6.2	12.1					370	8	120	1.5	0.0003			
12/7/2018	XX	LPUD2XB7J	285	5.8	7.6					360	7	130	1.1	0.0007			
1/3/2019	XX	LPUD2XB8D	324	6.9	5.1					376	8	140	1.6	0.0004			
2/2/2019	XX	LPUD2XB97	444	7.7	3.1					374	7	125	3.8	0.0002			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-2)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
3/2/2019	XX	LPUD2XBA1	317	5.9	6.1					352	7	150	0.8	0.0003			
4/5/2019	XX	LPUD2XBAF	272	8	13.1					380	8	125	0.8	0.0002			
4/23/2019	XX	LPUD2XB5J	243	7.1	6.3					359	9		0.6	0.0022			
5/10/2019	XX	LPUD2XBE7	299	6.4	13.7					348	7	125	1.7	0.0004			
6/24/2019	XX	LPUD2XBF1	272	7.2	16					367	8	125	0.9	0.0033			
7/16/2019	XX	LPUD2XBCB	284	7.5	16.2					402	12		0.4	0.0011			
7/30/2019	XX	LPUD2XBFF	300	7.3	20.3					355	8	135	0.4	0.0002			
8/20/2019	XX	LPUD2XBG9	281	7.4	25.2					355	5	130	0.2	0.0022			
9/20/2019	XX	LPUD2XC02	300	7.3	21.6					362	6	125	0.2	0.0002			
10/14/2019	XX	LPUD2XC0G	271	7.3	18.2					348	8	125	0.8	0.0017			
10/29/2019	XX	LPUD2XBI4	273	7.3	12.7					333	7.8		1.1	0.0006			
11/27/2019	XX	LPUD2XC1A	257	7.4	20.9					395	8	125	0.7	0.0022			
12/23/2019	XX	LPUD2XC30	267	7.2	10.4					378	8	120	0.3	0.0045			
1/17/2020	XX	LPUD2XC3F	253	7.3	8					418	10	125	0.7	0.0013			
2/4/2020	XX	LPUD2XC4A	256	7.3	10.4					377	10	125	0.2	0.0025			
3/27/2020	XX	LPUD2XCF7	232	7.3	10.7					423	6	125	0.1	0.0067			
4/28/2020	XX	LPUD2XCDB	304	7.7	7.4					336	8.5		0.2	0.0011			
4/29/2020	XX	LPUD2XCG1	263	7.3	11.7					309	8	125	0.4	0.0017			
5/27/2020	XX	LPUD2XD00	245	7.1	21.1					320	6	135	0.1	0.0033			
6/28/2020	XX	LPUD2XD0E	292	6.8	22.6					323	6	150	0.1 U	0.0006			
7/11/2020	XX	LPUD2XD18	310	7	21.9					327	6	175	0.1	0.0017			
7/21/2020	XX	LPUD2XCI4	284	6.8	16.7					371	6.1		0.6	0.0006			
8/3/2020	XX	LPUD2XD56	303	7	22.1					352	8	160	0.2	0.0017			
9/27/2020	XX	LPUD2XD62	282	7.2	18.1					414	6	175	0.2	0.0006			
10/27/2020	XX	LPUD2XD38	284	7.5	12.1					403	8.3		0.8				
10/31/2020	XX	LPUD2XD6G	291	7.4	15					398	6	150	0.2	0.0011			
11/29/2020	XX	LPUD2XD7A	292	7.3	14.8					419	6	150	0.4	0.0023			
12/13/2020	XX	LPUD2XD84	285	7.1	11.8					385	6	135	0.6	0.0022			
1/10/2021	XX	LPUD2XDEI	295	7.4	15.2					365	6	140	0.1 U	0.0025			
2/28/2021	XX	LPUD2XDE4	271	7.5	13.1					344	8	175	0.5	0.0015			
3/30/2021	XX	LPUD2XDFG	277	7.2	14.2					361	8	130	1.4	0.0012			
4/6/2021	XX	LPUD2XDCA	252	7	7.2					382	9.7		2.7	0.0017			
4/29/2021	XX	LPUD2XDHC	303	7.4	15.5					367	8	150	0.5	0.0017			
5/19/2021	XX	LPUD2XDI6	314	7.5	21.2					394	7	145	1.3	0.0018			
6/2/2021	XX	LPUD2XE2H	269	7.3	19.2					317	5	150	1.6	0.0007			
7/13/2021	XX	LPUD2XE02	281	7.3	15.2					301	8.8		0.6	0.0006			
7/16/2021	XX	LPUD2XE3D	344	6.9	23.7					372	6	150	1.6	0.0006			
8/3/2021	XX	LPUD2XEFF	310	7.2	24.6					399	6	150	13	0.0668			
9/18/2021	XX	LPUD2XEDH	H9	H9	H9					H9	H9		H9	H9			
10/5/2021	XX	LPUD2XE6A	273	6.9	15.1					256	5.8		0.2	0.0022			
10/16/2021	XX	LPUD2XEEG	H9	H9	H9					H9	H9		H9	H9			
11/20/2021	XX	LPUD2XEHE	301	7.1	16.6					337	6	125	7	0.0036			
12/18/2021	XX	LPUD2XEIG	285	6.8	15.3					344	6	140	3.1	0.0014			
1/16/2022	XX	LPUD2XF4C	250	5.5	15.6					339	7	220	9.2	0.0014			
2/20/2022	XX	LPUD2XF5C	256	5.5	16					347	7	125	3.7	0.0014			
3/20/2022	XX	LPUD2XF6C	305	6.3	14					354	9	130	2.9	0.0017			
4/15/2022	XX	LPUD2XFC3	298	7.6	19.9					298	8	150	4.7	0.0017			
4/26/2022	XX	LPUD2XF12	253	7.1	7.5					321	7.4		0.5	0.0011			
5/10/2022	XX	LPUD2XFD3	300	7.2	21.6					339	8	150	30.3	0.0006			

DATA SUMMARY TABLE

Field Parameters

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(LP-UD-2)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
6/7/2022	XX	LPUD2XFED	350	7.3	21.3					326	6	175	1.7	0.0005			
7/19/2022	XX	LPUD2XF90	296	6.7	17.1					353	4.1		0.3	0.0011			
7/21/2022	XX	LPUD2XFFD	337	7.2	22.3					324	5	200	1.5	0.0004			
8/8/2022	XX	LPUD2XG32	321	7	18.8					357	5	175	2.3	0.0004			
9/2/2022	XX	LPUD2XG5E	335	7.1	18.6					365	5	150	2	0.0004			
10/4/2022	XX	LPUD2XFJ1	266	7.1	12.2					373	4.2		0.4	0.0011			
10/6/2022	XX	LPUD2XG8G	324	7.3	13.9					286	6	175	1.2	0.0004			
11/4/2022	XX	LPUD2XGA7	318	6.7	13.2					327	8	175	1.9	0.0007			
12/5/2022	XX	LPUD2XGCC	320	6.8	9.2					325	6	175	2.1	0.0006			
1/4/2023	XX	LPUD2XGE4	329	7	10.7					385	6	150	0.7	0.0009			
2/1/2023	XX	LPUD2XGFF	417	7.6	11.6					370	6	135	5.5	0.0007			
3/1/2023	XX	LPUD2XH2J	437	7.4	12.1					386	6	125	8.2	0.0013			
4/3/2023	XX	LPUD2XH4A	338	7.4	14.6					373	6	130	3.5	0.0008			
4/18/2023	XX	LPUD2XGIC	261	7.5	7.6					440	8.6		0.6	0.0022			
5/3/2023	XX	LPUD2XH69	370	7.3	15.2					335	6	149	3.6	0.0008			
6/6/2023	XX	LPUD2X02C	488	7.2	17.4					344	6	160	1.3	0.0008			
7/11/2023	XX	LPUD2XH8E	354	6.6	16.2					486	6.7		0.8	0.0033			
7/18/2023	XX	LPUD2X03H	328	6.9	22.9					343	8	165	3.9	0.0009			
8/1/2023	XX	LPUD2X0AD	510	7	22.1					346	6	160	1.3	0.0009			
9/8/2023	XX	LPUD2X0BJ	422	7.3	25					350	6	150	9.5	0.0006			
10/3/2023	XX	LPUD2X062	300	6.8	15.2					456	8.2		1.3	0.0011			
10/4/2023	XX	LPUD2X0DB	567	6.3	23.5					344	6	150	10.5	0.0006			
11/7/2023	XX	LPUD2X0F0	430	6.8	17.3					367	6	150	2.4	0.0007			
12/20/2023	XX	LPUD2X0GI	376	7	12.3					356	6	125	3.6	0.0007			
1/2/2024	XX	LPUD2X0IE	414	6.9	14.7					353	6	150	2.2	0.0007			
2/6/2024	XX	LPUD2X103	522	7.1	13.9					361	6	150	1.7	0.0006			
3/7/2024	XX	LPUD2X164	277	7.2	12.7					351	6	150	1.4	0.0006			
4/2/2024	XX	LPUD2X12C	257	7	6.9					444	9.3		0.5	0.0022			
4/3/2024	XX	LPUD2X183	420	7	15.5					368	6	150	1.9	0.0007			
5/8/2024	XX	LPUD2X19E	531	6.3	16.7					365	6	175	3	0.0006			
6/5/2024	XX	LPUD2X1B5	H5	H5	H5					H5	H5	H5	H5	H5			
7/15/2024	XX	LPUD2X22I	H9	H9	H9					H9	H9	H9	H9	H9			
7/16/2024	XX	LPUD2X1DE	320	6.6	17.5					393	9.4		0.6	0.0022			
8/30/2024	XX	LPUD2X248	339	7.2	22.1					282	6	112.5	8.6	0.0027			
9/19/2024	XX	LPUD2X25I	H9	H9	H9					H9	H9		H9	H9			
10/8/2024	XX	LPUD2X1J5	319	6.8	15.1					440	3.9		1.2	0.0023			
10/17/2024	XX	LPUD2X277	H9	H9	H9					H9	H9		H9	H9			
11/12/2024	XX	LPUD2X294	Q	Q	Q					Q	Q		Q	Q			
12/31/2024	XX	LPUD2X2AD	Q	Q	Q					Q	Q		Q	Q			
MW-04-09A																	
2/26/2020	XX	GWX09AC56	315	8.7	6.5	164.28	5.62	42.38	169.9	26	0.6		81.2				
4/30/2020	XX	GWX09ACC1	368	8.1	6.7	164.66	5.24		169.9	29	1.9		5.6				
6/23/2020	XX	GWX09ACGC	187	7.2	14.9	162.06	7.84		169.9	133	8.2		1.5				
8/20/2020	XX	GWX09AD1J	389	7.9	11.3	160.78	9.12		169.9	33	0.6		0.8				
7/15/2021	XX	GWXXXXE20	388	7.7	10.8	163.2	6.7		169.9	162	1		2				
10/7/2021	XX	GWX09AE86	369	7.7	9.5	163.9	6		169.9	47	0.2		9.4				
4/27/2022	XX	GWX09AF2C	284	7.4	7.1	164.83	5.07		169.9	156	3.4		3				
7/20/2022	XX	GWXXXXFAF	306	7	9.5	160.6	9.3		169.9	189	1		2				
10/5/2022	XX	GWX09AG0B	270	7.4	8.4	162.4	7.5	42.1	169.9	370	0.4		0.6				

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(MW-04-09A)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
4/19/2023	XX	GWX09AH02	372	8.2	7.3	164.8	5.1		169.9	274	3.6		3.7				
7/12/2023	XX	GWXXXX00B	273	7.8	11.4	164.32	5.58		169.9	130	1.9		2.4				
10/4/2023	XX	GWX09A077	271	7.3	12.1	160.7	9.2	42.1	169.9	103	0.3		2.8				
4/10/2024	XX	GWX09A13G	270	7.7	7	165.1	4.8		169.9	223	4.7		2.6				
7/17/2024	XX	GWXXXX1FA	269	7.4	12.8	164.2	5.7		169.9	274	0.8		0.8				
10/9/2024	XX	GWX09A209	249	6.8	8.9	162.5	7.4	42.1	169.9	318	0.4		0.8				
MW-04-09B																	
2/26/2020	XX	GWX09BC57	127	7.1	5.3	164.48	5.45	19.64	169.93	312	9.7		11.1				
4/30/2020	XX	GWX09BCC2	104	7.4	5.6	164.82	5.11		169.93	353	10.5		1.2				
6/23/2020	XX	GWX09BCGD	89	6.6	12	162.08	7.85		169.93	417	9.3		1.1				
8/20/2020	XX	GWX09BD20	99	7.1	12	160.82	9.11		169.93	354	9.4		0.7				
7/15/2021	XX	GWXXXXE21	112	7	12.1	163.28	6.65		169.93	235	7.2		8.5				
10/7/2021	XX	GWX09BE87	113	6.7	11	164.02	5.91		169.93	303	7.5		7.6				
4/27/2022	XX	GWX09BF2D	89	6.6	6.2	165.33	4.6		169.93	247	8.6		4.6				
7/20/2022	XX	GWXXXXFAG	104	6.9	10.9	160.53	9.4		169.93	256	7.4		3.8				
10/5/2022	XX	GWX09BG0C	139	7.4	9.9	162.53	7.4	19.64	169.93	316	3.4		0.3				
4/19/2023	XX	GWX09BH03	164	7.5	6.1	165.11	4.82		169.93	313	9.3		4				
7/12/2023	XX	GWXXXX00C	97	6.9	12.1	164.58	5.35		169.93	211	8.1		1				
10/4/2023	XX	GWX09B078	96	6.3	12.7	163.8	6.13	19.64	169.93	249	8.3		3				
4/10/2024	XX	GWX09B13H	79	6.9	5.5	165.13	4.8		169.93	301	10.3		1.4				
7/17/2024	XX	GWXXXX1FB	96	6.6	12.8	164.23	5.7		169.93	304	7.9		2.6				
10/9/2024	XX	GWX09B20A	102	6.3	10.6	162.53	7.4	19.64	169.93	346	7.5		0.9				
MW04-102																	
4/29/2015	XX	GW102X79C	210	8.2	6.8	164.72	5.5		170.22	380	5.1		0.8				
7/14/2015	XX	GW102X7D4	237	8	17.3	163.32	6.9		170.22	349	3		0.9				
10/28/2015	XX	GW102X7ID	214	8.4	10.8	163.47	6.75	18.05	170.22	285	5.29		2.1				
4/5/2016	XX	GW102X873	244	8	5.3	164.22	6		170.22	350	6.9		4.6				
7/26/2016	XX	GW102X8BD	275	8	17.1	167.62	7.6		170.22	327	3.3		3.3				
10/25/2016	XX	GW102X8JC	237	7.5	13	163.02	7.2	18.05	170.22	382	2.6		8.1				
4/19/2017	XX	GW102X97I	219	8.2	6.3	163.42	6.8		170.22	324	7.5		0.6				
7/26/2017	XX	GW102X9DG	222	8	15.9	162.14	8.08		170.22	297	3.6		2.1				
10/25/2017	XX	GW102X9HB	240	7.9	15.6	162.02	8.2	18.05	170.22	315	3		2.4				
4/4/2018	XX	GW102XA3A	320	8.2	4.5	164.02	6.2		170.22	342	7.3		2.7				
7/18/2018	XX	GW102XACB	228	7.7	15.7	161.92	8.3		170.22	293	5		1.9				
10/3/2018	XX	GW102XB19	224	8.1	14.5	162.27	7.95	18.05	170.22	280	3.3		1.7				
4/24/2019	XX	GW102XB66	216	8.3	5.1	163.82	6.4		170.22	355	6		1.9				
7/17/2019	XX	GW102XBCH	216	7.6	14.2	163.12	7.1		170.22	265	3.7		2.7				
10/28/2019	XX	GW102XBIA	216	8.1	8.1	163.67	6.55	18.05	170.22	307	3.3		2.7				
4/27/2020	XX	GW102XCDH	235	7	6.1	163.12	7.1		170.22	348	4.9		1.2				
7/20/2020	XX	GW102XCIA	219	7.6	15.6	161.8	8.42		170.22	262	3.9		2.4				
10/26/2020	XX	GW102XD3E	224	7.2	12.5	162.22	8	18.05	170.22	351	5.5		2.7				
4/5/2021	XX	GW102XDCG	246	6.6	5.2	163.67	6.55		170.22	335	5.4		3				
7/12/2021	XX	GW102XE08	208	7.9	14.5	162.02	8.2		170.22	267	4.7		2.8				
10/4/2021	XX	GW102XE6G	230	7.4	15.5	162.22	8		170.22	253	3.4		1.7				
4/25/2022	XX	GW102XF18	195	7.7	7.5	163.32	6.9		170.22	202	5.4		2.6				
7/18/2022	XX	GW102XF96	207	7.6	16	160.3	9.92		170.22	201	3.7		2.7				
10/3/2022	XX	GW102XFJ7	210	7.3	15	161.92	8.3	18	170.22	279	5.3		1.5				
4/17/2023	XX	GW102XGII	317	8.3	7.3	163.22	7		170.22	278	6.2		1.2				

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(MW04-102) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/10/2023	XX	GW102XH90	210	7.7	14.4	162.62	7.6		170.22	230	4		0.9				
10/2/2023	XX	GW102X067	211	7.4	16.5	162.92	7.3	18	170.22	234	4.8		1.9				
4/1/2024	XX	GW102X12H	199	8.3	6.5	163.72	6.5		170.22	204	7.4		1.3				
7/15/2024	XX	GW102X1DJ	216	7.7	16.3	163.12	7.1		170.22	298	4.3		0.7				
10/7/2024	XX	GW102X1JA	206	7.4	15.7	161.82	8.4	18.11	170.22	369	4.6		0.8				
MW04-105																	
10/28/2015	XX	GW105X7J7	296	6.7	10.1	157.97	7.62	22.83	165.59	295	0.4		0.9				
10/26/2016	XX	GW105X909	305	6.9	10.6	157.28	8.31	22.83	165.59	346	0.4		3.7				
10/23/2017	XX	GW105X9I8	332	6.9	14.3	156.39	9.2	22.85	165.59	299	0.4		0.7				
10/1/2018	XX	GW105XB26	341	6.9	11.7	156.98	8.61	22.84	165.59	307	0.4		1.9				
10/28/2019	XX	GW105XBJ6	218	6.8	10.3	158.39	7.2	22.83	165.59	265	0.4		1.8				
10/27/2020	XX	GW105XD4A	276	7.1	11.4	157.29	8.3	22.84	165.59	348	0.6		1.8				
10/5/2021	XX	GW105XE7B	328	6.8	14.9	157.44	8.15		165.59	170	0.3		1				
4/25/2022	XX	GW105XF22	207	6.5	10	157.59	8		165.59	211	2.6		2.3				
10/5/2022	XX	GW105XG01	316	6.5	14.1	157.09	8.5	22.85	165.59	180	0.3		2				
10/2/2023	XX	GW105X09C	216	6.8	14.6	156.89	8.7	22.85	165.59	188	0.2		1.4				
10/7/2024	XX	GW105X22A	381	6.4	12.5	157.37	8.22	22.82	165.59	305	0.2		0.1 U				
MW04-109 & MW04-109R																	
4/28/2015	XX	GW109X79D	399	6.7	9.9	153.9	6.23		160.13	386	1.3		0.1				
7/14/2015	XX	GW109X7D5	398	6.6	21.9	152.78	7.35		160.13	355	1		0.1				
10/27/2015	XX	GW109X7IE	429	6.6	11.6	153.13	7	22.97	160.13	323	0.7		0.2				
4/5/2016	XX	GW109X874	445	6.6	8.4	153.8	6.33		160.13	339	1.3		0.4				
7/26/2016	XX	GW109X8BE	426	6.5	21.4	152.53	7.6		160.13	356	0.8		1				
10/25/2016	XX	GW109X8JD	425	6.6	9.1	152.78	7.35	22.97	160.13	385	0.7		2				
4/18/2017	XX	GW109X97J	237	6.8	9	154.02	6.11		160.13	419	2.6		0.4				
7/25/2017	XX	GW109X9DH	443	6.5	19.9	152.42	7.71		160.13	302	0.5		2.4				
10/24/2017	XX	GW109X9HC	453	6.7	16.5	151.51	8.62	22.97	160.13	335	2		0.8				
4/3/2018	XX	GW109XA3B	556	6.7	7.2	154.4	5.73		160.13	389	1.7		0.7				
7/17/2018	XX	GW109XACC	461	6.6	19	152.68	7.45		160.13	300	1.5		2.4				
10/2/2018	XX	GW109XB1A	437	6.7	11.1	152.28	7.85	22.97	160.13	330	0.4		1.8				
4/23/2019	XX	GW109XB67	427	6.9	8.7	154.46	5.67		160.13	409	1.7		0.8				
7/16/2019	XX	GW109XBCI	446	6.5	18.2	153.73	6.4		160.13	268	1.3		2.3				
10/29/2019	XX	GW109XBIB	418	6.8	13.2	154.17	5.96	22.97	160.13	371	0.1 U		2.8				
4/28/2020	XX	GW109XCDI	385	6.9	8.7	153.68	6.45		160.13	354	4.3		1.2				
7/21/2020	XX	GW109XCIB	408	6.8	20.2	152.85	7.28		160.13	236	1.8		2.7				
10/27/2020	XX	GW109XD3F	391	6.9	9.2	153.05	7.08	27.98	160.13	327	0.6		1.5				
4/6/2021	XX	GW109XDCH	403	6.5	9.7	153.83	6.3		160.13	252	2.5		1.9				
7/13/2021	XX	GW109XE09	424	6.6	17.9	153.03	7.1		160.13	207	0.4		1				
10/5/2021	XX	GW109XE6H	386	6.6	12.1	153.38	6.75		160.13	220	0.3		1.2				
4/26/2022	XX	GW109XF19	314	6.5	9.7	153.83	6.3		160.13	250	2.7		2				
7/19/2022	XX	GW109XF97	370	6.2	21.9	152.63	7.5		160.13	202	0.7		1.5				
10/4/2022	XX	GW109XFJ8	345	6.3	9.3	153.08	7.05	27.98	160.13	273	0.8		1.4				
4/18/2023	XX	GW109XGIJ	458	7.5	9.8	153.83	6.3		160.13	334	3.3		0.6				
7/11/2023	XX	GW109XH91	353	6.6	16	153.4	6.73		160.13	111	0.6		1.3				
10/2/2023	XX	GW109X068	337	6.5	17.3	152.93	7.2	27.98	160.13	166	0.8		1.1				
4/2/2024	XX	GW109X12I	357	6.9	9.4	154.23	5.9		160.13	262	2.6		1				
7/16/2024	XX	GW109X1E0	376	6.6	19.6	153.63	6.5		160.13	209	0.8		0.5				
10/8/2024	XX	GW109X1JB	336	6.2	13.7	152.33	7.8	27.96	160.13	232	0.5		0.3				

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CUMBERLAND CENTER, ME 04021

(MW06-01) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
MW06-01																	
4/10/2018	XX	GWXXXXA70	85	6.5	7.3		F1	22.13		325	7.9		0.1				
6/4/2018	XX	GWXXXXA7H	94	6.6	7.7	165.881	0.25		166.131	367	10.3		0.7				
7/18/2018	XX	GWXXXXAEF	102	8	10.2	165.281	0.85		166.131	508	8.7		3.2				
8/20/2018	XX	GWXXXXAFG	91	6.1	11.2	164.431	1.7		166.131	376	9.2		3.5				
4/24/2019	XX	GWXXXXB7D	84	7	6.4		F1			377	10.1		2.1				
7/18/2019	XX	GWXXXXBE1	67	8.1	12.2	165.951	0.18		166.131	290	13		0.5				
10/30/2019	XX	GWXXXXBJ8	85	7.7	9.7		F1	22.13	166.131	219	11		0.1				
4/29/2020	XX	GWXXXXCF1	95	7.2	6.5		F1		166.131	394	10.9		0.3				
7/22/2020	XX	GWXXXXCJE	98	6.7	18.1	162.881	3.25		166.131	386	6.8		0.2				
10/28/2020	XX	GWXXXXD4C	83	7.9	9.8	163.461	2.67	22.14	166.131	372	10.5		0.3				
4/7/2021	XX	GWXXXXDDI	86	6.4	7.6	165.231	0.9		166.131	442	7.9		0.3				
7/14/2021	XX	GWXXXXE19	108	7.2	13.1	163.761	2.37		166.131	337	5.8		0.2				
10/6/2021	XX	GWXXXXE7D	111	6.5	12.6	164.431	1.7		166.131	356	3.9		0.1				
4/27/2022	XX	GWXXXXF24	162	6.3	8		F1		166.131	424	2.5		0.2				
7/20/2022	XX	GWXXXXFA7	149	6.9	12.2	164.301	1.83		166.131	325	1.8		0.2				
10/5/2022	XX	GWXXXXG03	154	7.2	11.4	163.951	2.18	22.13	166.131	355	1.8		0.3				
4/19/2023	XX	GWXXXXGJE	176	6.8	8.1		F1		166.131	455	9.3		0.2				
7/12/2023	XX	GWXXXX003	221	6.6	15.9		F1		166.131	496	8.3		0.2				
10/4/2023	XX	GWXXXX06J	215	6.9	14.2	166.091	0.04	22.13	166.131	390	3.5		0.1				
4/10/2024	XX	GWXXXX138	270	6.1	6.7		F1		166.131	429	1.9		0.1				
7/17/2024	XX	GWXXXX1F2	256	6.6	14.1	166.071	0.06		166.131	381	4.9		0.3				
10/9/2024	XX	GWXXXX201	240	6.5	11.9	164.781	1.35	22.13	166.131	473	3.5		0.2				
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	196	8.4	5.7	161.08	14.93	127.89	176.01	343	4.5		5.2				
4/7/2021	XX	GWXXXXDAJ	229	8.1	8	161.26	14.75		176.01	160	1.7		2.8				
6/9/2021	XX	GWXXXXDH2	188	7.8	10.4	160.97	15.04		176.01	204	1.8		2.2				
8/19/2021	XX	GWXXXXE4G	190	7.2	11.6	160.71	15.3		176.01	342	1.3		0.5				
10/4/2021	XX	GWXXXXE9B	201	7.1	10.7	161.33	14.68		176.01	155	0.9		0.8				
4/27/2022	XX	GWXXXXF3G	210	7.8	8.8	160.827	21.75		182.577	134	1.5		13				
7/21/2022	XX	GWXXXXFBD	183	7.6	17.4	160.177	22.4		182.577	169	1.2		5.9				
10/5/2022	XX	GWXXXXG1F	243	7.1	11.9	160.127	22.45	127.89	182.577	217	1.6		6.6				
4/17/2023	XX	GWXXXXH16	318	8	11.9	160.427	22.15		182.577	291	2.5		1.3				
7/13/2023	XX	GWXXXX019	223	7.9	16	160.327	22.25		182.577	120	1.7		3.2				
10/5/2023	XX	GWXXXX08B	235	7.6	13.3	160.177	22.4		182.577	190	1.7		6.1				
4/11/2024	XX	GWXXXX150	221	7	7.5	160.437	22.14		182.577	457	4.3		0.4				
7/17/2024	XX	GWXXXX1G8	221	7.9	16.2	160.277	22.3		182.577	229	2.2		1				
10/10/2024	XX	GWXXXX21D	226	7.2	10.5	159.857	22.72	132.96	182.577	470	2.5		0.5				
MW09-901																	
4/28/2015	XX	GW901X78G	286	7.5	11	157.6	7.5		165.1	371	5.1		1.4				
7/14/2015	XX	GW901X7C8	306	7.5	18.6	154.85	10.25		165.1	368	4.6		1				
10/27/2015	XX	GW901X7HH	318	7.7	11.8	155.62	9.48	22.82	165.1	301	3.4		0.2				
4/5/2016	XX	GW901X867	356	7.4	4.6	157.3	7.8		165.1	362	5.3		1.1				
7/26/2016	XX	GW901X8AH	366	7.6	20.4	154.38	10.72		165.1	337	4.3		3.9				
10/25/2016	XX	GW901X8IG	353	7.1	10.7	154.6	10.5	22.82	165.1	397	0.9		4.1				
4/18/2017	XX	GW901X972	341	7	8.5	157.65	7.45		165.1	422	5.4		0.7				
7/25/2017	XX	GW901X9D0	379	6.5	19.5	154.19	10.91		165.1	346	2.2		2.5				

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(MW09-901)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
10/24/2017	XX	GW901X9GF	392	6.9	16.3	153.18	11.92	22.8	165.1	388	0.8		2.6				
4/3/2018	XX	GW901XA2E	482	6.8	10.1	158.8	6.3		165.1	413	3.2		0.2				
7/17/2018	XX	GW901XABF	423	6.7	15	154.93	10.17		165.1	311	1.4		2.4				
10/2/2018	XX	GW901XB0D	390	6.7	10.7	154.1	11	22.82	165.1	303	1		1.3				
4/23/2019	XX	GW901XB5A	364	6.7	6.9	159.14	5.96		165.1	423	1.3		1.6				
7/16/2019	XX	GW901XBC2	398	6.6	18.7	155.95	9.15		165.1	280	0.4		2.8				
10/29/2019	XX	GW901XBHF	333	6.8	12.4	159.21	5.89	22.82	165.1	381	0.1 U		1.6				
4/28/2020	XX	GW901XCD2	339	7.1	9.7	158.41	6.69		165.1	370	2		1.4				
7/21/2020	XX	GW901XCHF	348	7.2	13.3	156.3	8.8		165.1	235	0.3		1.1				
10/27/2020	XX	GW901XD2J	341	7	10.3	156.95	8.15	22.81	165.1	359	0.4		1.5				
4/6/2021	XX	GW901XDC1	373	6.4	10.2	159.1	6		165.1	278	2.1		1.5				
7/13/2021	XX	GW901XDJD	360	6.6	15.6	157.4	7.7		165.1	212	0.3		1.2				
10/5/2021	XX	GW901XE61	346	6.3	13.8	157.8	7.3		165.1	231	0.2		1.4				
4/26/2022	XX	GW901XF0D	342	6.3	9.9	158.95	6.15		165.1	260	1.4		1.9				
7/19/2022	XX	GW901XF8B	348	6.2	18.1	156.1	9		165.1	211	0.2		1.6				
10/4/2022	XX	GW901XFIC	286	6.3	12.8	157.3	7.8	22.78	165.1	309	0.8		1.2				
4/18/2023	XX	GW901XGI3	487	7.3	8.9	158.53	6.57		165.1	343	2.7		0.9				
7/11/2023	XX	GW901XH85	349	6.5	15.5	157.75	7.35		165.1	166	0.4		1.7				
10/2/2023	XX	GW901X05D	342	6.2	17.1	159.4	5.7	22.78	165.1	202	0.4		1				
4/2/2024	XX	GW901X123	351	6.8	8.6	159.7	5.4		165.1	280	2.5		2.8				
7/16/2024	XX	GW901X1D5	339	6.3	16.9	158.1	7		165.1	316	0.2		1.4				
10/8/2024	XX	GW901X1IG	310	6.1	13.9	155.05	10.05	22.77	165.1	295	0.5		0.4				
MW-204																	
10/28/2015	XX	GW204X7J5	167	6.5	11.5	155.35	9.4	24.43	164.75	301	1.9		1.3				
10/26/2016	XX	GW204X907	218	6.7	10	154.7	10.05	24.43	164.75	294	0.5		3.5				
10/23/2017	XX	GW204X9I6	272	6.6	13.1	153.25	11.5	24.43	164.75	312	0.3		1.6				
10/3/2018	XX	GW204XB24	277	6.6	12.3	154.58	10.17	24.48	164.75	300	1.6		2.4				
10/28/2019	XX	GW204XBJ4	253	6.9	11	155.75	9	24.49	164.75	191	0.3		4.1				
10/26/2020	XX	GW204XD48	265	6.6	11.2	154.65	10.1	24.47	164.75	337	0.4		3.5				
10/4/2021	XX	GW204XE79	357	6.8	13.6	155.1	9.65		164.75	183	0.7		2.8				
4/26/2022	XX	GW204XF20	251	6.5	8.5	155.35	9.4		164.75	239	1.7		1.8				
10/5/2022	XX	GW204XFJJ	323	6.6	14.5	154.85	9.9	24.47	164.75	176	0.4		2				
10/3/2023	XX	GW204X09B	!	!	!		!	24.47	164.75	!	!		!	!			
10/7/2024	XX	GW204X22B	252	6.3	12.7	154.68	11.5	25.7	166.18	305	0.4		3.7				
MW-206																	
4/27/2015	XX	GW206X77J	131	8.3	6.9	200.07	4.6		204.67	328	8.6		1.2				
7/13/2015	XX	GW206X7BB	149	8.2	14.4	197.02	7.65		204.67	287	7.7		0.4				
10/26/2015	XX	GW206X7H0	139	7.8	9.3	197.87	6.8	23.15	204.67	200	7.7		4.4				
4/4/2016	XX	GW206X85A	159	7.3	4.1	199.77	4.9		204.67	364	8.5		1.5				
7/25/2016	XX	GW206X8A0	148	8.1	13.8	195.17	9.5		204.67	306	7.6		2.4				
10/24/2016	XX	GW206X8HJ	167	7.5	9.4	190.72	13.95		204.67	348	8.2		9.4				
4/17/2017	XX	GW206X965	142	8.2	8.6	199.85	4.82		204.67	266	9.9		1.4				
7/24/2017	XX	GW206X9C3	150	7.7	11.8	195.07	9.6		204.67	367	9.4		2.4				
10/23/2017	XX	GW206X9FI	146	8.1	11.6	189.77	14.9	23.15	204.67	338	7.3		2				
4/2/2018	XX	GW206XA1G	269	7.8	5.7	200.07	4.6		204.67	362	8.5		7.5				
7/16/2018	XX	GW206XAAI	148	8	11.3	196.12	8.55		204.67	313	8.4		2.4				
10/1/2018	XX	GW206XAJG	147	8.1	10.7	191.47	13.2	23.15	204.67	258	7.8		4.2				
4/22/2019	XX	GW206XB4C	139	8.6	6.1	200.22	4.45		204.67	399	8.8		2.6				

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(MW-206)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
7/17/2019	XX	GW206XBB5	144	8.1	12.3	198.07	6.6		204.67	253	7.5		7.8				
10/28/2019	XX	GW206XBGJ	149	8.3	9.1	200.17	4.5	23.15	204.67	242	7.2		4				
4/27/2020	XX	GW206XCC5	142	7.4	4.7	199.57	5.1		204.67	237	8.4		5.1				
7/20/2020	XX	GW206XCGI	146	8.1	14.3	193.87	10.8		204.67	191	7.5		2.8				
10/26/2020	XX	GW206XD23	148	7.6	7.3	195.07	9.6	23.15	204.67	342	8.7		2.4				
4/5/2021	XX	GW206XDB4	150	7.3	5.5	200.02	4.65		204.67	225	7.1		1.3				
7/14/2021	XX	GW206XDIG	159	7.8	11	197.77	6.9		204.67	267	7		2.5				
10/4/2021	XX	GWXXXXE8D	154	8.2	10.3	198.87	5.8		204.67	243	6		1.2				
4/25/2022	XX	GWXXXXF2J	139	7.9	7.6	199.44	5.23		204.67	192	6.9		2.3				
7/18/2022	XX	GW206XF7E	143	7.4	14.5	192.47	12.2		204.67	186	5.5		4.6				
10/3/2022	XX	GWXXXXG0I	323	6.6	14.5	194.77	9.9	23.1	204.67	176	0.4		2				
4/17/2023	XX	GWXXXXH09	233	8.2	8.2	199.07	5.6		204.67	308	7.5		1.2				
7/10/2023	XX	GW206XH78	136	8.5	9.8	195.57	9.1		204.67	189	7.6		1.5				
10/2/2023	XX	GWXXXX07E	140	8.1	11.8	198.27	6.4	23.1	204.67	195	6.7		1.7				
4/1/2024	XX	GWXXXX143	137	7.8	6.5	200.07	4.6		204.67	194	8.2		1				
7/15/2024	XX	GW206X1C8	141	8.3	12	199.67	5		204.67	291	8.8		2.8				
10/7/2024	XX	GWXXXX20G	135	7.7	10.9	195.3	9.37	23.13	204.67	320	9.4		0.2				
MW-223A																	
4/28/2015	XX	GW223A781	458	7.6	6.5	175.74	0.8		176.54	367	0.7		0.3				
7/14/2015	XX	GW223A7BD	467	7.5	14.2	174.72	1.82		176.54	356	0.9		0.3				
10/27/2015	XX	GW223A7H2	490	7.6	8.5	175.14	1.4	35.57	176.54	290	1.1		0.2				
4/5/2016	XX	GW223A85CX	F	F	F		F			F	F		F				
4/27/2016	XX	GW223A85C	509	7.7	9.1	176.4	0.14		176.54	275	1.3		0.2				
7/26/2016	XX	GW223A8A2	539	7.5	14.2	173.79	2.75		176.54	349	1.8		2.1				
10/25/2016	XX	GW223A8I1	547	7.6	9.4	172.84	3.7	35.57	176.54	338	1.8		2.7				
4/18/2017	XX	GW223A967	519	7.6	5.2	175.24	1.3		176.54	318	2.7		0.7				
7/25/2017	XX	GW223A9C5	543	7.4	14	173.74	2.8		176.54	305	2		0.8				
10/24/2017	XX	GW223A9G0	552	7.6	12.1	172.04	4.5	35.57	176.54	340	1.8		1.2				
4/3/2018	XX	GW223AA1I	651	7.6	4.5	175.14	1.4		176.54	307	1.8		0.6				
7/17/2018	XX	GW223AAB0	568	7.4	12.6	172.94	3.6		176.54	297	1.6		2				
10/2/2018	XX	GW223AAJI	556	6.3	10.8	171.59	4.95	35.6	176.54	305	1.3		2.9				
4/23/2019	XX	GW223AB4E	542	7.6	6.1	174.51	2.03		176.54	370	2		2				
7/16/2019	XX	GW223ABB7	559	7.3	11.5	174.64	1.9		176.54	250	0.8		2.8				
10/29/2019	XX	GW223ABH0	548	7.6	9.5	175.61	0.93	35.57	176.54	351	0.1 U		1.3				
4/28/2020	XX	GW223ACC7	531	7.4	6.2	174.99	1.55		176.54	336	0.8		1				
7/21/2020	XX	GW223ACH0	575	7.4	13.5	173.12	3.42		176.54	212	0.8		1				
10/27/2020	XX	GW223AD24	583	7.4	9.5	173.74	2.8	35.57	176.54	295	0.8		1.5				
4/6/2021	XX	GW223ADB6	599	7.1	6.7	174.94	1.6		176.54	225	1.9		0.7				
7/13/2021	XX	GW223ADII	622	7.4	12.7	173.39	3.15		176.54	149	0.3		1.6				
10/5/2021	XX	GW223AE56	628	7.3	10.5	174.19	2.35		176.54	166	0.3		2.3				
4/26/2022	XX	GW223AEJI	506	7.2	7.2	174.64	1.9		176.54	158	0.2		2.3				
7/19/2022	XX	GW223AF7G	576	7.1	13.8	171.54	5		176.54	127	0.2		1.3				
10/4/2022	XX	GW223AFHH	578	7	9.8	173.54	3	35.57	176.54	216	0.2		1.3				
4/18/2023	XX	GW223AGH8	675	7.7	7.8	173.31	3.23		176.54	358	2.1		0.9				
7/11/2023	XX	GW223AH7A	577	7.4	11.2	172.44	4.1		176.54	90	0.1		1				
10/2/2023	XX	GW223A04H	594	7.3	13.6	171.82	4.72	35.57	176.54	128	0.2		1				
4/2/2024	XX	GW223A118	627	7.5	7.4	173.04	3.5		176.54	185	0.3		1.4				
7/15/2024	XX	GW223A1CA	633	7.3	13.5	172.14	4.4		176.54	303	0.2		0.5				
10/8/2024	XX	GW223A1I1	599	6.9	11.1	169.89	6.65	35.62	176.54	273	0.2		0.1				

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(MW-223B) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
MW-223B																	
4/28/2015	XX	GW223B798	371	7.1	6.2	173.78	2.15		175.93	344	0.4		0.5				
7/14/2015	XX	GW223B7D0	397	7.2	13.9	172.53	3.4		175.93	349	0.5		0.4				
10/27/2015	XX	GW223B7I9	394	7.5	9.8	173.13	2.8	20.05	175.93	286	1.4		1.3				
4/5/2016	XX	GW223B86J	445	7.1	3.8	173.53	2.4		175.93	309	2.2		7.7				
7/26/2016	XX	GW223B8B9	433	7.4	12.8	171.93	4		175.93	360	0.5		3.5				
10/25/2016	XX	GW223B8J8	436	7.5	10.6	171.43	4.5	20.07	175.93	352	0.3		3.7				
4/18/2017	XX	GW223B97E	416	7.2	6	172.73	3.2		175.93	371	3.6		0.8				
7/25/2017	XX	GW223B9DC	441	6.7	12.1	171.76	4.17		175.93	316	0.9		0.9				
10/24/2017	XX	GW223B9H7	446	7.3	13	170.68	5.25	20.06	175.93	367	0.3		1.5				
4/3/2018	XX	GW223BA36	596	7.1	3.9	173.23	2.7		175.93	338	2.3		0.2				
7/17/2018	XX	GW223BAC7	480	6.8	12.2	171.22	4.71		175.93	227	1		2.2				
10/2/2018	XX	GW223BB15	485	7.2	10.4	170.23	5.7	20.07	175.93	267	0.9		2.6				
4/23/2019	XX	GW223BB62	465	7.1	5.1	173.48	2.45		175.93	391	0.8		1.1				
7/16/2019	XX	GW223BBCD	491	7.3	13.7	172.63	3.3		175.93	259	2		1.6				
10/29/2019	XX	GW223BBI6	480	7.2	10.4	173.53	2.4	20.07	175.93	349	0.1 U		1.3				
4/28/2020	XX	GW223BCDD	461	7	5.6	173.13	2.8		175.93	355	0.5		1				
7/21/2020	XX	GW223BCI6	497	7.1	12.3	171.43	4.5		175.93	220	0.6		1.4				
10/27/2020	XX	GW223BD3A	505	7.2	10.7	172.13	3.8	20.07	175.93	328	0.3		1.9				
4/6/2021	XX	GW223BDCC	505	6.8	5.8	173.03	2.9		175.93	239	0.3		0.8				
7/13/2021	XX	GW223BE04	521	7	11.4	172.53	3.4		175.93	180	0.2		1.3				
10/5/2021	XX	GW223BE6C	531	6.8	11.7	172.33	3.6		175.93	197	0.2		1.2				
4/26/2022	XX	GW223BF14	421	6.8	6.7	172.78	3.15		175.93	213	0.2		2.1				
7/19/2022	XX	GW223BF92	479	6.8	11.8	169.88	6.05		175.93	175	0.2		1.4				
10/4/2022	XX	GW223BFJ3	487	6.7	11.3	171.73	4.2	20.1	175.93	245	0.2		1.6				
4/18/2023	XX	GW223BGIE	611	7.4	7.2	171.58	4.35		175.93	348	2.2		1.2				
7/11/2023	XX	GW223BH8G	483	6.9	10.7	171.12	4.81		175.93	174	0.1		1				
10/2/2023	XX	GW223B063	503	6.9	13.3	169.93	6	20.1	175.93	121	0.2		1.4				
4/2/2024	XX	GW223B12D	500	7.2	6.3	171.63	4.3		175.93	229	0.4		1				
7/16/2024	XX	GW223B1DF	497	6.8	12	170.78	5.15		175.93	312	0.2		1.3				
10/8/2024	XX	GW223B1J6	473	6.6	12	168.73	7.2	20.21	175.93	273	0.3		0.6				
MW-227																	
4/28/2015	XX	GW227X782	184	8.3	6.7	159.93	4.3		164.23	350	3.1		0.8				
7/14/2015	XX	GW227X7BE	193	8.3	15.3	158.43	5.8		164.23	353	1.1		1.1				
10/27/2015	XX	GW227X7H3	182	8.1	11.4	159.63	4.6	22.3	164.23	297	3.9		0.7				
4/5/2016	XX	GW227X85D	205	8.1	3.1	159.73	4.5		164.23	320	3.4		2.2				
7/26/2016	XX	GW227X8A3	201	8	13.9	158.68	5.55		164.23	365	1.8		5.2				
10/25/2016	XX	GW227X8I2	199	7.9	10.2	159.62	4.61	22.3	164.23	353	3.5		5.3				
4/18/2017	XX	GW227X968	188	8.2	5.8	159.63	4.6		164.23	356	5.4		1.4				
7/25/2017	XX	GW227X9C6	185	8.2	12.6	158.03	6.2		164.23	314	1.5		2.4				
10/24/2017	XX	GW227X9G1	191	8.1	13.1	158.58	5.65	22.3	164.23	354	1.2		2				
4/3/2018	XX	GW227XA1J	284	8.2	4.8	160.03	4.2		164.23	326	4.9		1.3				
7/17/2018	XX	GW227XAB1	189	8.2	13.5	158.38	5.85		164.23	278	2.1		2.4				
10/2/2018	XX	GW227XAJJ	191	8.1	11.1	159.05	5.18	22.3	164.23	274	2		1.6				
4/23/2019	XX	GW227XB4F	194	8.3	4.9	160.1	4.13		164.23	389	3.2		2.5				
7/16/2019	XX	GW227XBB8	189	8.1	15	159.48	4.75		164.23	244	3.1		3.7				
10/29/2019	XX	GW227XBH1	181	8.3	10.5	160.04	4.19	22.3	164.23	333	0.1 U		2.6				
4/28/2020	XX	GW227XCC8	173	7.8	5.8	159.92	4.31		164.23	352	2.7		1.5				

(MW-227) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/21/2020	XX	GW227XCH1	182	8	12.9	159.18	5.05		164.23	219	2.7		2.2				
10/27/2020	XX	GW227XD25	184	7.9	10.9	159.78	4.45	22.31	164.23	314	5.3		2				
4/6/2021	XX	GW227XDB7	190	7.7	6	159.9	4.33		164.23	226	3.6		2.9				
7/13/2021	XX	GW227XDIJ	190	8.1	12.1	159.43	4.8		164.23	125	0.6		3.2				
10/5/2021	XX	GW227XE57	191	8.2	11.9	159.58	4.65		164.23	180	0.2		3.7				
4/26/2022	XX	GW227XEJJ	169	7.7	6.2	159.63	4.6		164.23	224	3.4		3.1				
7/19/2022	XX	GW227XF7H	174	7.7	13.1	158.33	5.9		164.23	129	0.6		3.2				
10/4/2022	XX	GW227XFHI	178	7.5	11.3	159.38	4.85	22.32	164.23	219	0.3		2				
4/18/2023	XX	GW227XGH9	279	7.8	8	159.53	4.7		164.23	299	4.1		1.5				
7/11/2023	XX	GW227XH7B	172	8.2	11.5	159.73	4.5		164.23	127	0.9		1.3				
10/2/2023	XX	GW227X04I	173	7.8	12.9	159.53	4.7	22.32	164.23	191	0.6		1.5				
4/2/2024	XX	GW227X119	183	8.3	5.6	159.83	4.4		164.23	226	5.2		1.8				
7/16/2024	XX	GW227X1CB	178	8.1	12.6	159.98	4.25		164.23	331	2.6		1.5				
10/8/2024	XX	GW227X1I2	170	7.8	12.5	159.08	5.15	22.41	164.23	289	2.9		1.2				
MW-301																	
4/29/2015	XX	GW301X783	192	8.2	8.2	165.66	0.25		165.91	359	0.7		1.2				
7/15/2015	XX	GW301X7BF	217	8.1	16.6	165.71	0.2		165.91	338	0.5		0.9				
10/27/2015	XX	GW301X7H4	205	7.8	10.7	165.68	0.23	185.11	165.91	287	0.3		0.8				
4/6/2016	XX	GW301X85EX	F	F	F		F			F	F		F				
4/27/2016	XX	GW301X85E	210	8.4	8.8	165.61	0.3		165.91	234	0.3		0.4				
7/27/2016	XX	GW301X8A4	210	8.1	15.6	165.49	0.42		165.91	203	0.1		0.2				
10/26/2016	XX	GW301X8I3	218	8.3	8.1	165.53	0.38	185.11	165.91	334	0.6		4.5				
4/19/2017	XX	GW301X969	215	8.2	8.3	165.56	0.35		165.91	308	2.8		1.8				
7/26/2017	XX	GW301X9C7	224	7.9	15.2	165.61	0.3		165.91	287	0.3		2.1				
10/25/2017	XX	GW301X9G2	225	8.1	13.7	165.71	0.2	185.11	165.91	368	0.2		1.6				
4/4/2018	XX	GW301XA20	322	8.2	3.7	165.61	0.3		165.91	148	1.5		1.7				
7/18/2018	XX	GW301XAB2	244	7.8	14.3		F1			267	0.2		3.5				
10/1/2018	XX	GW301XB00	242	8	11.8	164.96	0.95	185.13	165.91	283	0.3		2.4				
4/24/2019	XX	GW301XB4G	242	8.2	6.3	165.56	0.35		165.91	388	0.3		1.7				
7/17/2019	XX	GW301XBB9	245	7.8	13.7	164.41	1.5		165.91	202	0.2		1.6				
10/28/2019	XX	GW301XBH2	248	8.1	10.2		F1	185.1	165.91	322	0.3		1.9				
4/27/2020	XX	GW301XCC9	228	7.8	7.1	165.6	0.31		165.91	301	0.2		2.4				
7/20/2020	XX	GW301XCH2	248	7.9	14.2	165.89	0.02		165.91	143	0.2		3.3				
10/26/2020	XX	GW301XD26	248	7.3	9.8	164.11	1.8	185.12	165.91	334	0.2		2.7				
4/5/2021	XX	GW301XDB8	255	7.4	7.4	165.41	0.5		165.91	249	0.3		2				
7/12/2021	XX	GW301XDJ0	239	8.2	13.8	165.14	0.77		165.91	127	0.1		3.6				
10/4/2021	XX	GW301XE58	259	8.1	12.6	165.01	0.9		165.91	95	0.2		1.5				
4/25/2022	XX	GW301XF00	219	7.9	9.6	165.76	0.15		165.91	96	0.3		2.8				
7/18/2022	XX	GW301XF7I	238	7.8	15.3	164.41	1.5		165.91	41	0.1		2.3				
10/3/2022	XX	GW301XFHJ	242	7.3	12.2	162.91	3	185.11	165.91	92	0.2		2				
4/17/2023	XX	GW301XGHA	333	8.4	10.1	165.81	0.1		165.91	145	0.2		0.8				
7/10/2023	XX	GW301XH7C	242	8.2	13.7	165.06	0.85		165.91	29	0.1		2.1				
10/2/2023	XX	GW301X04J	243	8.3	12.8	162.81	3.1	185.11	165.91	63	0.2		0.7				
4/1/2024	XX	GW301X11A	230	8.3	8	165.61	0.3		165.91	36	0.2		2.4				
7/15/2024	XX	GW301X1CC	252	7.8	15.2	165.38	0.53		165.91	161	0.2		1.2				
10/7/2024	XX	GW301X1I3	238	7.5	11.8	165.76	0.15	185.11	165.91	172	0.2		1				
MW-302 & MW-302R																	
4/27/2015	XX	GW302X797	270	6.7	7.1	201.61	5.25		206.86	381	6.7		0.6				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-302 & MW-302R) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/13/2015	XX	GW302X7CJ	367	6.7	12.1	197.04	9.82		206.86	322	6		1.3				
10/26/2015	XX	GW302X7I8	766	6.7	11.4	197.66	9.2	32.22	206.86	282	4.6		0.4				
4/4/2016	XX	GW302X86I	293	6.8	6	201.24	5.62		206.86	351	6.2		2.7				
7/25/2016	XX	GW302X8B8	300	6.9	12.4	191.23	15.63		206.86	367	6.1		0.9				
10/24/2016	XX	GW302X8J7	630	6.4	11.9	188.36	18.5	32.22	206.86	350	1.3		2.6				
4/17/2017	XX	GW302X97D	310	6.7	7.2	201.46	5.4		206.86	366	8.2		1.7				
7/24/2017	XX	GW302X9DB	347	6.5	11.7	191.35	15.51		206.86	357	5.6		5.5				
10/23/2017	XX	GW302X9H6	698	6.8	11.5	187.51	19.35	32.25	206.86	421	1.6		2.1				
4/2/2018	XX	GW302XA35	490	6.7	6.5	202.36	4.5		206.86	375	6.3		2				
7/16/2018	XX	GW302XAC6	354	6.4	11.6	191.08	15.78		206.86	345	6		3				
10/1/2018	XX	GW302XB14	851	6.7	11.1	187.26	19.6	32.23	206.86	311	1.7		2.4				
4/22/2019	XX	GW302XB61	181	6.7	6.7	202.33	4.53		206.86	400	9		2.7				
7/17/2019	XX	GW302XBCC	335	6.4	12	198.31	8.55		206.86	295	6.4		1.5				
10/28/2019	XX	GW302XBI5	317	6.5	11.1	201.69	5.17	32.2	206.86	375	2.1		1.9				
4/27/2020	XX	GW302XCDC	269	5.7	6	199.89	6.97		206.86	367	7.8		0.8				
7/20/2020	XX	GW302XCI5	399	7.1	12.8	190.91	15.95		206.86	289	5.3		1.9				
10/26/2020	XX	GW302XD39	562	6.6	9.7	193.06	13.8	32.27	206.86	361	2.2		1.7				
4/5/2021	XX	GW302XDCB	662	6	5.9	200.56	6.3		206.86	297	1.4		3.1				
7/12/2021	XX	GW302XE03	504	6.5	10.7	192.41	14.45		206.86	284	1.1		4.5				
10/4/2021	XX	GW302XE6B	450	6.3	11.4	195.66	11.2		206.86	246	0.9		1.5				
4/25/2022	XX	GW302XF13	272	5.8	7.2	199.36	7.5		206.86	268	0.9		2.5				
7/18/2022	XX	GW302XF91	471	6.3	13.6	189.96	16.9		206.86	211	0.6		2.2				
10/3/2022	XX	GW302XFJ2	DE	DE	DE	DE	DE	DE	206.86	DE	DE		DE				
MW-303 & MW12-303R																	
4/27/2015	XX	GW303X799	874	6.1	8.7	183.49	25.4		208.89	407	5		0.5				
6/18/2015	XX	42173-1	564	6.4	12.6	182.59	26.3		208.89	158	1		4.2				
7/13/2015	XX	GW303X7D1	347	6.5	13.9	182.07	26.82		208.89	330	0.9		1.4				
10/26/2015	XX	GW303X7IA	370	6.5	10.4	179.6	29.29	43.4	208.89	313	1.4		1.2				
4/4/2016	XX	GW303X870	411	6.4	6.7	184.34	24.55		208.89	378	7.5		1.7				
7/25/2016	XX	GW303X8BA	549	6.3	14.3	180.39	28.5		208.89	369	0.9		1.3				
10/24/2016	XX	GW303X8J9	681	6.3	12.2	176.39	32.5	43.4	208.89	389	5.5		17.2				
4/17/2017	XX	GW303X97F	466	6.4	10.2	182.29	26.6		208.89	382	7.7		1.8				
7/24/2017	XX	GW303X9DD	419	6.2	12.3	181.5	27.39		208.89	343	0.8		2.8				
10/23/2017	XX	GW303X9H8	414	6.8	12.9	176.94	31.95	43.4	208.89	375	2.3		37.5				
4/2/2018	XX	GW303XA37	1711	6	8.8	181.64	27.25		208.89	408	5.1		1.9				
7/16/2018	XX	GW303XAC8	501	6.2	14.4	180.59	28.3		208.89	333	0.9		1.8				
10/1/2018	XX	GW303XB16	408	6.6	11.3	176.81	32.08	43.4	208.89	272	1.4		12.5				
4/22/2019	XX	GW303XB63	485	6.2	9.1	181.14	27.75		208.89	418	5.8		7.6				
7/17/2019	XX	GW303XBCE	494	5.9	11.3	181.89	27		208.89	303	2.2		1.8				
10/28/2019	XX	GW303XBI7	380	6.1	10.4	179.77	29.12	43.4	208.89	400	0.2		2.8				
4/27/2020	XX	GW303XCDE	409	6.1	8.7	180.29	28.6		208.89	361	1.9		3.6				
7/20/2020	XX	GW303XCI7	280	6.9	14.3	177.79	31.1		208.89	227	1.1		2.4				
10/26/2020	XX	GW303XD3B	577	6.2	8.9	175.49	33.4	43.4	208.89	390	1.3		2.5				
4/5/2021	XX	GW303XDCD	442	5.7	8.8	178.59	30.3		208.89	354	4.6		2.3				
7/12/2021	XX	GW303XE05	531	6.2	13.7	177.29	31.6		208.89	318	4.5		3.6				
10/4/2021	XX	GW303XE6D	673	6.3	11.5	177.12	31.77		208.89	234	1.8		2				
4/25/2022	XX	GW303XF15	277	5.8	10.5	181.24	27.65		208.89	317	5.9		7.7				
7/18/2022	XX	GW303XF93	373	6.7	16.5	178.29	30.6		208.89	222	5		8.8				
10/3/2022	XX	GW303XFJ4	401	6.3	13.7	175.74	33.15	43.4	208.89	268	3.2		5				

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-303 & MW12-303R) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/17/2023	XX	GW303XGIF	474	7.2	11.2	180.89	28		208.89	348	6.5		6.2				
7/10/2023	XX	GW303XH8H	284	6.1	12.6	180.39	28.5		208.89	296	2.7		3				
10/2/2023	XX	GW303X064	286	6.5	13.8	179.79	29.1	43.4	208.89	221	2		4				
4/1/2024	XX	GW303X12E	125	6.5	9.1	180.89	28		208.89	306	8.4		22.7				
7/15/2024	XX	GW303X1DG	246	6	19.9	179.79	29.1		208.89	374	5.5		19.8				
10/7/2024	XX	GW303X1J7	298	6.3	12.8	177.39	31.5	43.35	208.89	318	2.1		19.4				
MW-401A																	
4/27/2015	XX	GW401A78H	131	8.3	7.2	155.23	1.6		156.83	217	7.3		0.4				
7/13/2015	XX	GW401A7C9	124	8	10.3	151.47	5.36		156.83	194	6.9		0.5				
10/26/2015	XX	GW401A7HI	118	7.8	9	152.03	4.8	112.03	156.83	208	7.1		0.2				
4/6/2016	XX	GW401A868X	F	F	F		F			F	F		F				
4/27/2016	XX	GW401A868	130	8.6	7.4	153.14	3.69		156.83	270	5.9		0.1				
7/25/2016	XX	GW401A8AI	127	7.4	11.7	149.57	7.26		156.83	310	6.1		0.4				
10/24/2016	XX	GW401A8IH	127	7.6	9.2	148.33	8.5	112.2	156.83	182	5.8		0.2				
4/17/2017	XX	GW401A973	120	8.3	8.5	155.76	1.07		156.83	337	7.4		0.2				
7/24/2017	XX	GW401A9D1	126	7.9	9.2	149.68	7.15		156.83	317	7		0.5				
10/25/2017	XX	GW401A9GG	303	7	17.8	148.28	8.55	112.18	156.83	152	1.2		2				
4/2/2018	XX	GW401AA2F	134	8.3	6.6	155.47	1.36		156.83	459	3.1		0.6				
7/16/2018	XX	GW401AABG	140	8.3	11.6	149.93	6.9		156.83	365	5.5		0.5				
10/1/2018	XX	GW401AB0E	146	8.2	9.5	148.11	8.72	112.2	156.83	466	5.2		0.3				
4/22/2019	XX	GW401AB5B	130	8.4	7.6	154.92	1.91		156.83	289	6.8		0.2				
7/15/2019	XX	GW401ABC3	130	7.3	10.3	152.78	4.05		156.83	482	11.1		0.4				
10/28/2019	XX	GW401ABHG	140	7.6	9.3	154.62	2.21	112.21	156.83	243	4.9		0.5				
4/27/2020	XX	GW401ACD3	147	8.5	6.8	153.91	2.92		156.83	278	5.7		0.5				
7/20/2020	XX	GW401ACHG	121	7.5	11.1	149.85	6.98		156.83	252	5.3		0.2				
10/26/2020	XX	GW401AD30	122	7.6	8.9	150.56	6.27	112.03	156.83	435	5.7		0.3				
4/5/2021	XX	GW401ADC2	125	7.7	6.6	155.31	1.52		156.83	207	5.2		0.5				
7/12/2021	XX	GW401ADJE	124	6.6	11.1	150.72	6.11		156.83	329	5.3		0.3				
10/4/2021	XX	GW401AE62	128	7.6	10.6	153.42	3.41		156.83	240	4.6		0.2				
4/25/2022	XX	GW401AF0E	128	6.7	7.4	154.72	2.11		156.83	222	3.9		0.1				
7/18/2022	XX	GW401AF8C	132	7.7	10.3	149.48	7.35		156.83	189	4.2		0.2				
10/3/2022	XX	GW401AFID	134	7	9.4	150.23	6.6	111.96	156.83	332	4.9		0.1				
4/17/2023	XX	GW401AGI4	140	7.5	7.9	154.41	2.42		156.83	288	4.5		0.3				
7/10/2023	XX	GW401AH86	149	8.1	10.7	153.81	3.02		156.83	397	4.6		0.2				
10/2/2023	XX	GW401A05E	161	7.2	10.7	152.55	4.28	111.96	156.83	380	1.2		0.2				
4/1/2024	XX	GW401A124	168	7.9	7.2	156.22	0.61		156.83	410	4.6		0.1				
7/15/2024	XX	GW401A1D6	169	7.5	11.9	151.85	4.98		156.83	391	7		0.2				
10/7/2024	XX	GW401A1IH	171	7.3	10	150.05	6.78	112.06	156.83	444	5.1		0.3				
MW-401B																	
4/27/2015	XX	GW401B78I	243	7.4	6.7	150.8	6.52		157.32	174	0.2		0.4				
7/13/2015	XX	GW401B7CA	318	7	8.7	150.01	7.31		157.32	166	0.1		0.9				
10/26/2015	XX	GW401B7HJ	335	6.8	10.1	150.35	6.97	23.1	157.32	190	0.1		0.1				
4/6/2016	XX	GW401B869	274	7.2	5.9	150.69	6.63		157.32	219	1.7		0.3				
7/25/2016	XX	GW401B8AJ	360	6.4	9.8	149.79	7.53		157.32	171	0.1		0.2				
10/24/2016	XX	GW401B8II	355	6.6	10.2	149.98	7.34	23.1	157.32	199	0.1		0.2				
4/17/2017	XX	GW401B974	265	6.8	7	150.99	6.33		157.32	222	0.5		0.2				
7/24/2017	XX	GW401B9D2	305	6.8	9.5	149.72	7.66		157.32	200	0.1		0.2				
10/25/2017	XX	GW401B9GH	375	6.8	12.3	149.07	8.25	23.14	157.32	119	1		6.7				

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(MW-401B) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/2/2018	XX	GW401BA2G	272	7.3	6.3	151.07	6.25		157.32	401	0.2		0.5				
7/16/2018	XX	GW401BABH	350	7.5	9.7	149.83	7.49		157.32	220	0.1		0.2				
10/1/2018	XX	GW401BB0F	363	7.2	10.4	149.42	7.9	23.14	157.32	417	0.1		0.2				
4/22/2019	XX	GW401BB5C	216	7.7	7.5	151	6.32		157.32	186	0.3		0.3				
7/15/2019	XX	GW401BBC4	267	7.2	9.2	150.56	6.76		157.32	216	3.7		0.6				
10/28/2019	XX	GW401BBHH	327	6.8	10	151.12	6.2	23.14	157.32	213	1.9		2.2				
4/27/2020	XX	GW401BCD4	246	7.7	5.9	150.64	6.68		157.32	196	0.2		1.2				
7/20/2020	XX	GW401BCHH	278	6.9	13.1	149.88	7.44		157.32	159	0.4		0.3				
10/26/2020	XX	GW401BD31	296	6.9	9.6	150.22	7.1	23.13	157.32	172	0.6		0.3				
4/5/2021	XX	GW401BDC3	268	6.7	6.2	150.82	6.5		157.32	126	0.2		0.2				
7/12/2021	XX	GW401BDJF	283	6.4	9.7	150.14	7.18		157.32	158	0.6		0.2				
10/4/2021	XX	GW401BE63	287	6.5	11.1	150.64	6.68		157.32	139	0.2		0.3				
4/25/2022	XX	GW401BF0F	270	6.6	6.7	150.69	6.63		157.32	213	0.2		0.1				
7/18/2022	XX	GW401BF8D	281	6.4	9.9	149.29	8.03		157.32	169	0.2		0.5				
10/3/2022	XX	GW401BFIE	290	6.7	10.4	150.82	6.5	23.9	157.32	213	3.5		0.2				
4/17/2023	XX	GW401BGI5	271	6.9	7	150.69	6.63		157.32	200	0.1		0.2				
7/10/2023	XX	GW401BH87	274	6.4	9.3	150.43	6.89		157.32	191	0.3		0.3				
10/2/2023	XX	GW401B05F	311	6.3	11.3	150.29	7.03	23.9	157.32	197	0.2		0.1				
4/1/2024	XX	GW401B125	287	6.7	6.9	151.05	6.27		157.32	186	0.8		0.1				
7/15/2024	XX	GW401B1D7	313	6.6	10.8	150.6	6.72		157.32	228	1.9		0.2				
10/7/2024	XX	GW401B1II	330	6.2	11.2	149.67	7.65	23.15	157.32	422	4.1		0.2				
MW-402A																	
4/29/2015	XX	GW402A78J	137	8.5	6.9	152.05	0.15		152.2	272	4		0.8				
7/15/2015	XX	GW402A7CB	124	8.6	11.2		F1		152.2	306	3		0.4				
10/28/2015	XX	GW402A7I0	117	8.6	7.3	152.16	0.04	108.28	152.2	323	3.2		0.2				
4/6/2016	XX	GW402A86AX	F	F	F		F			F	F		F				
4/27/2016	XX	GW402A86A	129	8.8	7.2		F1		152.2	240	2.9		0.2				
7/27/2016	XX	GW402A8B0	128	8.6	12.4	152.12	0.08		152.2	248	2.9		0.3				
10/26/2016	XX	GW402A8IJ	126	8.3	8.2	151.74	0.46	108.28	152.2	245	4.5		0.4				
4/19/2017	XX	GW402A975	120	8.7	6.9	152.14	0.06		152.2	283	3.5		0.5				
7/26/2017	XX	GW402A9D3	122	8.4	10.2	152.15	0.05		152.2	321	2.7		0.4				
10/26/2017	XX	GW402A9GI	122	8.1	11	152.15	0.05	108.28	152.2	365	2.8		0.6				
4/4/2018	XX	GW402AA2H	130	8.6	6.1	152.18	0.02		152.2	460	5.2		0.3				
7/18/2018	XX	GW402AABI	136	8.5	11.9	151.97	0.23		152.2	407	2.6		0.3				
10/3/2018	XX	GW402AB0G	136	8.6	9.7	151.75	0.45	108.3	152.2	427	2.7		0.2				
4/24/2019	XX	GW402AB5D	122	8.5	6	152.14	0.06		152.2	344	3.5		0.2				
7/17/2019	XX	GW402ABC5	124	7.9	12.7		F1		152.2	339	6.1		2.1				
10/30/2019	XX	GW402ABHI	128	8.1	9.5	152.15	0.05	108.35	152.2	220	3.3		0.4				
4/29/2020	XX	GW402ACD5	134	8.3	7.5		F1		152.2	264	3.2		0.8				
7/22/2020	XX	GW402ACHI	111	8.5	10.6	152.16	0.04		152.2	319	3.4		0.5				
10/28/2020	XX	GW402AD32	112	8.5	6.7		F1	108.55	152.2	333	3.2		0.3				
4/7/2021	XX	GW402ADC4	114	7.9	7.7		F1		152.2	384	3.3		0.1				
7/14/2021	XX	GW402ADJG	112	8.1	10.5	152.15	0.05		152.2	243	3		0.4				
10/4/2021	XX	GW402AE64	118	7.6	11.9	152.14	0.06		152.2	181	1.8		0.3				
4/25/2022	XX	GW402AF0G	113	7.8	9.6	150.12	2.08		152.2	216	2.3		0.3				
7/20/2022	XX	GW402AF8E	113	7.6	11.9		F1		152.2	311	3.9		0.6				
10/3/2022	XX	GW402AFIF	113	7.1	9.7	151.54	0.66	108.39	152.2	263	9.2		0.3				
4/17/2023	XX	GW402AGI6	113	7.4	8.9	149.85	2.35		152.2	262	2.4		0.3				
7/10/2023	XX	GW402AH88	130	7.6	12.5	152.02	0.18		152.2	444	4.4		0.4				

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(MW-402A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/2/2023	XX	GW402A05G	128	7.5	11.5	152.12	0.08	108.39	152.2	336	2.6		0.3				
4/1/2024	XX	GW402A126	123	8.2	7.4		F1		152.2	413	2.8		0.3				
7/15/2024	XX	GW402A1D8	132	7.6	12.6	152.08	0.12		152.2	362	5.4		0.2				
10/7/2024	XX	GW402A1IJ	129	7.4	10.9	148.07	4.13	108.4	152.2	402	2.5		0.4				
MW-402B																	
4/29/2015	XX	GW402B790	155	8.7	6.1	149.94	2.8		152.74	253	0.6		0.4				
7/15/2015	XX	GW402B7CC	147	8.5	8.9	148.36	4.38		152.74	323	0.1		0.1				
10/28/2015	XX	GW402B7I1	142	8.6	8.8	149.49	3.25	25.16	152.74	351	0.1		0.2				
4/6/2016	XX	GW402B86BX	F	F	F		F			F	F		F				
4/27/2016	XX	GW402B86B	152	8.9	6.9	149.73	3.01		152.74	226	0.1		0.2				
7/27/2016	XX	GW402B8B1	150	8.4	10.8	147.81	4.93		152.74	214	0.2		0.3				
10/26/2016	XX	GW402B8J0	150	8.3	9.3	147.53	5.21	25.15	152.74	245	0.3		0.1				
4/19/2017	XX	GW402B976	141	8.8	6.4	149.94	2.8		152.74	241	0.1		0.2				
7/26/2017	XX	GW402B9D4	145	8.2	9.6	147.76	4.98		152.74	334	0.1		0.2				
10/26/2017	XX	GW402B9GJ	147	7.9	10.8	148.16	4.58	25.16	152.74	380	0.1		0.3				
4/4/2018	XX	GW402BA2I	152	8.4	5.9	150.29	2.45		152.74	467	6.8		0.3				
7/18/2018	XX	GW402BABJ	160	8.5	10	148.12	4.62		152.74	377	0.1		0.3				
10/3/2018	XX	GW402BB0H	162	8.7	10.1	146.92	5.82	25.16	152.74	415	0.1		0.1				
4/24/2019	XX	GW402BB5E	143	8.9	5.2	150.3	2.44		152.74	265	0.1		0.3				
7/17/2019	XX	GW402BBC6	143	8.3	10.6	149.02	3.72		152.74	319	3.2		1.2				
10/30/2019	XX	GW402BBHJ	151	8.1	9.9	150.09	2.65	25.14	152.74	208	1.2		0.2				
4/29/2020	XX	GW402BCD6	157	8.3	6.4	150.03	2.71		152.74	232	0.3		0.5				
7/22/2020	XX	GW402BCHJ	130	8	8.9	148.06	4.68		152.74	360	0.4		0.3				
10/28/2020	XX	GW402BD33	131	8.6	8.7	148.82	3.92	25.2	152.74	331	0.4		0.5				
4/7/2021	XX	GW402BDC5	132	8.3	7.3	150.09	2.65		152.74	276	0.2		0.7				
7/14/2021	XX	GW402BDJH	130	8.2	9.9	148.99	3.75		152.74	185	0.5		0.2				
10/4/2021	XX	GW402BE65	132	7.5	11.4	149.59	3.15		152.74	128	0.2		0.3				
4/25/2022	XX	GW402BF0H	130	7.8	7.8	150.14	2.6		152.74	191	0.2		0.1				
7/20/2022	XX	GW402BF8F	158	7.9	9.4	148.25	4.49		152.74	233	0.2		0.5				
10/3/2022	XX	GW402BFIG	131	7.6	10.7	148.54	4.2	25.15	152.74	251	1.5		0.2				
4/17/2023	XX	GW402BGI7	130	6.9	7.6	149.96	2.78		152.74	193	0.2		0.2				
7/10/2023	XX	GW402BH89	139	8.1	10.2	149.44	3.3		152.74	394	0.5		0.2				
10/2/2023	XX	GW402B05H	148	8.1	11.5	149.14	3.6	25.15	152.74	343	0.5		0.2				
4/1/2024	XX	GW402B127	146	8.2	6.9	150.34	2.4		152.74	436	0.5		0.1				
7/15/2024	XX	GW402B1D9	146	7.9	10.3	149.89	2.85		152.74	380	6.5		0.3				
10/7/2024	XX	GW402B1J0	148	7.8	10.7	148.61	4.13	25.2	152.74	365	1		0.2				
MW-501																	
4/5/2018	XX	GW501XA6I	204	8.1	6.5		F1	47.6	166.19	472	4.1		0.4				
6/4/2018	XX	GW501XA7F	202	7.2	8.2		F1		166.19	346	8		1				
7/19/2018	XX	GW501XAED	235	8.8	9		F1		166.19	553	6.7		3.2				
8/20/2018	XX	GW501XAFE	255	6.7	9.2		F1		166.19	327	7		3.9				
4/24/2019	XX	GW501XB7C	297	6.7	8		F1		166.19	383	6.3		0.2				
7/17/2019	XX	GW501XBE0	176	7.8	13.3		F1		166.19	200	13.3		0.4				
10/30/2019	XX	GW501XBJ9	367	6.9	9		F1	47.6	166.19	208	4.7		0.1				
4/29/2020	XX	GW501XCF0	157	7.6	8.2		F1		166.19	386	7.7		0.2				
7/22/2020	XX	GW501XCJD	310	6	15.5		F1		166.19	331	4		0.3				
10/28/2020	XX	GW501XD4D	295	7.6	8.6		F1	47.6	166.19	367	0.9		0.2				
4/7/2021	XX	GW501XDDH	229	6.7	8.6		F1		166.19	390	2.7		0.4				

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(MW-501) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/14/2021	XX	GW501XE18	242	7.3	11.1		F1		166.19	327	4.3		0.2				
10/6/2021	XX	GW501XE8A	192	7	10.9		F1		166.19	304	5.2		0.1				
4/27/2022	XX	GW501XF2G	231	7	8.1		F1		166.19	411	2.8		0.1				
7/20/2022	XX	GW501XFA6	212	7	8.7		F1		166.19	329	3.9		0.2				
10/5/2022	XX	GW501XG0F	221	6.9	12.6		F1	47.6	166.19	366	2.3		0.3				
4/19/2023	XX	GW501XH06	232	7.2	10		F1		166.19	409	6.5		0.3				
7/12/2023	XX	GW501X002	249	6.9	17.2		F1		166.19	503	6.7		0.3				
10/4/2023	XX	GW501X07B	287	7.1	12.9		F1	47.6	166.19	295	3.5		0.5				
4/10/2024	XX	GW501X140	277	6.7	7.8		F1		166.19	440	2.7		0.1				
7/17/2024	XX	GW501X1EJ	294	6.9	14.5		F1		166.19	340	5.5		0.1				
10/9/2024	XX	GW501X20D	294	6.7	9.5		F1	47.6	166.19	459	3.9		0.2				
MW-502																	
2/26/2020	XX	GW502XC55	280	8.4	7.5		F1	46.38		249	3.7		1.2				
4/30/2020	XX	GW502XCBJ	312	8.2	7.2		F1			309	5.8		0.8				
6/23/2020	XX	GW502XCGB	389	7.9	18.2		F1			342	3.6		0.2				
8/20/2020	XX	GW502XD1I	316	7.9	18.7	160.51	0.07		160.58	390	2.7		0.2				
7/14/2021	XX	GW502XE23	315	7.5	14.1	159.68	0.9		160.58	319	2		0.2				
10/7/2021	XX	GW502XE8B	343	7.4	13.9	160.43	0.15		160.58	251	2.1		0.5				
4/27/2022	XX	GW502XF2H	256	7.3	9.1		F1			404	3.3		0.1				
7/20/2022	XX	GW502XFAI	331	7.4	12.7	160.54	0.04		160.58	279	2.1		0.7				
10/5/2022	XX	GW502XG0G	351	7.5	10.8	160.11	0.47	46.38	160.58	334	1.7		0.3				
4/19/2023	XX	GW502XH07	335	6.6	9		F1			414	7.8		0.2				
7/12/2023	XX	GW502X00E	335	7.3	17.7	160.54	0.04		160.58	492	4		0.6				
10/4/2023	XX	GW502X07C	369	7.3	14.3		F1	46.38		364	3.2		0.2				
4/10/2024	XX	GW502X141	319	7.6	7.3	160.5	0.08		160.58	444	4.3		0.2				
7/18/2024	XX	GW502X1FD	138	7.5	15.8		F1		160.58	346	5		0.1				
10/9/2024	XX	GW502X20E	330	7.4	8.2	159.97	0.61	46.38	160.58	463	3.3		0.2				
MW-503																	
2/9/2021	XX	GW503XD9A	207	7.9	6.5		F1	73.02		312	5.3		1.1				
4/8/2021	XX	GW503XDA9	204	7.5	8.4		F1			368	2.3		0.6				
6/8/2021	XX	GW503XDGC	198	7.4	12.3		F1			312	2.2		0.5				
8/19/2021	XX	GW503XE46	196	6.6	10.1		F1			398	1.6		0.2				
10/7/2021	XX	GW503XE96	138	7.4	12		F1			233	2.7		0.3				
4/27/2022	XX	GW503XF3B	205	7.5	9.6		F1			369	3.6		0.2				
7/20/2022	XX	GW503XFB5	224	7.6	10.4		F1			278	1.2		1				
10/5/2022	XX	GW503XG1A	217	7.4	9.1		F1	73.02		339	1.7		0.2				
4/20/2023	XX	GW503XH11	213	7.6	5.7		F1			415	6.5		0.2				
7/13/2023	XX	GW503X011	200	7.3	12.4		F1			590	4.4		0.2				
10/4/2023	XX	GW503X086	240	7.6	14.8	163.715	0	73.02	163.715	352	3.6		0.3				
4/10/2024	XX	GW503X14F	228	7.9	7.4		F1		163.715	442	4.2		0.3				
7/18/2024	XX	GW503X1G0	230	7.8	15.1		F1		163.715	361	5.5		0.1				
10/9/2024	XX	GW503X218	216	6.9	9.7		F1	73.02	163.715	450	2.7		0.2				
MW-504																	
2/9/2021	XX	GW504XD9B	124	8.4	5.9	157.459	18.15	84.38	175.609	337	7.3		2.5				
4/7/2021	XX	GW504XDAA	139	8.3	8.3	157.609	18		175.609	179	6.2		3.9				
6/9/2021	XX	GW504XDGD	108	7.6	11.2	156.969	18.64		175.609	239	7		3.1				
8/19/2021	XX	GW504XE47	103	7.7	12.1	156.679	18.93		175.609	288	2.8		0.6				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(MW-504) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/7/2021	XX	GW504XE97	123	7.7	14.6	157.259	18.35		175.609	156	4.9		0.8				
4/27/2022	XX	GW504XF3C	104	8	9.4	157.45	25.1		182.55	223	7.3		3.8				
7/21/2022	XX	GW504XFB6	!	!	!	!	!			!	!		!				
10/5/2022	XX	GW504XG1B	106	7.4	10.4	156.05	26.5	84.38	182.55	339	3		3.7				
4/20/2023	XX	GW504XH12	103	7.3	7.4	156.3	26.25		182.55	361	6.8		0.8				
7/13/2023	XX	GW504X012	131	7.7	19.4	156.45	26.1		182.55	465	8.1		0.5				
10/5/2023	XX	GW504X087	126	7.8	13.2	155.75	26.8		182.55	214	5.9		3.4				
4/11/2024	XX	GW504X14G	132	7.8	7.2	156.84	25.71		182.55	432	7.9		0.5				
7/18/2024	XX	GW504X1G1	111	6.9	18.6	157.03	25.52		182.55	344	4.2		0.8				
10/10/2024	XX	GW504X219	136	7	12.5	156.22	26.33	92.24	182.55	451	3.5		0.6				
MW-505																	
2/10/2021	XX	GW505XD9C	329	7.9	5.1	173.4	13.14	84.8	186.54	25	2.2		4.5				
4/8/2021	XX	GW505XDAB	311	7.6	8.4	174.76	11.78		186.54	55	2		0.9				
6/9/2021	XX	GW505XDGE	261	7.1	11.2	171.67	14.87		186.54	51	0.9		1.1				
8/18/2021	XX	GW505XE48	244	7.6	11.4	170.16	16.38		186.54	346	1.3		0.7				
10/7/2021	XX	GW505XE98	269	7.8	13.1	173.29	13.25		186.54	33	1.3		0.5				
4/27/2022	XX	GW505XF3D	242	7.7	7.7	174.76	11.78		186.54	88	0.3		0.3				
7/21/2022	XX	GW505XFB7	242	6.9	13.3	168.01	18.53		186.54	283	0.7		6.4				
10/5/2022	XX	GW505XG1C	212	7.4	9.8	169.09	17.45	84.8	186.54	182	0.4		0.6				
4/20/2023	XX	GW505XH13	210	7.7	6.3	172.43	14.11		186.54	121	0.6		0.4				
7/13/2023	XX	GW505X013	225	7.2	11	171.91	14.63		186.54	396	4.3		0.5				
10/4/2023	XX	GW505X088	221	7.8	10.7	170.89	15.65	84.8	186.54	239	0.4		0.4				
4/11/2024	XX	GW505X14H	210	7.9	7.1	172.96	13.58		186.54	187	0.7		0.3				
7/18/2024	XX	GW505X1G2	230	7.2	15.2	170.39	16.15		186.54	230	1.6		0.3				
10/9/2024	XX	GW505X21A	222	6.9	10.6	166.9	19.64	84.9	186.54	438	2.4		0.8				
MW-506																	
2/18/2021	XX	GW506XD9D	837	8.8	5.1	171.408	27.35	64.75	198.758	234	2.6		7.5				
4/8/2021	XX	GW506XDAC	667	8.1	10.2	173.258	25.5		198.758	254	3.4		6.7				
6/8/2021	XX	GW506XDGF	F16	F16	F16	170.378	28.38		198.758	F16	F16		F16				
7/14/2021	XX	GW506XE38	778	7.6	14.1	171.158	27.6		198.758	75	2		2.7				
9/1/2021	XX	GW506XE49	660	7.2	16.8	169.488	29.27		198.758	42	0.9		0.8				
10/7/2021	XX	GW506XE99	783	7.4	12.4	171.928	26.83		198.758	49	1.9		3.5				
4/27/2022	XX	GW506XF3E	499	7.5	8.6	172.758	26		198.758	28	1.5		15.2				
7/18/2022	XX	GW506XFB8	551	8.1	11	167.658	31.1		198.758	71	3.1		10.5				
10/5/2022	XX	GW506XG1D	496	7.5	8	169.758	29	64.75	198.758	103	4.7		8.6				
4/18/2023	XX	GW506XH14	481	8.1	8.9	165.198	33.56		198.758	117	3.8		8.2				
7/11/2023	XX	GW506X014	329	7.7	13.8	169.208	29.55		198.758	38	1.8		2.7				
10/4/2023	XX	GW506X089	319	7.5	13.6	171.458	27.3	64.75	198.758	36	1.6		4.1				
4/10/2024	XX	GW506X14I	!	!	!	188.758	10		198.758	!	!		!				
7/17/2024	XX	GW506X1G3	!	!	!	193.958	4.8		198.758	!	!		!				
10/9/2024	XX	GW506X21B	!	!	!	165.558	33.2	64.72	198.758	!	!		!				
MW-507																	
4/5/2018	XX	GW507XA6J	221	7.7	4.1	174.63	2.2		176.83	299	6.3		0.9				
6/5/2018	XX	GW507XA7G	219	7.8	8.2	172.48	4.35		176.83	267	6.3		1.6				
7/18/2018	XX	GW507XAEE	249	7.2	11.5	170.98	5.85		176.83	298	4.6		3.5				
8/20/2018	XX	GW507XAFF	270	7.1	13.9	169.31	7.52		176.83	267	3.1		4.7				
7/14/2021	XX	GW507XE24	318	6.9	11.8	173.13	3.7		176.83	252	3.8		3.9				

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(MW-507) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/7/2021	XX	GW507XE8C	221	6.7	12	173.83	3		176.83	297	4.5		6.1				
4/27/2022	XX	GW507XF2I	90	6.8	7.4	174.69	2.14		176.83	427	6.2		0.3				
7/20/2022	XX	GW507XFAJ	272	6.7	12.3	170.51	6.32		176.83	230	3.5		2.6				
10/5/2022	XX	GW507XG0H	324	6.6	11.8	171.98	4.85	35	176.83	261	2		2.4				
4/19/2023	XX	GW507XH08	178	8	7.2	174.53	2.3		176.83	284	5.1		1				
7/13/2023	XX	GW507X00F	129	7.3	11.3	174.03	2.8		176.83	206	6.6		5.7				
10/5/2023	XX	GW507X07D	219	6.7	11.9	173.43	3.4	35	176.83	260	7.1		1				
4/10/2024	XX	GW507X142	192	7	6.7	173.53	3.3		176.83	266	5.3		3.7				
7/17/2024	XX	GW507X1FE	297	6.7	11.4	171.61	5.22		176.83	304	2.1		3.5				
10/8/2024	XX	GW507X20F	303	6.3	11.3	167.73	9.1	35	176.83	297	1		1.5				
MW-508																	
10/5/2022	XX	GW508XG2E	334	7.7	9	187.47	1.8	38.78	189.27	215	1.9		1.7				
1/24/2023	XX	GW508XGBF	F	F	F		F	38.78		F	F		F				
3/30/2023	XX	GW508XGH2	281	8.4	5.7	188.9	0.37		189.27	355	3.4		0.5				
4/19/2023	XX	GW508XH1H	269	7.4	8.5	187.41	1.86		189.27	436	3.4		0.5				
6/19/2023	XX	GW508XH5H	305	7.5	9.7	188.07	1.2		189.27	464	4.2		0.3				
7/13/2023	XX	GW508X01I	303	7.4	14.3	187.12	2.15		189.27	446	3.6		0.4				
10/4/2023	XX	GW508X090	312	5.5	12.3	187.04	2.23	38.78	189.27	424	4.4		0.4				
4/10/2024	XX	GW508X157	294	7.5	7.1	187.65	1.62		189.27	458	3.7		0.3				
7/17/2024	XX	GW508X1GG	287	7.3	12.2	186.51	2.76		189.27	238	4.7		0.4				
10/10/2024	XX	GW508X220	297	7.3	9.7	184.43	4.84	38.77	189.27	469	2		0.2				
OW-06-03																	
4/10/2018	XX	GWXXXXA73	193	5.6	8.7	181.72	24.32	25.81	206.04	401	6		2.7				
6/5/2018	XX	GWXXXXA80	I	I	I		I			I	I		I				
7/19/2018	XX	GWXXXXAEI	I	I	I		I			I	I		I				
8/21/2018	XX	GWXXXXAFH	I	I	I	I	I		I	I	I		I				
4/23/2019	XX	GWXXXXB7B	409	6	6.2	185.54	20.5		206.04	358	3		8.2				
7/18/2019	XX	GWXXXXBDJ	I	I	I	I	I		206.04	I	I		I				
10/29/2019	XX	GWXXXXBJA	448	6.4	10.3	182.91	23.13	25.81	206.04	176	0.9		10.2				
4/29/2020	XX	GWXXXXCEJ	641	6.1	8.7	180.54	25.5		206.04	140	2.3		43.8				
7/20/2020	XX	GWXXXXCJC	I	I	I	I	I		206.04	I	I		I				
10/28/2020	XX	GWXXXXD4E	778	6.3	7	181.02	25.02	25.81	206.04	200	1.3		11.7				
4/7/2021	XX	GWXXXXDDG	497	5.9	10.4	183.24	22.8		206.04	87	0.9		2.9				
7/14/2021	XX	GWXXXXE17	626	6	15.3	182.54	23.5		206.04	144	1.5		8.6				
10/6/2021	XX	GWXXXXE7F	1035	6	16.4	180.92	25.12		206.04	123	0.5		3.4				
4/28/2022	XX	GWXXXXF25	292	5.9	7.7	180.74	25.3		206.04	158	2		8.9				
7/20/2022	XX	GWXXXXFA5	I	I	I	181.89	24.15		206.04	I	I		I				
10/6/2022	XX	GWXXXXG04	758	5.9	13.4	181.12	24.92	25.8	206.04	103	1.6		4.7				
4/20/2023	XX	GWXXXXGJF	775	7.8	6.8	180.84	25.2		206.04	180	0.9		5.1				
7/12/2023	XX	GWXXXX001	D	D	D	D	D		206.04	D	D		D				
10/4/2023	XX	GWXXXX070	D	D	D	180.36	25.68	25.8	206.04	D	D		D				
4/2/2024	XX	GWXXXX139	256	5.9	10.4	185.94	20.1		206.04	168	3.7		1				
7/18/2024	XX	GWXXXX1EI	I	I	I	181.94	24.1		206.04	I	I		I				
10/10/2024	XX	GWXXXX202	I	I	I	180.54	25.5	25.8	206.04	I	I		I				
OW-601A																	
4/11/2018	XX	GW601AA69	336	7.2	8.2	182.32	35.62	79.02	217.94	223	7.9		1355				
6/6/2018	XX	GW601AA76	324	7.4	9.2	182.34	35.6		217.94	276	2.7		38.1				

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(OW-601A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/19/2018	XX	GW601AAE4	364	7.1	14.1	180.54	37.4		217.94	187	4.6		3.3				
8/22/2018	XX	GW601AAF5	379	7.2	14.2	178.84	39.1		217.94	273	1.5		3.3				
4/24/2019	XX	GW601AB76	410	7.2	6.4	181.34	36.6		217.94	402	0.9		1.7				
7/18/2019	XX	GW601ABB6	409	7.1	13.3	181.74	36.2		217.94	291	2		1.7				
10/30/2019	XX	GW601ABJB	378	7	11.3	179.69	38.25	79.02	217.94	314	6.4		2				
4/29/2020	XX	GW601ACC6	311	5.9	10.4	180.04	37.9		217.94	378	2.6		6.9				
7/22/2020	XX	GW601ACGJ	369	6.7	11.6	177.59	40.35		217.94	290	2.6		8.9				
10/28/2020	XX	GW601AD4F	415	7.1	8.4	175.34	42.6	79.02	217.94	291	1.8		10.6				
4/7/2021	XX	GW601ADB5	418	7	9.2	178.54	39.4		217.94	186	1.6		4				
7/12/2021	XX	GW601ADIH	398	7.7	11.7	177.19	40.75		217.94	172	2.1		6.5				
10/5/2021	XX	GW601AE7G	434	7.3	12.7	176.94	41		217.94	164	2.3		1.8				
4/29/2022	XX	GW601AF26	362	6.6	8.8	181.19	36.75		217.94	236	1.5		2.7				
7/21/2022	XX	GW601AF7F	420	6.7	17.7	178.09	39.85		217.94	176	1.7		1.5				
10/6/2022	XX	GW601AG05	426	6.6	9.9	175.59	42.35	79.02	217.94	241	2.7		2				
4/20/2023	XX	GW601AGJG	545	6.9	7.2	180.64	37.3		217.94	305	1.9		0.9				
7/12/2023	XX	GW601AH79	424	7.5	15.1	180.24	37.7		217.94	107	1.6		2.4				
10/5/2023	XX	GW601A071	459	6.7	14.5	179.59	38.35	79.02	217.94	247	3.3		0.6				
4/1/2024	XX	GW601A13A	215	7	9.7	180.79	37.15		217.94	258	8.9		0.7				
7/18/2024	XX	GW601A1C9	261	6.9	13.7	179.59	38.35		217.94	305	5.9		10.5				
10/10/2024	XX	GW601A203	351	6.5	10.3	177.24	40.7	79.09	217.94	354	1.9		1.2				
OW-601B																	
4/11/2018	XX	GW601BA6A	371	6.4	8.6	181.95	35.55	59.2	217.5	361	4.4		2.5				
6/6/2018	XX	GW601BA77	323	6.5	9.1	181.9	35.6		217.5	287	1.4		3				
7/19/2018	XX	GW601BAE5	339	6.2	12.6	179.95	37.55		217.5	370	3.1		2.5				
8/22/2018	XX	GW601BAF6	386	6.2	14.7	178.42	39.08		217.5	340	4.3		5				
4/23/2019	XX	GW601BB77	358	6.5	7.7	180.92	36.58		217.5	406	2.5		1				
7/18/2019	XX	GW601BBDF	351	6.2	11	181.34	36.16		217.5	259	2.1		5.7				
10/30/2019	XX	GW601BBJC	369	6.7	10.4	179.2	38.3	59.19	217.5	328	3		6.3				
4/29/2020	XX	GW601BCEF	312	5.9	9.9	179.65	37.85		217.5	381	2.9		7.6				
7/22/2020	XX	GW601BCJ8	342	6.5	11.5	177.23	40.27		217.5	297	5.5		3.5				
10/28/2020	XX	GW601BD4G	403	6.5	8.3	174.95	42.55	59.2	217.5	341	3.2		2.4				
4/7/2021	XX	GW601BDDC	358	6.2	11.3	178.08	39.42		217.5	253	2.8		1.2				
7/12/2021	XX	GW601BE13	341	6.8	13.8	176.8	40.7		217.5	251	3.2		4.3				
10/5/2021	XX	GW601BE7H	377	6.5	11.8	176.7	40.8		217.5	222	3		1.4				
4/29/2022	XX	GW601BF27	296	5.9	8.1	180.7	36.8		217.5	293	2.5		2.3				
7/21/2022	XX	GW601BFA1	336	6.2	13.7	177.7	39.8		217.5	220	2.9		2.1				
10/6/2022	XX	GW601BG06	391	6	11	175.2	42.3	59.2	217.5	293	3.3		1.2				
4/20/2023	XX	GW601BGJH	427	6.3	8.3	180.3	37.2		217.5	370	5.3		0.6				
7/12/2023	XX	GW601BH9F	337	6.4	25	180.05	37.45		217.5	162	2.4		2.6				
10/5/2023	XX	GW601B072	359	6.1	13.2	179.2	38.3		217.5	283	3.3		1				
4/1/2024	XX	GW601B13B	359	6.3	9.7	180.4	37.1		217.5	270	2.3		1				
7/18/2024	XX	GW601B1ED	326	6.1	13.2	179.25	38.25		217.5	342	2.2		2.2				
10/10/2024	XX	GW601B204	366	5.9	11.5	176.85	40.65	59.37	217.5	366	3		0.1				
OW-602A																	
4/11/2018	XX	GW602AA6B	144	7.3	8.1	183.25	29.92	240	213.17	345	9.8		0.5				
6/6/2018	XX	GW602AA78	143	7.2	7.9	181.67	31.5		213.17	335	12.9		2				
7/19/2018	XX	GW602AAE6	143	8.2	8.6	179.32	33.85		213.17	467	10.3		2.2				
8/21/2018	XX	GW602AAF7	143	6.7	17.5	177.92	35.25		213.17	301	7.5		3.7				

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(OW-602A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/24/2019	XX	GW602AB78	93	7.1	7.2	178.72	34.45		213.17	391	10		0.9				
7/18/2019	XX	GW602ABDG	110	6.8	8.7	178.42	34.75		213.17	308	11.2		1.6				
10/29/2019	XX	GW602ABJD	120	7.1	9.2	177.37	35.8	239.4	213.17	324	8.2		0.7				
4/29/2020	XX	GW602ACEG	128	6.8	9.8	177.45	35.72		213.17	333	8.3		0.5				
7/22/2020	XX	GW602ACJ9	152	7.1	9.8	175.17	38		213.17	308	8.2		1.2				
10/28/2020	XX	GW602AD4H	171	7	6.5	173.27	39.9	239.4	213.17	306	7		2.4				
4/7/2021	XX	GW602ADDD	253	6.7	8.8	175.47	37.7		213.17	184	2.7		0.9				
7/12/2021	XX	GW602AE14	255	7.4	11.4	174.37	38.8		213.17	210	2.6		1.5				
10/6/2021	XX	GW602AE7I	336	6.5	10.8	174.47	38.7		213.17	212	1		1.3				
4/29/2022	XX	GW602AF28	312	6.2	5.2	177.77	35.4		213.17	270	2.9		2.7				
7/21/2022	XX	GW602AFA2	313	6.5	9.8	175.17	38		213.17	183	0.8		1.4				
10/6/2022	XX	GW602AG07	328	6.2	9.2	173.37	39.8	239.4	213.17	247	1.1		1.1				
4/20/2023	XX	GW602AGJI	436	7.1	8.1	177.47	35.7		213.17	311	0.6		1				
7/12/2023	XX	GW602AH9G	356	6.9	12	177.17	36		213.17	108	0.8		2.1				
10/4/2023	XX	GW602A073	362	6.5	11.1	176.57	36.6	239.4	213.17	187	0.9		1.1				
4/2/2024	XX	GW602A13C	397	6.5	9.6	177.37	35.8		213.17	212	0.4		0.8				
7/18/2024	XX	GW602A1EE	387	6.4	12.7	176.37	36.8		213.17	333	0.4		2				
10/10/2024	XX	GW602A205	363	6.1	9.6	174.32	38.85	239.4	213.17	363	0.9		0.1				
OW-603B																	
4/12/2018	XX	GW603BA6C	302	5.7	7.7	187.63	20.44	28.84	208.07	415	0.3		7.2				
6/5/2018	XX	GW603BA79	211	5.9	8.3	185.27	22.8		208.07	393	3.7		2.2				
7/19/2018	XX	GW603BAE7	223	7.1	19.7	183.42	24.65		208.07	402	1.2		430				
8/21/2018	XX	GW603BAF8	136	6.1	16	182.47	25.6		208.07	315	5		11.3				
4/23/2019	XX	GW603BB79	122	6.4	6.3	181.17	26.9		208.07	409	5.8		22.1				
7/18/2019	XX	GW603BBDH	136	6.2	12.3	182.67	25.4		208.07	304	7.5		9.3				
10/29/2019	XX	GW603BBJE	185	6.5	10.2	181.51	26.56	28.84	208.07	400	0.1		32.6				
4/29/2020	XX	GW603BCEH	130	6.3	7.9	182.12	25.95		208.07	358	7.2		13.3				
7/22/2020	XX	GW603BCJA	I	I	I	I	I		208.07	I	I		I				
10/28/2020	XX	GW603BD4I	I	I	I	179.37	28.7	28.84	208.07	I	I		I				
4/7/2021	XX	GW603BDDE	D	D	D	179.32	28.75		208.07	D	D		D				
7/13/2021	XX	GW603BE15	D	D	D	D	D		208.07	D	D		D				
10/6/2021	XX	GW603BE7J	D	D	D	D	D		208.07	D	D		D				
4/28/2022	XX	GW603BF29	D	D	D	179.37	28.7		208.07	D	D		D				
7/21/2022	XX	GW603BFA3	D	D	D	D	D		208.07	D	D		D				
10/6/2022	XX	GW603BG08	D	D	D		D	28.82	208.07	D	D		D				
4/20/2023	XX	GW603BGJJ	D	D	D	179.99	28.08		208.07	D	D		D				
7/12/2023	XX	GW603BH9H	I	I	I	I	I		208.07	I	I		I				
10/5/2023	XX	GW603B074	D	D	D	179.37	28.7	28.82	208.07	D	D		D				
4/2/2024	XX	GW603B13D	D	D	D	D	D		208.07	D	D		D				
7/18/2024	XX	GW603B1EF	D	D	D	D	D		208.07	D	D		D				
10/10/2024	XX	GW603B206	D	D	D	D	D	28.77	208.07	D	D		D				
OW-604A																	
4/12/2018	XX	GW604AA6D	89	6	7.1	184.5	14.3	33.8	198.8	416	1.6		3.1				
6/4/2018	XX	GW604AA7A	78	6.3	8.1	180.3	18.5		198.8	397	7.5		1.2				
7/19/2018	XX	GW604AAE8	89	7.8	14.5	178.25	20.55		198.8	548	6		3.2				
8/21/2018	XX	GW604AAF9	125	6.3	16.9	175.73	23.07		198.8	334	5.4		3.7				
4/23/2019	XX	GW604AB7A	119	6.4	6.2	177.81	20.99		198.8	429	5.2		2				
7/18/2019	XX	GW604ABDI	124	6.1	14.1	178.95	19.85		198.8	293	3.2		5.8				

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(OW-604A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/29/2019	XX	GW604ABJF	120	6.3	11	179.06	19.74	33.8	198.8	417	0.1 U		3.7				
4/29/2020	XX	GW604ACEI	155	6.1	6.9	179.03	19.77		198.8	389	6.3		1.3				
7/21/2020	XX	GW604ACJB	160	6.3	16.6	175.05	23.75		198.8	310	4.2		2.3				
10/28/2020	XX	GW604AD4J	159	7.2	7.4	172.9	25.9	33.71	198.8	369	5.6		10.9				
4/7/2021	XX	GW604ADDF	193	6.2	11	174.3	24.5		198.8	260	6.9		1.2				
7/14/2021	XX	GW604AE16	219	6.3	12.8	173.35	25.45		198.8	284	4.8		2				
10/6/2021	XX	GW604AE80	233	6.6	14.1	173.95	24.85		198.8	234	4.7		2.1				
4/28/2022	XX	GW604AF2A	233	6	7.4	177.2	21.6		198.8	296	3.7		4.3				
7/21/2022	XX	GW604AFA4	272	5.9	16.7	173.8	25		198.8	265	3		2				
10/6/2022	XX	GW604AG09	280	6.2	13.5	173.15	25.65	36.8	198.8	260	3.6		1.9				
4/20/2023	XX	GW604AH00	411	6.8	6.6	176.3	22.5		198.8	380	3.5		0.7				
7/12/2023	XX	GW604AH9I	315	6.3	14.8	176.05	22.75		198.8	217	3.5		0.9				
10/4/2023	XX	GW604A075	336	6.2	15.3	175.4	23.4	36.8	198.8	208	3.1		1.5				
4/2/2024	XX	GW604A13E	356	6.3	9.4	177.4	21.4		198.8	231	3.9		1.6				
7/18/2024	XX	GW604A1EG	379	6.2	16.3	176.25	22.55		198.8	345	2.7		1.8				
10/10/2024	XX	GW604A207	369	5.9	10.2	173.45	25.35	36.7	198.8	376	4.4		0.4				
OW-605A																	
4/10/2018	XX	GW605AA6E	194	7.4	7.7	162.21	24.55	260	186.76	230	7.1		8.9				
6/5/2018	XX	GW605AA7B	152	7.7	8.6	161.96	24.8		186.76	240	7.5		5				
7/19/2018	XX	GW605AAE9	151	7.3	14.4	161.69	25.07		186.76	286	6.9		7.4				
8/21/2018	XX	GW605AAFA	147	7.3	12.7	161.51	25.25		186.76	272	7.1		6.6				
7/14/2021	XX	GW605AE25	134	7.4	12.4	163.31	23.45		186.76	232	2.4		0.5				
10/7/2021	XX	GW605AE8G	193	6.8	11.5	163.54	23.22		186.76	246	1.4		0.8				
4/28/2022	XX	GW605AF31	218	6.8	7.5	165.26	21.5		186.76	397	1.7		0.2				
7/21/2022	XX	GW605AFB0	235	6.4	13.2	164.46	22.3		186.76	334	1.3		5.8				
10/6/2022	XX	GW605AG10	237	7.1	10	164.43	22.33	155	186.76	378	1.8		0.6				
4/20/2023	XX	GW605AH0B	83	7.4	8.8	166.11	20.65		186.76	295	3.6		1.2				
7/12/2023	XX	GW605A00G	267	6.4	13.4	165.16	21.6		186.76	382	2.4		0.3				
10/4/2023	XX	GW605A07G	272	6.7	15.2	165.36	21.4	155	186.76	203	1.2		0.4				
4/2/2024	XX	GW605A145	102	7.7	11.1	166.16	20.6		186.76	399	2.7		2.1				
7/18/2024	XX	GW605A1FF	262	6.6	14.2	165.29	21.47		186.76	358	3		1.2				
10/9/2024	XX	GW605A20I	261	6.9	11	164.86	21.9	160.45	186.76	333	5.3		0.4				
OW-606A																	
4/3/2018	XX	GW606AA6F	427	8.2	5.5		F1	240		372	3.8		0.4				
6/4/2018	XX	GW606AA7C	339	8.4	7.9		F1			301	4.6		0.9				
7/19/2018	XX	GW606AAEA	353	8	10.2		F1			259	4		2.5				
8/21/2018	XX	GW606AAFB	353	8.1	10		F1			248	4.3		3.1				
7/14/2021	XX	GW606AE06	290	7.7	11.1		F1			336	4.2		0.3				
10/7/2021	XX	GW606AE8H	287	7.7	13		F1			254	3.3		0.3				
4/28/2022	XX	GW606AF32	296	7.6	7.8		F1			395	3.3		0.2				
7/20/2022	XX	GW606AF94	291	7.8	9.1		F1			295	3.3		0.5				
10/6/2022	XX	GW606AG11	167	7.4	11.9	155.67	3.95	200 >	159.62	384	3		1.2				
4/19/2023	XX	GW606AH0C	310	7.4	10.2		F1		159.62	331	8.3		0.2				
7/12/2023	XX	GW606AH8I	354	7.8	12.7		F1		159.62	485	4.6		0.8				
10/5/2023	XX	GW606A07H	356	7.8	8.4		F1	200 >	159.62	484	2.6		0.3				
4/9/2024	XX	GW606A146	371	8	9.1		F1		159.62	398	6.2		0.2				
7/17/2024	XX	GW606A1DH	385	7.8	8.2		F1		159.62	329	5.1		0.1				
10/9/2024	XX	GW606A20J	346	7.6	12	159.58	0.04	200 >	159.62	439	4.6		0.2				

DATA SUMMARY TABLE

Field Parameters

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(OW-606B) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	162.846	3.03 F	17	165.876	F	F		F				
4/8/2021	XX	GW606BDAD	234	7.1	5.5	162.796	3.08		165.876	253	3.3		9.2				
6/8/2021	XX	GW606BDGG	176	7.1	11.5	161.876	4		165.876	329	3.1		3.6				
7/14/2021	XX	GW606BE37	155	7.3	14.6	162.456	3.42		165.876	352	3.9		0.8				
8/18/2021	XX	GW606BE4A	165	7.7	17.1	161.586	4.29		165.876	333	2.4		0.5				
10/7/2021	XX	GW606BE8I	162	7.2	12.2	162.736	3.14		165.876	162	3		0.5				
4/28/2022	XX	GW606BF33	240	6.9	9.7	162.576	3.3		165.876	350	1.2		0.4				
7/20/2022	XX	GW606BFB9	157	7.4	13.3	162.156	3.72		165.876	329	3.9		7.1				
10/6/2022	XX	GW606BG12	291	7.7	8.7		F1	17	165.876	362	1.9		0.3				
4/19/2023	XX	GW606BH0D	151	7.5	7	162.436	3.44		165.876	369	10.8		0.3				
7/12/2023	XX	GW606B015	171	7.8	13.1	162.276	3.6		165.876	476	4.9		0.3				
10/5/2023	XX	GW606B07I	178	7.7	13.5	161.856	4.02	17	165.876	466	4.7		0.6				
4/9/2024	XX	GW606B147	174	8	4.6	162.326	3.55		165.876	401	5.8		0.5				
7/17/2024	XX	GW606B1G4	183	7.6	15.9	162.056	3.82		165.876	334	9.6		0.4				
10/9/2024	XX	GW606B210	183	7.1	12.6	162.096	3.78	17	165.876	441	4.3		0.4				
OW-607B																	
2/9/2021	XX	GW607BD9F	142	7.8	4.9	165.057	10.12	54	175.177	322	2.9		2.5				
4/7/2021	XX	GW607BDAE	172	7.8	8.8	166.977	8.2		175.177	105	0.5		1.8				
6/9/2021	XX	GW607BDGH	160	7.2	11.5	164.477	10.7		175.177	249	2		1.1				
8/19/2021	XX	GW607BE4B	138	7.6	12.7	163.077	12.1		175.177	202	1.2		0.3				
10/7/2021	XX	GW607BE8J	129	7.1	17.1	164.927	10.25		175.177	225	3.3		0.5				
4/28/2022	XX	GW607BF34	143	7.2	6.4	165.4	16.4		181.8	191	2.9		14.5				
7/20/2022	XX	GW607BFBA	161	7.6	22.5	161	20.8		181.8	86	1.1		12.1				
10/6/2022	XX	GW607BG13	142	7.3	9.9	161.48	20.32	60.75	181.8	349	0.9		2.1				
4/20/2023	XX	GW607BH0E	140	7.3	9	162.45	19.35		181.8	255	3.9		1.2				
7/13/2023	XX	GW607B016	162	7.9	19.8	162.55	19.25		181.8	356	2.7		1.2				
10/5/2023	XX	GW607B07J	143	7.9	13.3	161.5	20.3		181.8	165	2.4		3				
4/10/2024	XX	GW607B148	146	7.4	9.2	163.2	18.6		181.8	169	3.9		1				
7/18/2024	XX	GW607B1G5	150	7.6	18.9	163.08	18.72		181.8	328	4.4		0.4				
10/10/2024	XX	GW607B211	156	6.9	10.9	161.92	19.88	61.05	181.8	459	2		0.6				
OW-608A																	
4/4/2018	XX	GW608AA6G	197	8.4	7.5	160.89	35.72	260	196.61	320	2.7		5.1				
6/4/2018	XX	GW608AA7D	200	8.4	8.3	160.11	36.5		196.61	5	0.3		10				
7/18/2018	XX	GW608AAEB	205	8	11	159.81	36.8		196.61	42	0.3		10.3				
8/20/2018	XX	GW608AAFC	176	8.6	15.5	159.44	37.17		196.61	247	6.4		10				
7/15/2021	XX	GW608AE26	205	8.2	11.4	159.16	37.45		196.61	36	0.4		5.2				
10/6/2021	XX	GW608AE90	127	7.8	13.2	159.15	37.46		196.61	65	0.4		1.2				
4/28/2022	XX	GW608AF35	169	7.8	8.3	159.51	37.1		196.61	9	0.2		9.6				
7/20/2022	XX	GW608AFB1	188	8.3	13.8	158.61	38		196.61	29	0.5		12.5				
10/5/2022	XX	GW608AG14	196	7.9	15	158.81	37.8	260	196.61	60	0.5		9.5				
4/19/2023	XX	GW608AH0F	265	8.7	8.2	159.16	37.45		196.61	8	0.2		2.5				
8/2/2023	XX	GW608A00H	170	8.1	9.4	158.91	37.7		196.61	49	0.6		2.5				
10/5/2023	XX	GW608A080	204	7.9	9.8	158.86	37.75		196.61	160	0.4		1.2				
4/1/2024	XX	GW608A149	140	9	10.2	161.99	37.5		199.49	127	1.6		1.6				
7/17/2024	XX	GW608A1FG	113	9	14.3	161.79	37.7		199.49	142	1.7		8.7				
10/9/2024	XX	GW608A212	129	8.7	8.1	161.09	38.4	260	199.49	178	1.2		5.1				

DATA SUMMARY TABLE

Field Parameters

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(OW-608B) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
OW-608B																	
2/10/2021	XX	GW608BD9G	228	8.1	5.6	196.254	5.15	46.09	201.404	222	1.4		3.2				
4/8/2021	XX	GW608BDAF	272	8.4	7.5	197.054	4.35		201.404	45	0.2		2.6				
6/8/2021	XX	GW608BDGI	258	7.6	13.2	194.874	6.53		201.404	54	0.5		2.1				
8/17/2021	XX	GW608BE4C	244	7.7	13.1	193.874	7.53		201.404	284	0.9		0.8				
10/6/2021	XX	GW608BE91	232	6.8	14.5	195.254	6.15		201.404	199	1		1.5				
4/28/2022	XX	GW608BF36	219	7.9	7.7	195.134	6.27		201.404	124	0.5		5.1				
7/20/2022	XX	GW608BFBB	264	8.2	15.5	192.404	9		201.404	12	0.3		3.5				
10/5/2022	XX	GW608BG15	251	8.1	12.9	193.104	8.3	46.09	201.404	34	0.2		4.5				
4/19/2023	XX	GW608BH0G	315	8.6	8.5	194.504	6.9		201.404	221	2.1		1.2				
7/13/2023	XX	GW608B017	211	8.6	14.8	194.954	6.45		201.404	35	0.4		1.5				
10/5/2023	XX	GW608B081	255	7.5	12.5	192.954	8.45	46.09	201.404	246	0.5		1				
4/1/2024	XX	GW608B14A	196	7	8.9	194.804	6.6		201.404	240	1.9		6.1				
7/17/2024	XX	GW608B1G6	218	6.6	14.8	193.604	7.8		201.404	263	0.2		12.3				
10/9/2024	XX	GW608B213	202	6.6	11.1	190.654	10.75	46.18	201.404	261	1.3		18.5				
OW-609B																	
2/10/2021	XX	GW609BD9H	380	7.7	6.2	198.467	14.46	51.61	212.927	315	7		3.3				
4/8/2021	XX	GW609BDAG	271	7.4	8	206.627	6.3		212.927	272	3.2		32.4				
6/8/2021	XX	GW609BDGJ	477	6.8	12	196.917	16.01		212.927	228	0.5		12.5				
8/17/2021	XX	GW609BE4D	418	7.6	11.8	194.697	18.23		212.927	225	0.8		1.2				
10/7/2021	XX	GW609BE92	468	7.6	9.8	196.927	16		212.927	105	0.3		4.9				
4/28/2022	XX	GW609BF37	226	6.9	7.6	200.127	12.8		212.927	206	1		11.5				
7/18/2022	XX	GW609BFBC	334	7.6	12.5	194.277	18.65		212.927	131	0.4		3.8				
10/5/2022	XX	GW609BG16	318	7.8	8.8	196.777	16.15	51.61	212.927	71	0.4		2.7				
4/18/2023	XX	GW609BH0H	227	7.4	7.8	197.587	15.34		212.927	231	3.3		7.2				
7/11/2023	XX	GW609B018	266	7.3	11.9	200.227	12.7		212.927	164	3.4		4.7				
10/4/2023	XX	GW609B082	309	7.4	10.9	199.727	13.2	51.61	212.927	108	0.5		2.8				
4/10/2024	XX	GW609B14B	140	6.8	7.5	195.77	6		201.77	289	3.2		23.5				
7/17/2024	XX	GW609B1G7	376	7.5	13.6	189.42	12.35		201.77	265	2.4		9				
10/9/2024	XX	GW609B214	344	7.2	12.3	184.52	17.25	51.65	201.77	237	1.2		0.7				
OW-610A																	
10/5/2022	XX	GW610AG2F	410	6.9	10.9	172.98	7.27	39.52	180.25	174	0.3		2.2				
1/24/2023	XX	GW610AGBG	466	7.7	5	173.93	6.32	39.52	180.25	126	2.9		2.8				
4/19/2023	XX	GW610AH1I	521	8.2	7.4	174.9	5.35		180.25	230	0.2		0.8				
6/19/2023	XX	GW610AH61	375	7.3	10.3	174.5	5.75		180.25	120	0.3		2.1				
7/13/2023	XX	GW610A01H	363	7.2	12.5	174.6	5.65		180.25	87	0.2		1.7				
10/5/2023	XX	GW610A091	350	7.2	12.7	174.05	6.2	39.52	180.25	254	0.3		1				
4/10/2024	XX	GW610A158	453	7.1	7.2	174.34	5.91		180.25	220	0.3		1				
7/17/2024	XX	GW610A1GF	450	6.9	24.6	173.35	6.9		180.25	230	0.3		0.6				
10/8/2024	XX	GW610A221	422	6.5	15.3	170.7	9.55	39.54	180.25	170	0.8		1.8				
OW-611A																	
4/4/2018	XX	GW611AA6H	502	7.1	7	176.7	8.45	220	185.15	366	5.1		0.4				
6/5/2018	XX	GW611AA7E	393	7.2	8.7	175.25	9.9		185.15	363	5.6		2				
7/18/2018	XX	GW611AAEC	405	7	12.5	174.65	10.5		185.15	305	4.5		3.3				
8/20/2018	XX	GW611AAFD	400	7	13.4	174.12	11.03		185.15	243	3.6		5.5				
7/14/2021	XX	GW611AE27	496	7	10.2	176.45	8.7		185.15	248	3.7		4.1				
10/7/2021	XX	GW611AE93	473	6.8	10.9	176.85	8.3		185.15	272	3.5		3.2				

(OW-611A)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate			
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs			
4/27/2022	XX	GW611AF38	370	6.8	8.3	177.61	7.54		185.15	227	4.2		3.4				
7/20/2022	XX	GW611AFB2	416	6.6	12.4	174.8	10.35		185.15	253	3.7		2.5				
10/6/2022	XX	GW611AG17	378	6.9	9.8	175.48	9.67	220	185.15	388	2		0.5				
4/20/2023	XX	GW611AH0I	553	7.7	7	175.95	9.2		185.15	272	7.5		1.2				
7/13/2023	XX	GW611A00I	466	6.9	11.5	175.46	9.69		185.15	406	4.3		0.5				
10/5/2023	XX	GW611A083	458	6.8	9.8	174.65	10.5	220	185.15	451	4.1		0.5				
4/1/2024	XX	GW611A14C	431	6.8	7.9	175.3	9.85		185.15	390	3.8		0.2				
7/17/2024	XX	GW611A1FH	436	7	10.1	173.87	11.28		185.15	342	6.9		0.3				
10/10/2024	XX	GW611A215	187	6	11.6	171.83	13.32	220	185.15	409	1.9		0.4				
P-04-02 & P-04-02R																	
7/15/2015	XX	GWXXXX7DJ	284	7.9	13.6	158.71	12.01		170.72	316	5.8		18.2				
10/28/2015	XX	GWXXXX7J4	700	7.9	12.6	158.92	11.8	37.98	170.72	118	0.2		1.5				
4/6/2016	XX	GWXXXX87I	531	8.1	8.4	159.37	11.35		170.72	272	1.9		2.2				
7/27/2016	XX	GWXXXX8C7	772	7.8	15.4	157.92	12.8		170.72	282	1.1		0.8				
10/26/2016	XX	GWXXXX904	629	7.8	11.1	157.91	12.81	37.96	170.72	195	1.2		0.8				
4/19/2017	XX	GWXXXX98C	636	8.1	9.2	159.42	11.3		170.72	349	6.2		1.1				
7/26/2017	XX	GWXXXX9E8	604	8	12.4	157.62	13.1		170.72	350	2.2		2.4				
10/25/2017	XX	GWXXXX9I3	481	7.7	15.4	157.22	13.5	38	170.72	341	3.5		1.7				
4/4/2018	XX	GWXXXXA44	492	8.2	9.3	159.92	10.8		170.72	470	5.6		1.8				
7/18/2018	XX	GWXXXXAD3	509	8.2	13.2	157.48	13.24		170.72	446	1.7		7.3				
10/3/2018	XX	GWXXXXB21	456	8.1	12.7	157.47	13.25	38	170.72	435	1.3		1.8				
4/22/2019	XX	GWXXXXB70	327	8.3	11	159.86	10.86		170.72	401	2.9		0.9				
7/17/2019	XX	GWXXXXBDA	401	8	15.1	158.23	12.49		170.72	305	7.1		1.3				
10/30/2019	XX	GWXXXXBJ2	331	8.2	12	159.22	11.5	38	170.72	254	0.7		2.9				
4/29/2020	XX	GWXXXXCEA	419	8.1	9.8	158.75	11.97		170.72	314	4.6		0.7				
7/22/2020	XX	GWXXXXCJ3	328	7.8	12.6	156.82	13.9		170.72	335	2.4		0.5				
10/28/2020	XX	GWXXXXD46	284	8.1	10.3	157.54	13.18	37.88	170.72	356	1.8		2.1				
4/7/2021	XX	GWXXXXDD9	301	7.7	9.8	159.14	11.58		170.72	358	4.5		1.5				
7/12/2021	XX	GWXXXXE10	289	7.1	13.1	157.32	13.4		170.72	287	3.9		0.6				
10/6/2021	XX	GWXXXXE77	274	7.3	11.8	156.84	13.88		170.72	283	1.5		0.6				
4/26/2022	XX	GWXXXXF1I	260	7.5	9.3	159.17	11.55		170.72	219	3.4		3.5				
7/19/2022	XX	GWXXXXF9I	274	7.7	15.1	156.57	14.15		170.72	103	1.5		1.8				
10/4/2022	XX	GWXXXXFJH	229	6.3	13	157.72	13	38.02	170.72	288	0.5		2.4				
4/17/2023	XX	GWXXXXGJ8	280	7.6	10.1	158.52	12.2		170.72	299	3.3		1.5				
7/10/2023	XX	GWXXXXH9C	216	7.6	12.9	158.26	12.46		170.72	191	1.3		2.1				
10/2/2023	XX	GWXXXX06G	223	7.4	14.2	157.92	12.8	38.02	170.72	146	0.5		3.7				
4/1/2024	XX	GWXXXX135	181	7.5	9.6	159.52	11.2		170.72	200	3.9		3.3				
7/15/2024	XX	GWXXXX1EA	229	7.4	14.1	158.52	12.2		170.72	306	1.3		1				
10/7/2024	XX	GWXXXX1JI	220	7	12.4	157.72	13	37.98	170.72	379	1.2		0.5				
P-04-04																	
4/29/2015	XX	GWXXXX79B	174	8	8.3	161.1	8.15		169.25	397	5.9		0.9				
7/15/2015	XX	GWXXXX7D3	171	8.1	13.7	160.14	9.11		169.25	330	3.9		1.2				
10/28/2015	XX	GWXXXX7IC	161	8.3	11.6	160.19	9.06	32.31	169.25	324	2.3		0.5				
4/6/2016	XX	GWXXXX872	176	8.2	8.5	160.66	8.59		169.25	272	6.2		1.2				
7/27/2016	XX	GWXXXX8BC	173	7.7	14.1	159.29	9.96		169.25	249	3.7		0.7				
10/26/2016	XX	GWXXXX8JB	184	8	11.8	158.72	10.53	32.3	169.25	228	1.8		0.8				
4/19/2017	XX	GWXXXX97H	173	8.1	9.3	160.75	8.5		169.25	350	7.6		0.8				
7/26/2017	XX	GWXXXX9DF	175	8.1	13.4	159	10.25		169.25	312	3.3		1.5				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-04) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/25/2017	XX	GWXXXX9HA	189	7.7	15.3	158.45	10.8	32.34	169.25	340	4.5		0.7				
4/4/2018	XX	GWXXXXA39	184	8.3	8.9	161.09	8.16		169.25	467	5.4		1.2				
7/18/2018	XX	GWXXXXACA	193	7.9	14	158.85	10.4		169.25	482	3.2		4.2				
10/3/2018	XX	GWXXXXB18	196	8.1	13.1	158.33	10.92	32.34	169.25	423	1.6		1.1				
4/22/2019	XX	GWXXXXB65	182	8.2	9.6	160.38	8.87		169.25	402	6.3		0.8				
7/17/2019	XX	GWXXXXBCG	190	8.1	16	159.65	9.6		169.25	304	7.7		1.4				
10/30/2019	XX	GWXXXXBI9	187	7.9	12	160.05	9.2	32.34	169.25	247	2.4		2.2				
4/29/2020	XX	GWXXXXCDG	197	8.2	9.9	161.29	7.96		169.25	314	7.2		0.8				
7/22/2020	XX	GWXXXXCI9	170	7.8	14	157.93	11.32		169.25	329	4		0.6				
10/28/2020	XX	GWXXXXD3D	167	8.1	10.3	158.45	10.8	37.1	169.25	347	2.4		1.8				
4/7/2021	XX	GWXXXXDCF	169	7.8	9.6	160.01	9.24		169.25	358	6.6		0.3				
7/12/2021	XX	GWXXXXE07	170	7.5	12.8	157.65	11.6		169.25	287	3.9		0.8				
10/6/2021	XX	GWXXXXE6F	175	7.3	13.4	159.05	10.2		169.25	277	1.9		0.8				
4/26/2022	XX	GWXXXXF17	175	7.6	9	160.4	8.85		169.25	231	6.1		2.8				
7/19/2022	XX	GWXXXXF95	194	7.8	14	157.43	11.82		169.25	115	2.8		4.7				
10/4/2022	XX	GWXXXXFJ6	194	6.7	13.3	158.73	10.52	37.11	169.25	256	1.8		1.7				
4/17/2023	XX	GWXXXXGIH	289	7.9	9.7	159.9	9.35		169.25	296	5.6		0.9				
7/10/2023	XX	GWXXXXH8J	201	7.8	13.1	159.32	9.93		169.25	197	2.8		1.6				
10/2/2023	XX	GWXXXX066	201	7.7	13.6	159.15	10.1	32.35	169.25	125	1.1		2.6				
4/1/2024	XX	GWXXXX12G	190	8	9.1	160.25	9		169.25	188	6		1.7				
7/15/2024	XX	GWXXXX1DI	208	7.5	13.7	159.17	10.08		169.25	293	2.9		2.4				
10/7/2024	XX	GWXXXX1J9	198	7.3	12.4	158.25	11	32.35	169.25	377	1.4		0.1				
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	280	6.7	9.2	173.49	3.63	28.22	177.12	265	1.3		2				
1/24/2023	XX	GWX07AGBD	F	F	F		F	28.17	177.12	F	F		F				
3/30/2023	XX	GWX07AGH0	245	7.8	5.6	176.06	1.06		177.12	372	3.2		0.2				
4/19/2023	XX	GWXXXXH1J	250	6.9	7.2	175.36	1.76		177.12	363	1.6		0.8				
6/19/2023	XX	GWX07AH5F	259	6.7	8.8	175.01	2.11		177.12	474	4.5		0.4				
7/13/2023	XX	GWX07A01J	259	6.7	10.8	175	2.12		177.12	445	4.2		1.2				
10/5/2023	XX	GWXXXX092	256	6.6	12.1	174.14	2.98	28.22	177.12	325	2		0.5				
4/9/2024	XX	GWXXXX159	251	7.2	7.3	174.71	3.22		177.93	400	3.5		0.3				
7/17/2024	XX	GWX07A1GH	257	6.9	14.1	174.25	3.68		177.93	196	6.2		0.4				
10/10/2024	XX	GWXXXX222	261	7	10.8	172.2	5.73	28.12	177.93	425	1.9		0.8				
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	476	6.8	9.1	173.64	3.51	16.45	177.15	269	1.8		4.3				
1/24/2023	XX	GWX07BGBE	F	F	F		F	16.45	177.15	F	F		F				
3/30/2023	XX	GWX07BGH1	478	7.5	4.4	176.12	1.03		177.15	365	0.2		0.3				
4/19/2023	XX	GWXXXXH20	457	7.1	6.3	175.64	1.51		177.15	350	0.3		0.3				
6/19/2023	XX	GWX07BH5G	504	7	9.1	175.43	1.72		177.15	482	1.6		0.3				
7/13/2023	XX	GWX07B020	507	7	13	175.17	1.98		177.15	421	1.6		1.2				
10/5/2023	XX	GWXXXX093	526	7	13	174.32	2.83	16.54	177.15	335	0.6		0.5				
4/9/2024	XX	GWXXXX15A	535	7.3	6.7	175.69	2.15		177.84	413	1.2		0.5				
7/17/2024	XX	GWX07B1GI	552	7.3	13.7	174.29	3.55		177.84	167	1.9		0.6				
10/10/2024	XX	GWXXXX223	548	7.2	11.2	172.22	5.62	16.58	177.84	356	1.8		0.6				
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	120	7.8	5.3	175.86	11.22	52.66	187.08	371	5.3		3.3				
4/8/2021	XX	GWXXXXDAH	126	7.4	7.4	175.91	11.17		187.08	204	5		0.8				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-11A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
6/9/2021	XX	GWXXXXDH0	75	5.9	11.9	173.68	13.4		187.08	385	4.4		1.2				
8/18/2021	XX	GWXXXXE4E	125	7	9.7	172.04	15.04		187.08	140	3.1		0.3				
10/6/2021	XX	GWX11AE94	126	6.8	14.1	172.55	14.53		187.08	224	2.8		1.2				
4/27/2022	XX	GWX11AF39	117	7.3	7.8	177.13	9.95		187.08	200	6.9		0.2				
7/21/2022	XX	GWXXXXFBE	101	6.6	15.7	169.21	17.87		187.08	274	1.3		3.2				
10/6/2022	XX	GWX11AG18	114	7.5	8.3	169.83	17.25	52.66	187.08	392	2.2		0.8				
4/20/2023	XX	GWX11AH0J	114	7.7	6.9	173.5	13.58		187.08	171	0.6		0.5				
7/12/2023	XX	GWXXXX01A	136	7	11.6	173.67	13.41		187.08	428	4.3		1.1				
10/5/2023	XX	GWX11A084	124	6.5	10.4	171.1	15.98	52.66	187.08	472	4.6		0.8				
4/11/2024	XX	GWX11A14D	125	8.1	7	173.47	13.61		187.08	267	8		0.2				
7/18/2024	XX	GWXXXX1G9	126	7.1	11.7	171.77	15.31		187.08	332	4.2		0.5				
10/9/2024	XX	GWX11A216	125	6.9	9.9	167.98	19.1	52.61	187.08	414	5.4		0.9				
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	53	7.3	2.8	175.08	12.06	13.03	187.14	434	4		3.5				
4/8/2021	XX	GWXXXXDAI	50	6.1	8	174.97	12.17		187.14	381	8.7		8.1				
6/9/2021	XX	GWXXXXDH1	48	6.2	12.8	179.22	7.92		187.14	406	4.2		6.6				
8/18/2021	XX	GWXXXXE4F	51	7	18	179	8.14		187.14	290	3.2		2.1				
10/6/2021	XX	GWX11BE95	52	5.9	14.1	176.64	10.5		187.14	347	6.1		1.5				
4/27/2022	XX	GWX11BF3A	54	6.8	6.5	176.42	10.72		187.14	285	7.8		0.4				
7/21/2022	XX	GWXXXXFBF	D	D	D		D			D	D		D				
10/6/2022	XX	GWX11BG19	D	D	D		D	13.03			D		D				
4/20/2023	XX	GWX11BH10	48	7.6	4.3	175.11	12.03		187.14		10.9		0.4				
7/12/2023	XX	GWXXXX01B	53	5.9	14.1	174.99	12.15		187.14	377	8		1.8				
10/5/2023	XX	GWX11B085	56	7.1	13.1	179.54	7.6	13.03	187.14	450	6.5		0.7				
4/11/2024	XX	GWX11B14E	52	6.2	4.5	174.97	12.17		187.14	336	5.1		0.3				
7/18/2024	XX	GWXXXX1GA	62	5.6	13.1	178.93	8.21		187.14	313	3.4		0.4				
10/9/2024	XX	GWX11B217	D	D	D		D	12.98		D	D		D				
P-206A																	
4/27/2015	XX	GW206A79A	122	7.3	6.7	183.31	21.2		204.51	104	2.3		1.4				
7/13/2015	XX	GW206A7D2	133	7.8	14.8	182.11	22.4		204.51	111	2.1		2.1				
10/26/2015	XX	GW206A7IB	146	7.8	9	179.61	24.9	93.45	204.51	309	0.6		4.2				
4/4/2016	XX	GW206A871	155	7.8	5.3	184.31	20.2		204.51	134	2.6		7				
4/26/2016	XX	GW206AHBC	187	8.1	6.4	184.51	20		204.51	123	1.9		1.1				
7/25/2016	XX	GW206A8BB	194	8	17	180.51	24		204.51	217	4.3		7.3				
10/24/2016	XX	GW206A8JA	192	7.6	9.7	176.31	28.2	93.43	204.51	237	6.8		2.9				
4/17/2017	XX	GW206A97G	193	7.6	11.1	181.01	23.5		204.51	123	4.5		1.3				
7/24/2017	XX	GW206A9DE	204	7.8	13.3	181.51	23		204.51	134	4.2		2.9				
10/23/2017	XX	GW206A9H9	221	7.5	11.3	176.91	27.6	93.45	204.51	302	4.5		1.8				
4/2/2018	XX	GW206AA38	317	7.6	9	181.66	22.85		204.51	311	1.6		0.8				
7/16/2018	XX	GW206AAC9	230	7.6	14.4	180.71	23.8		204.51	102	0.9		1.4				
10/1/2018	XX	GW206AB17	234	11.8	11.9	176.11	28.4	93.43	204.51	275	3		6.7				
4/22/2019	XX	GW206AB64	212	7.9	9	177.51	27		204.51	164	3.7		1.8				
7/17/2019	XX	GW206ABCF	225	7.9	15.4	181.91	22.6		204.51	97	3.8		2.6				
10/28/2019	XX	GW206ABI8	218	7.6	8.1	179.71	24.8	93.43	204.51	117	3.7		4.7				
4/27/2020	XX	GW206ACDF	244	6.9	4.6	180.41	24.1		204.51	101	3.6		1.3				
7/20/2020	XX	GW206ACI8	242	7.7	19.5	177.76	26.75		204.51	133	4.2		1.9				
10/26/2020	XX	GW206AD3C	A	A	A	169.81	34.7	93.15	204.51	A	A		A				
4/5/2021	XX	GW206ADCE	227	6.3	5.3	177.51	27		204.51	98	4.4		3.5				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-206A) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/14/2021	XX	GW206AE22	232	6.9	14.3	175.95	28.56		204.51	289	3.8		3.2				
10/4/2021	XX	GW206AE6E	249	7.3	10.2	177.21	27.3		204.51	242	5		1.1				
4/25/2022	XX	GW206AF16	207	6.5	8.4	177.64	26.87		204.51	224	2.9		1.9				
7/18/2022	XX	GW206AFAH	263	6.7	17.6	176.25	28.26		204.51	171	1.9		1.3				
10/3/2022	XX	GW206AFJ5	214	7.6	8	176.01	28.5	93.43	204.51	278	3.9		2.5				
4/17/2023	XX	GW206AGIG	314	7.1	9.4	181.21	23.3		204.51	347	3.3		0.8				
7/10/2023	XX	GW206A00D	222	6.6	15.8	180.31	24.2		204.51	230	2.6		2				
10/2/2023	XX	GW206A065	277	6.4	10.4	179.91	24.6	93.43	204.51	299	5.5		3.4				
4/1/2024	XX	GW206A12F	201	7.1	8.3	181.01	23.5		204.51	220	6.8		0.5				
7/15/2024	XX	GW206A1FC	232	6.6	17.9	179.81	24.7		204.51	293	2.9		1				
10/7/2024	XX	GW206A1J8	197	6.4	12.4	177.41	27.1	93.4	204.51	348	3.4		0.8				
PWS10-1																	
4/27/2015	XX	GWPWS1788	290	6.5	7.6					170	0.3		4.1				
7/13/2015	XX	GWPWS17C0	218	6.3	21.8					172	0.1		2.2				
10/26/2015	XX	GWPWS17H9	85	6.6	7.3					274	6.6		2.1				
4/4/2016	XX	GWPWS185J	247	6.5	2.7					196	0.3		2.2				
7/25/2016	XX	GWPWS18A9	121	6.6	25					190	1.5		2.1				
10/24/2016	XX	GWPWS18I8	304	6.5	9.6					155	0.1		1.1				
4/17/2017	XX	GWPWS196E	105	6.7	9.8					261	2.1		2.2				
7/24/2017	XX	GWPWS19CC	266	6.8	17.9					197	3.1		2.5				
10/25/2017	XX	GWPWS19G7	196	6.4	11.9					104	0		3.5				
4/2/2018	XX	GWPWS1A25	196	7.2	4.1					459	9.5		1.1				
7/16/2018	XX	GWPWS1AB7	186	7.2	23.1					245	2.5		2.1				
10/1/2018	XX	GWPWS1B05	148	6.2	11.7					818	5.6		2.1				
4/22/2019	XX	GWPWS1B51	187	6.4	10					195	3.1		1				
7/15/2019	XX	GWPWS1BBE	131	5.3	24.5					504	5.3		6.2				
10/28/2019	XX	GWPWS1BH7	172	6.3	9.3					260	6.7		1.1				
4/27/2020	XX	GWPWS1CCE	346	7	6.1					82	0.8		2.7				
7/20/2020	XX	GWPWS1CH7	254	6	23.2					167	0.4		3.1				
10/26/2020	XX	GWPWS1D2B	175	6	5.2					454	3.9		2.1				
4/5/2021	XX	GWPWS1DBD	189	6.3	3.5					164	0.4		3.1				
7/12/2021	XX	GWPWS1DJ5	67	6	19.4					376	3.1		2.1				
10/4/2021	XX	GWPWS1E5D	246	6	16.2					171	0.6		2.5				
4/25/2022	XX	GWPWS1F05	226	6.3	7.6					177	0.6		0.2				
7/18/2022	XX	GWPWS1F83	100	5.6	22.7					204	0.5		1				
10/3/2022	XX	GWPWS1FI4	175	6.5	12.2					300	6.5		2.1				
4/17/2023	XX	GWPWS1GHF	174	6.2	10.7					224	1.9		1.5				
7/10/2023	XX	GWPWS1H7H	175	6.5	21.7					195	0.6		3.1				
10/2/2023	XX	GWPWS1055	201	6.1	16.5					219	1.4		2.1				
4/1/2024	XX	GWPWS111F	123	6.8	4.7					454	5.5		0.6				
7/15/2024	XX	PWPWS11CH	317	6.3	26					360	8.7		3.3				
10/7/2024	XX	PWPWS11I8	192	6.6	13.8					438	3.2		0.8				
PWS10-2																	
4/27/2015	XX	GWPWS2789	103	6.4	5.5					217	3.8		5.2				
7/13/2015	XX	GWPWS27C1	133	6	20.5					197	0.2		2.2				
10/26/2015	XX	GWPWS27HA	72	7.6	7.5					392	10.1		1.2				
4/4/2016	XX	GWPWS2860	117	7	1.6					227	8.3		4.1				
7/25/2016	XX	GWPWS28AA	109	7.1	26.5					280	8.3		3.5				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(PWS10-2) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/24/2016	XX	GWPWS28I9	91	6.7	9.5					228	3.7		1.1				
4/17/2017	XX	GWPWS296F	102	6.3	9					189	3.9		2.1				
7/24/2017	XX	GWPWS29CD	140	7.5	18.6					250	5.4		2.1				
10/24/2017	XX	GWPWS29G8	D	D	D					D	D		D				
4/2/2018	XX	GWPWS2A26	110	7.4	1.3					474	1.2		1.1				
7/16/2018	XX	GWPWS2AB8	204	6.9	22.1					492	3.6		1.2				
10/1/2018	XX	GWPWS2B06	170	7	12.8					460	7		1				
4/22/2019	XX	GWPWS2B52	135	6.9	8.9					364	7.8		0.5				
7/15/2019	XX	GWPWS2BBF	276	7.2	26.3					413	7.2		4.1				
10/28/2019	XX	GWPWS2BH8	101	6.8	9.1					263	11.3		1.5				
4/27/2020	XX	GWPWS2CCF	140	7.2	5.4					289	6.6		3.1				
7/20/2020	XX	GWPWS2CH8	142	6.2	19.1					322	3		2.1				
10/26/2020	XX	GWPWS2D2C	124	7.3	4.9					359	6.7		4.6				
4/5/2021	XX	GWPWS2DBE	70	6.8	2.8					346	6.8		2.1				
7/12/2021	XX	GWPWS2DJ6	78	5.9	20.7					404	3.2		1.2				
10/4/2021	XX	GWPWS2E5E	99	5.9	14.4					258	0.9		3.1				
4/25/2022	XX	GWPWS2F06	86	6.8	7.9					287	7.5		0.3				
7/18/2022	XX	GWPWS2F84	82	5.5	22.4					235	0.3		3.1				
10/3/2022	XX	GWPWS2FI5	94	7.3	17.1					391	1.6		2.3				
4/17/2023	XX	GWPWS2GHG	96	7.1	12.3					423	6.3		1				
7/10/2023	XX	GWPWS2H7I	199	6.5	23.4					509	2.5		4.2				
10/2/2023	XX	GWPWS2056	142	7.7	16.1					366	8.1		2.5				
4/1/2024	XX	GWPWS211G	48	6.7	3.1					441	9.6		0.6				
7/15/2024	XX	PWPWS21CI	226	6.7	25.6					341	7.6		2.2				
10/7/2024	XX	PWPWS21I9	272	7.4	13.5					405	3.1		1.2				
PWS10-3																	
4/27/2015	XX	GWPWS378A	57	6	7.6					264	4.1		7.1				
7/13/2015	XX	GWPWS37C2	79	6.7	25					167	5.4		2.6				
10/26/2015	XX	GWPWS37HB	80	6.7	15.4					331	10.2		2.2				
4/4/2016	XX	GWPWS3861	163	7.4	3.1					229	7		2.2				
7/25/2016	XX	GWPWS38AB	D	D	D					D	D		D				
10/24/2016	XX	GWPWS38IA	159	6.3	10.3					369	10.3		1.2				
4/17/2017	XX	GWPWS396G	61	6	10.7					269	0.8		1.8				
7/24/2017	XX	GWPWS39CE	133	6.9	22					289	7.1		2.1				
10/24/2017	XX	GWPWS39G9	D	D	D					D	D		D				
4/2/2018	XX	GWPWS3A27	51	6.3	2.7					456	3.5		0.8				
7/16/2018	XX	GWPWS3AB9	D	D	D					D	D		D				
10/1/2018	XX	GWPWS3B07	119	7.1	12.2					463	7.5		2.1				
4/22/2019	XX	GWPWS3B53	82	6.5	7.6					374	7.3		0.8				
7/15/2019	XX	GWPWS3BBG	83	7.2	23.6					449	9.9		5.5				
10/28/2019	XX	GWPWS3BH9	98	6	8.6					279	9.3		1.1				
4/27/2020	XX	GWPWS3CCG	54	6.8	5.5					314	5.8		2.5				
7/20/2020	XX	GWPWS3CH9	144	5.3	22.3					208	0.3		3.1				
10/26/2020	XX	GWPWS3D2D	197	5.9	6.1					540	7		4.1				
4/5/2021	XX	GWPWS3DBF	105	6	4.4					191	0.3		1.5				
7/12/2021	XX	GWPWS3DJ7	71	6	18.6					243	2.3		1.2				
10/4/2021	XX	GWPWS3E5F	75	5.8	12.8					303	2.7		4				
4/25/2022	XX	GWPWS3F07	79	6.2	7.9					341	3.5		0.6				
7/18/2022	XX	GWPWS3F85	112	5.8	22.6					163	0.5		1				

SEVEE & MAHER ENGINEERS, INC.
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(PWS10-3) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
10/3/2022	XX	GWPWS3FI6	74	6.4	11					317	6.4		2.2				
4/17/2023	XX	GWPWS3GHH	76	6.7	9.5					436	3.7		2.4				
7/10/2023	XX	GWPWS3H7J	133	6	21.3					421	0.8		5.3				
10/2/2023	XX	GWPWS3057	76	6.6	15.3					418	3.8		1.7				
4/1/2024	XX	GWPWS311H	68	6.8	3.6					437	7.5		1.1				
7/15/2024	XX	PWPWS31CJ	166	6.6	24.5					345	2.9		4.3				
10/7/2024	XX	PWPWS31IA	189	6.9	12.9					444	4.3		1.5				
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A	A	A		A	A	A	A	A		A				
3/30/2023	XX	PWXX4XGH5	255	6.5	2.3					151	0.3		12.5				
4/19/2023	XX	GWXXXXH22	192	7.1	8.6					162	2.9		5.6				
6/19/2023	XX	PWXX4XH5J	118	6.3	12.4					112	0.8		11.1				
7/13/2023	XX	PWXX4X023	152	6.7	18.6					96	2.6		10.1				
10/4/2023	XX	GWXXXX094	170	6.7	17					113	3.3		8.5				
4/2/2024	XX	GWXXXX15B	48	7	9					200	9		26.9				
7/16/2024	XX	PWXX4X1H1	94	6.4	21.9					207	0.9		18.6				
10/9/2024	XX	PWXXXX224	99	6.1	10.2					175	5.5		14.7				
SW-1																	
4/28/2015	XX	SWXX1X785	117	7	7.9					407	9.7		2.2				
7/14/2015	XX	SWXX1X7BH	95	7	25.1					331	3.8		4.2				
10/27/2015	XX	SWXX1X7H6	81	8.2	5.3					320	10.3		2.2				
4/5/2016	XX	SWXX1X85G	88	7	2.9					424	9.6		1.8				
7/26/2016	XX	SWXX1X8A6	211	7.1	25.2					187	2.8		10.2				
10/25/2016	XX	SWXX1X8I5	98	7.6	6.5					311	7.2		2.2				
4/18/2017	XX	SWXX1X96B	56	6.5	6.9					369	9.1		1.3				
7/25/2017	XX	SWXX1X9C9	235	6.8	18.9					221	4.2		3.3				
10/25/2017	XX	SWXX1X9G4	127	6.9	15.2					398	5.4		2.5				
4/3/2018	XX	SWXX1XA22	160	7	5.4					468	15.1		1.1				
7/17/2018	XX	SWXX1XAB4	242	7.8	19.3					316	3.2		6.7				
10/2/2018	XX	SWXX1XB02	144	6.6	9.6					514	6.1		1.4				
4/23/2019	XX	SWXX1XB4I	125	6.9	5.4					372	8.5		1.1				
7/16/2019	XX	SWXX1XBBB	109	6.7	27.5					356	4.2		3.3				
10/29/2019	XX	SWXX1XBH4	228	6.6	10.6					240	8.3		2.5				
4/28/2020	XX	SWXX1XCCB	241	7.3	10					395	7.7		2.1				
7/21/2020	XX	SWXX1XCH4	134	6.9	24.4					288	1.7		1.3				
10/27/2020	XX	SWXX1XD28	175	7.7	8.9					298	4		1.2				
4/6/2021	XX	SWXX1XDBA	179	6.5	8.7					335	7.3		2.1				
7/13/2021	XX	SWXX1XDJ2	76	6.1	21.4					259	2.8		0.8	0.0056			
10/5/2021	XX	SWXX1XE5A	308	6.6	22.2					153	0.7		1.2				
4/26/2022	XX	SWXX1XF02	162	6.7	10.3					292	7.7		1.3				
7/19/2022	XX	SWXX1XF80	130	6.7	23.2					283	3.3		2.7	0.0089			
10/4/2022	XX	SWXX1XFI1	192	7	15.6					301	2.6		2.2	0.0045			
4/18/2023	XX	SWXX1XGHC	111	6.3	10.7					301	3.9		0.9	0.0223			
7/11/2023	XX	SWXX1XH7E	162	6.5	23					319	2.4		2.3	0.0223			
10/3/2023	XX	SWXX1X052	195	6.7	21.9					335	2.3		5.2	0.0022			
4/2/2024	XX	SWXX1X11C	226	6.9	12.1					396	5.9		0.9	0.0111			
7/16/2024	XX	SWXX1X1CE	268	6.7	29.3					351	4.8		2.6	0.0111			
10/8/2024	XX	SWXX1X1I5	174	7.1	15.5					385	7.1		0.5	0.0111			

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-2) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
SW-2																	
4/28/2015	XX	SWXX2X786		6.7	9.2					355	9		1.1				
7/14/2015	XX	SWXX2X7BI	84	7	26.5					329	6.1		3.7	0.8			
10/27/2015	XX	SWXX2X7H7	65	8.5	5.8					317	9.4		1.2	0.0017			
4/5/2016	XX	SWXX2X85H	87	6.7	3.6					355	7.2		0.8				
7/26/2016	XX	SWXX2X8A7	81	7.3	26.9					341	3.7		7.3	0.0033			
10/25/2016	XX	SWXX2X8I6	90	7.1	8.1					353	7.1		1.6	6			
4/18/2017	XX	SWXX2X96C	67	6.9	10.6					349	8		0.8	0.4			
7/25/2017	XX	SWXX2X9CA	110	7.1	18					235	2.1		3.4	0.4			
10/25/2017	XX	SWXX2X9G5	102	7.1	16.7					415	5.4		2.1	3			
4/3/2018	XX	SWXX2XA23	50	6.8	3.1					467	7.9		1.1	11.25			
7/17/2018	XX	SWXX2XAB5	104	7.9	21.3					318	1.1		8.2	0.4			
10/2/2018	XX	SWXX2XB03		6.7	10.2					494	4		2.1	0.25			
4/23/2019	XX	SWXX2XB4J	83	6.6	4.9					360	6		0.9				
7/16/2019	XX	SWXX2XBBC	85	6.3	28.8					397	4.2		3.2				
10/29/2019	XX	SWXX2XBH5	66	5.9	8					281	13.7		0.8				
4/28/2020	XX	SWXX2XCCC	76	6.8	7					369	7.7		2.1				
7/21/2020	XX	SWXX2XCH5	68	6.9	29.2					380	5.5		1.6				
10/27/2020	XX	SWXX2XD29	77	6.8	8.4					413	6		1.2				
4/6/2021	XX	SWXX2XDBB	67	6.2	4.3					409	8.7		0.6	9			
7/13/2021	XX	SWXX2XDJ3	62	5.8	18.4					393	0.9		0.9	4.5			
10/5/2021	XX	SWXX2XE5B	57	6.3	17.7					323	4.4		0.5				
4/26/2022	XX	SWXX2XF03	73	6.5	6.8					375	6.5		1.9				
7/19/2022	XX	SWXX2XF81	67	6.5	25.8					323	4.2		0.8	0.0111			
10/4/2022	XX	SWXX2XFI2	64	6.2	12.6					373	2.7		1.8				
4/18/2023	XX	SWXX2XGHD	58	6.1	9.2					433	5.2		0.9				
7/11/2023	XX	SWXX2XH7F	86	5.9	22.2					468	1.3		2.6	0.0223			
10/3/2023	XX	SWXX2X053	79	6.2	19.5					361	2.9		3.1	0.0045			
4/2/2024	XX	SWXX2X11D	59	6.4	5.2					439	10		0.6	11			
7/16/2024	XX	SWXX2X1CF	98	6.3	25.5					375	3.5		1.3				
10/8/2024	XX	SWXX2X1I6	87	6.1	15.2					397	5.6		0.9	0.0111			
SW-3																	
4/28/2015	XX	SWXX3X787	79	7.3	6.8					328	11.3		1	9.3			
4/29/2015	XX	SWXX3X7AI	88	7.7	10.3					344	8.6		0.8	9.3			
7/14/2015	XX	SWXX3X7BJ	93	8.1	21.5					305	5.4		1.2	5.8			
10/27/2015	XX	SWXX3X7H8	81	8.8	4.6					293	11.4		0.6	0.016			
4/5/2016	XX	SWXX3X85I	76	8.3	2.3					301	12.6		1.4				
7/26/2016	XX	SWXX3X8A8	102	7.6	21.6					344	2.3		2.1				
10/25/2016	XX	SWXX3X8I7	119	8.6	6.4					253	8.6		1.3	7			
4/18/2017	XX	SWXX3X96D	59	8.3	8.3					347	10.8		1.1				
7/25/2017	XX	SWXX3X9CB	120	7.4	16.8					344	2.6		1.3	5			
10/25/2017	XX	SWXX3X9G6	149	6.9	15.7					407	3.6		1.3	8			
4/3/2018	XX	SWXX3XA24	84	7.7	1.8					459	4.6		1.1	2			
7/17/2018	XX	SWXX3XAB6	134	7.6	21.4					437	1.9		1.9	4			
10/2/2018	XX	SWXX3XB04	100	7.2	10.1					507	8.1		0.5	12			
4/23/2019	XX	SWXX3XB50	70	7.4	7.1					330	9		0.8				
7/16/2019	XX	SWXX3XBBD	92	7.6	24.3					300	5.7		1.3				
10/29/2019	XX	SWXX3XBH6	99	7.5	8.6					232	10.3		0.5				

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-3) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/28/2020	XX	SWXX3XCCD	73	7.7	8.8					359	9.9		1.4				
7/21/2020	XX	SWXX3XCH6	94	7.2	23.1					373	3.4		0.9				
10/27/2020	XX	SWXX3XD2A	78	7.6	8.4					403	8.1		0.8				
4/6/2021	XX	SWXX3XDBC	52	7.7	7.4					374	8.9		1.2	19			
7/13/2021	XX	SWXX3XDJ4	68	7.3	21.8					319	4.8		0.8	7.5			
10/5/2021	XX	SWXX3XE5C	68	7.3	14					284	5.2		1.2				
4/26/2022	XX	SWXX3XF04	63	7.2	9.8					332	7.9		1.1				
7/19/2022	XX	SWXX3XF82	109	7.3	22.6					322	3.6		0.8	0.0067			
10/4/2022	XX	SWXX3XFI3	89	7.9	9.5					333	5		0.9				
4/18/2023	XX	SWXX3XGHE	72	6.4	10.6					428	7.6		0.8				
7/11/2023	XX	SWXX3XH7G	75	6.6	23.2					455	3.3		1.5	0.0334			
10/3/2023	XX	SWXX3X054	91	7.2	14.2					415	17.1		0.4	0.0045			
4/2/2024	XX	SWXX3X11E	42	6.8	8.4					207	9.9		0.7	21			
7/16/2024	XX	SWXX3X1CG	119	7	26					359	5.6		0.8	0.0223			
10/8/2024	XX	SWXX3X1I7	102	7.9	14.3					348	8.6		0.8	0.0111			
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A	A	A		A	A	A	A	A		A				
3/30/2023	XX	SWXX4XGH4	227	7.1	3.2					352	10.6		1.7				
4/19/2023	XX	GWXXXXH23	185	7.6	10					288	8.2		4.3				
6/19/2023	XX	SWXX4XH5I	91	6.6	13.5					176	5.2		6.5				
7/13/2023	XX	SWXX4X022	154	6.6	18.8					154	2.2		6.5				
10/4/2023	XX	GWXXXX095	112	6.9	17.1					173	5.2		7.3				
4/2/2024	XX	GWXXXX15C	119	7.9	6.7					105	9.9		18.3				
7/16/2024	XX	SWXX4X1H0	98	6.5	22.1					270	1.6		7.1				
10/9/2024	XX	SWXXXX225	100	6.6	10					204	6.4		7.3				
10/22/2024	XX	SWXXXX25B	124	6.8	10.7					274	5.9		8.8				
SW-DP1																	
4/28/2015	XX	SWDP1X78D	109	7.3	10.2					368	11.8		2.1				
7/14/2015	XX	SWDP1X7C5	112	8.3	27					255	8.8		3.6				
10/27/2015	XX	SWDP1X7HE	69	8	8.6					313	10.8		0.8				
4/5/2016	XX	SWDP1X864	100	7.1	6.4					348	12.5		0.5				
7/26/2016	XX	SWDP1X8AE	123	7.9	29.3					263	5.9		2.3				
10/25/2016	XX	SWDP1X8ID	75	7.8	9.2					260	7.7		1.6				
4/18/2017	XX	SWDP1X96J	74	6.9	12.5					389	10.2		1.7				
7/25/2017	XX	SWDP1X9CH	142	7.4	24.9					274	7		0.8				
10/23/2017	XX	SWDP1X9GC	109	7.7	16.6					263	9.1		0.8				
4/3/2018	XX	SWDP1XA2B	34	7.3	1.9					457	9.1		2.6				
7/17/2018	XX	SWDP1XABC	91	8.2	23.1					418	6.7		2.7				
10/2/2018	XX	SWDP1XB0A	78	7.2	12					486	5.4		0.9				
4/23/2019	XX	SWDP1XB57	101	7.1	9					367	9.9		1.4				
7/16/2019	XX	SWDP1XBBJ	79	8.9	28.7					327	8.4		0.8				
10/29/2019	XX	SWDP1XBHC	106	6.9	10.6					241	9.5		1.2				
4/28/2020	XX	SWDP1XCCJ	439	7.8	9.5					356	12		1.7				
7/21/2020	XX	SWDP1XCHC	206	7.6	27					358	8.8		2.2				
10/27/2020	XX	SWDP1XD2G	148	7.7	7.5					261	8.3		0.8				
4/6/2021	XX	SWDP1XDBI	68	6.7	8.4					398	7.9		2.3				
7/13/2021	XX	SWDP1XDJA	78	6.5	23.9					323	5		1.2				
10/5/2021	XX	SWDP1XE5I	82	6.5	16.7					316	5.3		0.6				

(SW-DP1) Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
4/26/2022	XX	SWDP1XF0A	123	7.1	10.8					343	7		0.6				
7/19/2022	XX	SWDP1XF88	176	6.7	27.5					312	2.9		2.7	0.0089			
10/4/2022	XX	SWDP1XFI9	150	7.4	14.5					332	4.6		1.2				
4/18/2023	XX	SWDP1XGI0	47	6.3	12.5					388	7.3		0.9				
7/11/2023	XX	SWDP1XH82	84	7.6	26.6					405	6.6		0.7				
10/3/2023	XX	SWDP1X05A	82	7.2	18.5					324	11.1		1.8				
4/2/2024	XX	SWDP1X120	96	7.5	10.6					300	11.2		0.8	0.0067			
7/16/2024	XX	SWDP1X1D2	130	6.8	27.9					367	4.1		0.6				
10/8/2024	XX	SWDP1X1ID	105	6.9	15.2					355	6		0.3				
SW-DP5																	
4/28/2015	XX	SWDP5X7A3	208	7.9	10.8					353	11.5		1.1				
7/14/2015	XX	SWDP5X7DF	153	7.7	27.6					218	6.4		4.3				
10/27/2015	XX	SWDP5X7J2	D	D	D					D	D		D				
4/5/2016	XX	SWDP5X87E	D	D	D					D	D		D				
7/26/2016	XX	SWDP5X8C4	D	D	D					D	D		D				
10/25/2016	XX	SWDP5X902	I	I	I					I	I		I				
4/18/2017	XX	SWDP5X989	D	D	D					D	D		D				
7/25/2017	XX	SWDP5X9E6	173	8.1	25.4					273	7.7		0.4				
10/24/2017	XX	SWDP5X9I1	D	D	D					D	D		D				
4/3/2018	XX	SWDP5XA41	51	6.9	8.7					459	15.2		2.1				
7/17/2018	XX	SWDP5XAD1	D	D	D					D	D		D				
10/2/2018	XX	SWDP5XB1J	D	D	D					D	D		D				
4/23/2019	XX	SWDP5XB6H	133	7.3	9.7					369	7.8		0.8				
7/16/2019	XX	SWDP5XBD8	102	8.3	28.3					307	6.8		0.8				
10/29/2019	XX	SWDP5XBJ0	107	7	9.3					239	10		1.8				
4/28/2020	XX	SWDP5XCE8	173	8.1	10.1					333	12.6		1.6				
7/21/2020	XX	SWDP5XCJ1	126	7.8	30.3					328	6.8		0.6				
10/27/2020	XX	SWDP5XD44	82	8.5	10.2					320	10.5		0.6				
4/6/2021	XX	SWDP5XDD7	69	6.9	10.7					387	9.3		2.1				
7/13/2021	XX	SWDP5XE0J	62	8.2	24.6					267	10.2		1.1				
10/5/2021	XX	SWDP5XE75	67	7.4	18.6					245	6		0.5				
4/26/2022	XX	SWDP5XF1H	195	7	11.1					333	7.6		1.2				
7/19/2022	XX	SWDP5XF9H	D	D	D					D	D		D				
10/4/2022	XX	SWDP5XFJG	D	D	D					D	D		D				
SW-DP6																	
4/28/2015	XX	SWDP6X78E	96	6.9	10					392	10.4		1.3				
7/14/2015	XX	SWDP6X7C6	114	7.2	29.6					376	5.4		5.6				
10/27/2015	XX	SWDP6X7HF	68	8.4	9.8					327	10.4		1.1				
4/5/2016	XX	SWDP6X865	79	7.1	4.6					445	10		0.8				
7/26/2016	XX	SWDP6X8AF	135	7.5	28.7					254	5.4		2.7				
10/25/2016	XX	SWDP6X8IE	100	7.8	8.5					265	5.8		2.6				
4/18/2017	XX	SWDP6X970	59	6.6	11.2					364	6.7		1.1				
7/25/2017	XX	SWDP6X9CI	86	7.5	21.6					314	6.5		1.1				
10/23/2017	XX	SWDP6X9GD	101	7.2	17.2					219	7.5		1.6				
4/3/2018	XX	SWDP6XA2C	76	7.6	2.4					460	10.3		2.3				
7/17/2018	XX	SWDP6XABD	140	8	23.9					443	4.5		2.1				
10/2/2018	XX	SWDP6XB0B	136	7.8	11.6					478	6.2		0.8				
4/23/2019	XX	SWDP6XB58	78	6.7	8.1					368	11.7		1.1				

DATA SUMMARY TABLE

Field Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-DP6)

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Water Level Elevation Feet	Water Level Depth Feet	Well Depth Feet	Water Level Reference Point Feet	Eh mV	Dissolved Oxygen mg/L	Alkalinity (CaCO3) (field) mg/L	Turbidity (field) NTU	Flow Rate cfs			
7/16/2019	XX	SWDP6XBC0	65	7.3	29.2					375	6.8		1.8				
10/29/2019	XX	SWDP6XBHD	50	6.2	10.3					246	10.3		2.2				
4/28/2020	XX	SWDP6XCD0	55	7.3	11.4					397	9.6		1.3				
7/21/2020	XX	SWDP6XCHD	71	8.4	27.1					294	5.9		0.8				
10/27/2020	XX	SWDP6XD2H	91	8.2	9.4					330	10.1		0.7				
4/6/2021	XX	SWDP6XDBJ	59	6.1	9.1					416	9.9		3.2				
7/13/2021	XX	SWDP6XDJB	38	6.2	25.4					404	5.2		0.7				
10/5/2021	XX	SWDP6XE5J	62	7.2	22.5					308	6.3		0.8				
4/26/2022	XX	SWDP6XF0B	36	7.3	11.6					288	8.2		1.5				
7/19/2022	XX	SWDP6XF89	44	6.4	28.9					348	3.9		2.1				
10/4/2022	XX	SWDP6XFIA	44	7.6	16.7					323	4.8		2.6				
4/18/2023	XX	SWDP6XGI1	55	6.3	11.9					394	8.5		1.2				
7/11/2023	XX	SWDP6XH83	465	8.1	26.9					416	7.1		1.2				
10/3/2023	XX	SWDP6X05B	160	7	26.3					345	6.7		2.7				
4/2/2024	XX	SWDP6X121	103	7.9	11.8					331	11.4		2.1	0.0006			
7/16/2024	XX	SWDP6X1D3	150	6.8	29.8					387	6.6		1.8				
10/9/2024	XX	SWDP6X1IE	D	D	D					D	D		D				

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-DP6)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs

Units Abbreviations:

µmhos/cm @25°C - MICROSIEMENS PER CENTIMETER
cfs - CUBIC FEET PER SECOND
Deg C - DEGREES CELCIUS (TEMPERATURE)
Feet - FEET
mg/L - MILLIGRAMS PER LITER
mV - MILLIVOLTS
NTU - NEPHELOMETRIC TURBIDITY UNIT (TURBIDITY)
STU - STANDARD PH UNIT

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
!1 - The sampling location was damaged or destroyed, and has been discontinued.
< - Less than specified amount
> - Greater than specified amount.
A - The sampling location was inaccessible.
D - The sampling location was dry.
D3 - Sample too dark to take reading.
DE - Decommissioned Location
F - The sampling location was frozen.
F1 - Well was flowing
F12 - Pipe under water, no sample taken.
F14 - Unable to measure flow.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
FI - Frozen ice in pipe, no readings.
H11 - Could not locate pipe.
H2 - Water level higher than pipes. See LF-COMP for readings
H5 - Waterlevel higher than pipes. See LP-COMP for readings
H6 - Pipe under water, could not measure flow.
H8 - No flow from pipe. See LF-COMP for readings
H9 - No flow from pipe. See LP-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-DP6)			Specific Conductance	pH	Temperature	Water Level Elevation	Water Level Depth	Well Depth	Water Level Reference Point	Eh	Dissolved Oxygen	Alkalinity (CaCO3) (field)	Turbidity (field)	Flow Rate
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	Feet	Feet	Feet	Feet	mV	mg/L	mg/L	NTU	cfs

L - Could not locate sampling location.
P2 - Unable to obtain sample due to well pump being out of service.
Q - An obstruction prevented the collection of data.
TK - Outside of range of available test kits (or below test kit range).
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-11) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
LF-LD-11																	
7/13/2021	XX	LFXXXXE1C	0.38	0.5 U	0.71		494	2.5 U	34	0.1 U		430	2.2		1 U	0.1 U	
10/5/2021	XX	LFXXXXE88	0.56	0.5 U	0.55		541	2.5 U	42	0.1 U		450	2 U		1 U	0.1 U	
7/19/2022	XX	LFXXXXFA9	0.68	0.5 U	0.31		597	2.5 U	72	0.1 U		470	2		3.2	0.1 U	
7/11/2023	XX	LFXXXX005	0.2 U	0.5 U	1.3		562	2.5 U	45	0.1 U		460	2.3		2.9	0.1 U	
7/16/2024	XX	LFXXXX1F4		0.5 U	1.2		567	8.3	45	0.1 U		460	2.4		1 U	0.1 U	
LF-LD-12																	
7/13/2021	XX	LFXXXXE1D	0.31	0.5 U	0.05 U		240	6.7	31	0.1 U		160	2.4		1.5	0.1 U	
10/5/2021	XX	LFXXXXE89	0.25	0.5 U	0.063		397	2.5 U	48	0.1 U		290	3.8		1 U	0.1 U	
7/19/2022	XX	LFXXXXFAA	0.4	0.5 U	0.05 U		343	2.5 U	41	0.1 U		260	3.6		2.2	0.1 U	
7/11/2023	XX	LFXXXX006	0.2 U	0.5 U	0.1		302	2.5 U	20	0.1 U		230	3.2		1 U	0.1 U	
7/16/2024	XX	LFXXXX1F5		0.5 U	0.05 U		566	8.3 U	120	0.1 U		300	6.5		37	0.57	
LF-LD-13																	
7/19/2022	XX	LFXXXXFB4	0.29	0.5 U	0.07		207	2.5 U	28	0.1 U		130	2.7		1.7	0.1	
7/11/2023	XX	LFXXXX010	0.2 U	0.5 U	0.066		265	2.5 U	29	0.1 U		190	3.3		2.2	0.15	
7/16/2024	XX	LFXXXX1FJ		0.5 U	0.05 U		333	8.3 U	51	0.1 U		210	4.1		12	0.32	
LF-LD-14																	
7/11/2023	XX	LFXXXX01G	0.2 U	0.5 U	0.088		368	2.5 U	19	0.1 U		310	3.6		2.2	0.1	
7/16/2024	XX	LFXXXX1GE		0.5 U	0.05 U		474	8.3 U	24	0.1 U		410	3.9		1.1	0.11	
LF-LD-15																	
7/16/2024	XX	LFXXXX1H2		0.5 U	0.05 U		565	8.3 U	13	0.1 U		510	1.5		1 U	0.1 U	
10/8/2024	XX	LFXXXX227		0.5 U	0.05 U		536	8.3 U	16	0.1 U		500	1.4		3.6	0.1 U	
LF-UD-1																	
4/28/2015	XX	LFUD1X792			0.5 U	0.08	260	49	22.4		145		2 U		24.8	0.2	
7/14/2015	XX	LFUD1X7CE			2 U	0.04 U	257	4 U	6.6		179		2 U		16.7	0.1 U	
10/27/2015	XX	LFUD1X7I3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LFUD1X86D			0.07	0.04	242	4	12.7		152		2 U		26	0.1 U	
7/26/2016	XX	LFUD1X8B3			I	I	I	I	I		I		I		I	I	
10/25/2016	XX	LFUD1X8J2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LFUD1X978			0.19	0.1	243	56	7.3		170		2 U		21	0.2 U	
7/25/2017	XX	LFUD1X9D6			0.22	0.04 U	290	15	24		170		2 U		24	0.2 U	
10/25/2017	XX	LFUD1X9H1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFUD1XA30			0.23	0.04 U	246	5	35		170		2 U		18	0.21	
7/17/2018	XX	LFUD1XAC1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/2/2018	XX	LFUD1XB0J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFUD1XB5G			0.4	0.04 U	214	2.5 U	13		170		2 U		2.2	0.1 U	
7/16/2019	XX	LFUD1XBC8			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFUD1XBI1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LFUD1XCD8			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFUD1XCI1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFUD1XD35			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFUD1XDC7			H8	H8	H8	H8	H8		H8		H8		H8	H8	
7/13/2021	XX	LFUD1XDJJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFUD1XE67			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFUD1XF0J			F6	F6	F6	F6	F6		F6		F6		F6	F6	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/19/2022	XX	LFUD1XF8H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD1XFII			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD1XGI9			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD1XH8B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD1X05J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFUD1X129			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFUD1X1DB			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/8/2024	XX	LFUD1X1J2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LF-UD-2																	
4/28/2015	XX	LFUD2X793			0.5 U	0.04 U	257	4	26		139		2 U		24.4	0.2	
7/14/2015	XX	LFUD2X7CF			2 U	0.04 U	254	4 U	6.1		177		2 U		19.7	0.17	
10/27/2015	XX	LFUD2X7I4			0.5 U	0.04 U	264	4 U	7.5		193		2 U		20.3	0.1 U	
4/5/2016	XX	LFUD2X86E			0.06	0.04 U	246	4 U	11.4		134		2 U		41.2	0.1 U	
7/26/2016	XX	LFUD2X8B4			0.05 U	0.04	283	24	22.1		170		2 U		22.7	0.2	
10/25/2016	XX	LFUD2X8J3			0.27	0.04 U	294	4 U	21.6		203		2 U		12.8	0.2 U	
4/18/2017	XX	LFUD2X979			0.22	0.05	262	15	18		160		2 U		29	0.2 U	
7/25/2017	XX	LFUD2X9D7			0.13	0.04 U	273	8	4.6		170		2 U		32	0.2 U	
10/25/2017	XX	LFUD2X9H2			0.22	0.07	291	29	9		200		2 U		13	0.14	
4/3/2018	XX	LFUD2XA31			0.28	0.04 U	267	2.5 U	56		160		2 U		17	0.18	
7/17/2018	XX	LFUD2XAC2			0.24	0.04	290	17	12		210		6.3		24	0.19	
10/2/2018	XX	LFUD2XB10			0.28	0.04 U	285	5	16		220		2 U		7.8	0.1 U	
4/23/2019	XX	LFUD2XB5H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFUD2XBC9			0.26	0.07	262	2.7	12		200		2 U		15	0.11	
10/29/2019	XX	LFUD2XBI2			0.22	0.04	222	83	11		180		2 U		11	0.12	
4/28/2020	XX	LFUD2XCD9			0.32	0.04 U	243	16	11		200		2 U		10	0.11	
7/21/2020	XX	LFUD2XCI2			0.23	0.2	307	370	13		230		2 U		6.9	0.1	
10/27/2020	XX	LFUD2XD36			0.2	0.04 U	276	2.5 U	14		230		43 M10		3	0.1 U	
4/6/2021	XX	LFUD2XDC8			H8	H8	H8	H8	H8		H8		H8		H8	H8	
7/13/2021	XX	LFUD2XE00			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFUD2XE68			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFUD2XF10			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFUD2XF8I			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD2XFIJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD2XGIA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD2XH8C			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD2X060			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFUD2X12A			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFUD2X1DC			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFUD2X1J3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LF-UD-3A,B																	
4/28/2015	XX	LFXXXX79G			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/14/2015	XX	LFXXXX7D8			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2015	XX	LFXXXX7IF			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LFXXXX877			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LFXXXX8BH			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2016	XX	LFXXXX8JF			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LFXXXX982			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/25/2017	XX	LFXXXX9DJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	

(LF-UD-3A,B)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
10/25/2017	XX	LFXXXX9HE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFXXXXA3E			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LFXXXXACE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/2/2018	XX	LFXXXXB1C			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFXXXXB6A			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFXXXXBD1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFXXXXBID			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LFXXXXCE1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFXXXXCIE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFXXXXD3H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFXXXXDD0			H8	H8	H8	H8	H8		H8		H8		H8	H8	
7/13/2021	XX	LFXXXXE0C			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFXXXXE6J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFXXXXF1B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFXXXXF9A			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFXXXXFJA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFXXXXGJ1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFXXXXH94			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFXXXX06A			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFXXXX12J			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFXXXX1E3			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFXXXX1JC			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LF-UD-4																	
4/28/2015	XX	LFXXXX79H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/14/2015	XX	LFXXXX7D9			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2015	XX	LFXXXX7IG			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LFXXXX878			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LFXXXX8BI			0.13	0.04	281	36	20.9		177		2 U		20.9	0.2	
10/25/2016	XX	LFXXXX8JG			0.25	0.04 U	298	4 U	24.9		202		2 U		12.5	0.2 U	
4/18/2017	XX	LFXXXX983			0.14	0.04 U	247	110	8.9		170		2.6		2.4	0.2 U	
7/25/2017	XX	LFXXXX9E0			0.18	0.04 U	279	10	24		170		2 U		24	0.2 U	
10/25/2017	XX	LFXXXX9HF			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFXXXXA3F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LFXXXXACF			0.23	0.04 U	291	5.3	8.6		210		2 U		23	0.18	
10/2/2018	XX	LFXXXXB1D			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFXXXXB6B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFXXXXBD2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFXXXXBIE			0.22	0.18	235	210	11		180		2 U		12	0.13	
4/28/2020	XX	LFXXXXCE2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFXXXXCIF			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFXXXXD3I			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFXXXXDD1			H8	H8	H8	H8	H8		H8		H8		H8	H8	
7/13/2021	XX	LFXXXXE0D			0.28	0.05	245	11	27		190		2 U		1.3	0.1 U	
10/5/2021	XX	LFXXXXE70			0.26	0.04	246	2.5 U	11		200		2 U		1.3	0.1 U	
4/26/2022	XX	LFXXXXF1C			0.41	0.08	227	25	9.9		190		1 U		1.9	0.1 U	
7/19/2022	XX	LFXXXXF9B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFXXXXFJB			0.42	0.06	240	27	11		200		1 U		1 U	0.1 U	
4/18/2023	XX	LFXXXXGJ2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFXXXXH95			F6	F6	F6	F6	F6		F6		F6		F6	F6	

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/3/2023	XX	LFXXXX06B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFXXXX130			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFXXXX1E4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/8/2024	XX	LFXXXX1JD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LF-UD-5and6																	
4/28/2015	XX	LFXXXX79I			0.5 U	0.04 U	250	4 U	12.4		197		2 U		3.3	0.1 U	
7/14/2015	XX	LFXXXX7DA			I	I	I	I	I		I		I		I	I	
10/27/2015	XX	LFXXXX7IH			0.5 U	0.04 U	235	6	11.1		184		2		3.8	0.1 U	
4/5/2016	XX	LFXXXX879			0.05	0.04 U	247	4 U	12.5		191		2 U		2.9	0.1 U	
7/26/2016	XX	LFXXXX8BJ			0.05 U	0.04 U	230	4 U	26.9		186		2 U		2.7	0.2 U	
10/25/2016	XX	LFXXXX8JH			0.2	0.04 U	215	4 U	9.8		167		2 U		2.1	0.2 U	
4/18/2017	XX	LFXXXX984			0.07	0.04 U	201	2.5 U	18		160		2 U		2.2	0.2 U	
7/25/2017	XX	LFXXXX9E1			0.21	0.04	243	4.7	11		200		2 U		2.8	0.2 U	
10/25/2017	XX	LFXXXX9HG			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFXXXXA3G			0.14	0.04 U	192	2.5 U	39		150		2 U		1.7	0.13	
7/17/2018	XX	LFXXXXACG			0.14	0.04 U	220	2.5 U	10		180		2 U		2.7	0.12	
10/2/2018	XX	LFXXXXB1E			0.21	0.04 U	228	5	14		180		2 U		2.4	0.1 U	
4/23/2019	XX	LFXXXXB6C			0.14	0.04 U	192	2.5 U	9.7		150		2 U		1.5	0.1	
7/16/2019	XX	LFXXXXBD3			0.12	0.04 U	211	2.5 U	9.2		170		2 U		2	0.1 U	
10/29/2019	XX	LFXXXXBIF			0.14	0.08	199	69	9.9		160		2 U		2.1	0.15	
4/28/2020	XX	LFXXXXCE3			0.2	0.04 U	185	2.5 U	11		150		2 U		2.3	0.17	
7/21/2020	XX	LFXXXXCIG			0.23	0.04 U	214	2.5 U	11		180		2 U		2.5	0.18	
10/27/2020	XX	LFXXXXD3J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFXXXXDD2			0.15	0.04 U	187	2.5 U	11		160		2 U		2.1	0.14	
7/13/2021	XX	LFXXXXE0E			0.13	0.04 U	228	3.7	12		190		2 U		2.6	0.1 U	
10/5/2021	XX	LFXXXXE71			0.17	0.04 U	215	2.5 U	12		170		2 U		2.3	0.1	
4/26/2022	XX	LFXXXXF1D			0.13	0.04 U	202	5	10		160		1 U		2.5	0.12	
7/19/2022	XX	LFXXXXF9C			0.1	0.04 U	241	2.5 U	10		190		1 U		2.9	0.15	
10/4/2022	XX	LFXXXXFJC			0.21	0.07	200	16	8.4		170		1 U		2.1	0.11	
4/18/2023	XX	LFXXXXGJ3			0.16	0.04 U	183	16	8.9		150		1 U		3.2	0.1 U	
7/11/2023	XX	LFXXXXH96			0.21	0.04 U	194	8.5	8.3		150		1 U		2.9	0.11	
10/3/2023	XX	LFXXXX06C			0.16	0.04 U	187	2.5 U	8.3		160		1 U		2.8	0.17	
4/2/2024	XX	LFXXXX131			0.21	0.04 U	172	8.3 U	8.6		140		1.4		3.7	0.14	
7/16/2024	XX	LFXXXX1E5			0.1	0.04 U	188	8.3 U	9.4		150		1 U		3.7	0.13	
10/8/2024	XX	LFXXXX1JE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LF-UD-6																	
4/28/2015	XX	LFUD6X7A0			5.6	0.14	530	4 U	96.5		315		2.8		11.2	0.1 U	
7/14/2015	XX	LFUD6X7DC			2 U	0.06	523	4 U	99.9		344		2.8		11.1	0.1 U	
10/27/2015	XX	LFUD6X7IJ			1.5	0.09	544	4 U	96.3		337		2.7		12.8	0.1 U	
4/5/2016	XX	LFUD6X87B			12	0.27	562	4 U	92.8		293		2.5		12.7	0.1 U	
7/26/2016	XX	LFUD6X8C1			D	D	D	D	D		D		D		D	D	
10/25/2016	XX	LFUD6X8JJ			I	I	I	I	I		I		I		I	I	
4/18/2017	XX	LFUD6X986			2.5	0.12	289	41	7.5		230		2.4		7.5	0.2 U	
7/25/2017	XX	LFUD6X9E3			I	I	I	I	I		I		I		I	I	
10/25/2017	XX	LFUD6X9HI			5.8	0.16	280	2.5 U	7.3		180		2		1 U	0.1 U	
4/3/2018	XX	LFUD6XA3I			5.6	0.12	193	2.5 U	42		130		2.7		1 U	0.1 U	
7/17/2018	XX	LFUD6XACI			1.4	0.09	190	2.5 U	10 U		160		2 U		5 U	0.5 U	
10/2/2018	XX	LFUD6XB1G			3.5	0.12	172	2.5 U	2 U		120		2 U		1 U	0.1 U	

(LF-UD-6)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
4/23/2019	XX	LFUD6XB6E			27	0.09	309	2.5 U	6.5		84		2 U		1.2	0.1 U	
7/16/2019	XX	LFUD6XBD5			9.1	0.13	149	8.7	3.3		49		2 U		1 U	0.1 U	
10/29/2019	XX	LFUD6XBIH			20	0.65	186	150	4.6		4.9		2.8		1.9	0.1 U	
4/28/2020	XX	LFUD6XCE5			60	0.2	438	2.5 U	12		1.5 U		2 U		2 U	0.2 U	
7/21/2020	XX	LFUD6XCII			D	D	D	D	D		D		D		D	D	
10/27/2020	XX	LFUD6XD41			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFUD6XDD4			130	4.6	1255	30	75		1.5 U		5		18	0.1 U	
7/13/2021	XX	LFUD6XE0G			I	I	I	I	I		I		I		I	I	
10/5/2021	XX	LFUD6XE72			20	5.7	353	2.5 U	11		1.5 U		2 U		14	0.1 U	
4/26/2022	XX	LFUD6XF1E			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFUD6XF9E			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD6XFJD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD6XGJ4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD6XH98			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD6X06D			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2024	XX	LFUD6X1E7			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFUD6X1JF			D	D	D	D	D		D		D		D	D	
LF-UD-7																	
4/28/2015	XX	LFUD7X7A1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/14/2015	XX	LFUD7X7DD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2015	XX	LFUD7X7J0			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LFUD7X87C			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LFUD7X8C2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2016	XX	LFUD7X900			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LFUD7X987			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/25/2017	XX	LFUD7X9E4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2017	XX	LFUD7X9HJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFUD7XA3J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LFUD7XACJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/2/2018	XX	LFUD7XB1H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFUD7XB6F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFUD7XBD6			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFUD7XBII			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LFUD7XCE6			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFUD7XCIJ			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFUD7XD42			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFUD7XDD5			H8	H8	H8	H8	H8		H8		H8		H8	H8	
7/13/2021	XX	LFUD7XE0H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFUD7XE73			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFUD7XF1F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFUD7XF9F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD7XFJE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD7XGJ5			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD7XH99			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD7X06E			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFUD7X133			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFUD7X1E8			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFUD7X1JG			F6	F6	F6	F6	F6		F6		F6		F6	F6	

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
LF-UD-8																	
4/28/2015	XX	LFUD8X7A2			0.5 U	0.08	74	9	17		21		3.6		7.3	0.1 U	
7/14/2015	XX	LFUD8X7DE			I	I	I	I	I		I		I		I	I	
10/27/2015	XX	LFUD8X7J1			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LFUD8X87D			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LFUD8X8C3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2016	XX	LFUD8X901			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LFUD8X988			0.05 U	0.04	55	6	49		9.4		3.7		14	0.2 U	
7/25/2017	XX	LFUD8X9E5			D	D	D	D	D		D		D		D	D	
10/25/2017	XX	LFUD8X9I0			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFUD8XA40			0.11	0.04	71	43	11		15		2.5		3.8	0.1 U	
7/17/2018	XX	LFUD8XAD0			D	D	D	D	D		D		D		D	D	
10/2/2018	XX	LFUD8XB1I			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFUD8XB6G			0.058	0.1	70	11	14		14		4.7		7.1	0.1 U	
7/16/2019	XX	LFUD8XBD7			0.05 U	0.04 U	53	5.5	8.7		14		6.3		4.7	0.1 U	
10/29/2019	XX	LFUD8XBIJ			0.062	0.04	42	6.7	13		6		4.8		2	0.1 U	
4/28/2020	XX	LFUD8XCE7			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFUD8XCJ0			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFUD8XD43			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFUD8XDD6			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/13/2021	XX	LFUD8XE0I			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFUD8XE74			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFUD8XF1G			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFUD8XF9G			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD8XFJF			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD8XGJ6			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD8XH9A			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD8X06F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFUD8X134			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFUD8X1E9			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFUD8X1JH			D	D	D	D	D		D		D		D	D	
LF-UD-9																	
4/5/2016	XX	LFUD9X881			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LFUD9X8CA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2016	XX	LFUD9X905			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LFUD9X98F			0.88	0.08	224	57	11		90		2.7		5.1	0.2 U	
10/25/2017	XX	LFUD9X9I4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFUD9XA47			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LFUD9XAD4			D	D	D	D	D		D		D		D	D	
10/2/2018	XX	LFUD9XB22			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFUD9XB73			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFUD9XBDD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFUD9XBJ3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LFUD9XCED			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFUD9XCJ6			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFUD9XD47			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFUD9XDDA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/13/2021	XX	LFUD9XE11			F6	F6	F6	F6	F6		F6		F6		F6	F6	

(LF-UD-9) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/5/2021	XX	LFUD9XE78			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFUD9XF1J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFUD9XF9J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFUD9XFJI			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFUD9XGJ9			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFUD9XH9D			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFUD9X06H			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFUD9X136			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFUD9X1EB			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFUD9X1JJ			D	D	D	D	D		D		D		D	D	
LF-UD-10																	
10/25/2017	XX	LFXXXX9ID			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LFXXXXA48			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LFU10XAD6			D	D	D	D	D		D		D		D	D	
10/3/2018	XX	LFXXXXB27			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LFXXXXB74			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2019	XX	LFXXXXBDE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LFXXXXBJ7			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LFXXXXCEE			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/21/2020	XX	LFXXXXCJ7			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LFXXXXD4B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LFXXXXDDB			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/13/2021	XX	LFXXXXE12			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LFXXXXE7C			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LFXXXXF23			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LFXXXXFA0			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LFXXXXG02			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LFXXXXGJD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFXXXXH9E			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LFXXXX06I			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LFXXXX137			D	D	D	D	D		D		D		D	D	
7/16/2024	XX	LFXXXX1EC			D	D	D	D	D		D		D		D	D	
10/8/2024	XX	LFXXXX200			D	D	D	D	D		D		D		D	D	
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LFXXXX01F	0.2 U	0.5 U	0.49		111	63	6.5	0.1 U		50	1.5		5.3	0.1 U	
10/3/2023	XX	LFXXXX0A2			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2024	XX	LFXXXX1GD		D	D		D	D	D	D		D	D		D	D	
LP-UD-1																	
4/28/2015	XX	LPUD1X794			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/14/2015	XX	LPUD1X7CG			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/26/2015	XX	LPUD1X7I5			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/5/2016	XX	LPUD1X86F			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/26/2016	XX	LPUD1X8B5			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/25/2016	XX	LPUD1X8J4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2017	XX	LPUD1X97A			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/25/2017	XX	LPUD1X9D8			F6	F6	F6	F6	F6		F6		F6		F6	F6	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-1) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/25/2017	XX	LPUD1X9H3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/3/2018	XX	LPUD1XA32			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/17/2018	XX	LPUD1XAC3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/2/2018	XX	LPUD1XB11			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/23/2019	XX	LPUD1XB5I			0.31	0.04 U	163	2.5 U	23		120		2 U		3.1	0.1 U	
7/16/2019	XX	LPUD1XBCA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/29/2019	XX	LPUD1XBI3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/28/2020	XX	LPUD1XCDA			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/22/2020	XX	LPUD1XCI3			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/27/2020	XX	LPUD1XD37			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/6/2021	XX	LPUD1XDC9			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/13/2021	XX	LPUD1XE01			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/5/2021	XX	LPUD1XE69			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/26/2022	XX	LPUD1XF11			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/19/2022	XX	LPUD1XF8J			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/4/2022	XX	LPUD1XFJ0			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/18/2023	XX	LPUD1XGIB			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/11/2023	XX	LPUD1XH8D			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/3/2023	XX	LPUD1X061			F6	F6	F6	F6	F6		F6		F6		F6	F6	
4/2/2024	XX	LPUD1X12B			F6	F6	F6	F6	F6		F6		F6		F6	F6	
7/16/2024	XX	LPUD1X1DD			F6	F6	F6	F6	F6		F6		F6		F6	F6	
10/8/2024	XX	LPUD1X1J4			F6	F6	F6	F6	F6		F6		F6		F6	F6	
LP-UD-2																	
4/28/2015	XX	LPUD2X795			0.5 U	0.04 U	182	4 U	9.2		137		2 U		5.9	0.1 U	
7/14/2015	XX	LPUD2X7CH			2 U	0.04 U	202	4 U	10.4		145		2 U		4.9	0.1 U	
10/27/2015	XX	LPUD2X7I6			0.5 U	0.04 U	184	4 U	8.9		142		2 U		6.8	0.1 U	
4/5/2016	XX	LPUD2X86G			0.1	0.04 U	177	4 U	9.9		137		2 U		5.7	0.1 U	
7/26/2016	XX	LPUD2X8B6			0.13	0.04 U	218	4 U	8.6		163		2 U		5	0.2 U	
10/25/2016	XX	LPUD2X8J5			0.14	0.04 U	294	4	10.7		229		2 U		5.4	0.2 U	
4/18/2017	XX	LPUD2X97B			0.14	0.04 U	248	2.5 U	2 U		220		2 U		9.1	0.2 U	
7/25/2017	XX	LPUD2X9D9			0.2	0.04 U	199	2.5 U	9.3		150		2 U		4.7	0.2 U	
10/25/2017	XX	LPUD2X9H4			0.23	0.04 U	196	2.5 U	8.8		130		2 U		4	0.1 U	
4/3/2018	XX	LPUD2XA33			0.3	0.04 U	156	2.5 U	2.1		120		2 U		3.6	0.1 U	
7/17/2018	XX	LPUD2XAC4			0.27	0.04 U	184	2.5 U	8.8		140		2 U		4.3	0.1 U	
10/2/2018	XX	LPUD2XB12			0.21	0.04 U	191	2.5 U	8.3		140		2 U		3.7	0.1 U	
4/23/2019	XX	LPUD2XB5J			0.3	0.04 U	154	2.5 U	8.9		120		2 U		3.1	0.1 U	
7/16/2019	XX	LPUD2XBCB			0.22	0.04 U	159	2.5 U	9.5		130		2 U		4	0.1 U	
10/29/2019	XX	LPUD2XBI4			0.23	0.04 U	165	2.5 U	9.3		130		2 U		3	0.1 U	
4/28/2020	XX	LPUD2XCDB			0.38	0.04 U	170	2.5 U	9.6		140		2 U		3.4	0.1 U	
7/21/2020	XX	LPUD2XCI4			0.085	0.04 U	204	41	9.8		150		2 U		4.2	0.13	
10/27/2020	XX	LPUD2XD38			0.24	0.17	199	36	8.1		150		27 M10		8.4	0.12	
4/6/2021	XX	LPUD2XDCA			0.37	0.04 U	179	6.5	9.3		140		2 U		6.2	0.11	
7/13/2021	XX	LPUD2XE02			0.36	0.04 U	203	2.5 U	9.9		150		2 U		5.2	0.1 U	
10/5/2021	XX	LPUD2XE6A			0.34	0.04 U	187	4.7	9.6		140		2 U		4.3	0.1 U	
4/26/2022	XX	LPUD2XF12			0.3	0.04 U	185	2.5 U	8.1		140		1 U		2.9	0.1 U	
7/19/2022	XX	LPUD2XF90			0.25	0.04 U	215	2.5	9.4		170		1 U		3.1	0.1 U	
10/4/2022	XX	LPUD2XFJ1			0.41	0.04 U	180	4 U	7.5		150		1 U		2.5	0.1 U	
4/18/2023	XX	LPUD2XGIC			0.56	0.08	173	85	8		150		1		2.8	0.1 U	
7/11/2023	XX	LPUD2XH8E			0.35	0.35	194	13	8.2		150		1 U		2.1	0.1 U	

(LP-UD-2)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
10/3/2023	XX	LPUD2X062			0.27	0.04 U	185	2.5 U	8		150		1 U		2.1	0.1	
4/2/2024	XX	LPUD2X12C			0.3	0.08	155	32	6.6		130		1.1		2.4	0.1 U	
7/16/2024	XX	LPUD2X1DE			0.24	0.2	192	56	7.7		150		2.7		2.2	0.1 U	
10/8/2024	XX	LPUD2X1J5			0.27	0.04 U	193	20	7.1		160		1 U		2.9	0.1 U	
MW-04-09A																	
2/26/2020	XX	GWX09AC56	0.25 U	0.5 U	0.05 U		203	59	2 U	0.1 U		84	3		5	0.1 U	
4/30/2020	XX	GWX09ACC1	0.25 U	0.5 U	0.05 U		240	93	63	0.1 U		88	4.4		4.1	0.1 U	
6/23/2020	XX	GWX09ACGC	0.25 U	0.5 U	0.05 U		243	12	82	0.17		90	4.9		5.7	0.1 U	
8/20/2020	XX	GWX09AD1J	0.25 U	0.5 U	0.05 U		272	11	96	1.1		92	7.1		5.7	0.1 U	
7/15/2021	XX	GWXXXXE20	0.25 U	0.5 U	0.05 U		238	3.3	80	0.1 U		100	4.2		5.9	0.1 U	
10/7/2021	XX	GWX09AE86	0.2 U	0.5 U	0.05 U		240	27	72	0.1 U		97	3		5.3	0.1 U	
4/27/2022	XX	GWX09AF2C	0.2 U	0.5 U	0.051		223	5.3	62	0.1 U		99	3.7		4.4	0.1 U	
7/20/2022	XX	GWXXXXFAF	0.2 U	0.5 U	0.05 U		223	2.5 U	65	0.1 U		95	3.2		4.8	0.1 U	
10/5/2022	XX	GWX09AG0B	0.53	0.5 U	0.14		150	4 U	54	0.1 U		95	1.6		4.3	0.1 U	
4/19/2023	XX	GWX09AH02	0.2 U	0.5 U	0.05 U		204	47	51	0.1 U		95	4.4		4.3	0.1 U	
7/12/2023	XX	GWXXXX00B	0.2 U	0.5 U	0.057		187	6	47	0.1 U		95	1.4		4.1	0.1 U	
10/4/2023	XX	GWX09A077	0.2 U	0.5 U	0.05 U		192	29	45	0.1 U		95	1.1		4.2	0.1 U	
4/10/2024	XX	GWX09A13G	0.2 U	0.5 U	0.05 U		178	8.3 U	42	0.1 U		91	4.3		4.4	0.1 U	
7/17/2024	XX	GWXXXX1FA	0.2 U	0.5 U	0.05 U		172	8.3 U	39	0.1 U		92	3		4.2	0.1 U	
10/9/2024	XX	GWX09A209	0.2 U	0.5 U	0.05 U		174	8.3 U	38	0.1 U		92	3		3.9	0.1 U	
MW-04-09B																	
2/26/2020	XX	GWX09BC57	0.25 U	0.5 U	0.078		103	2.5	2 U	0.1 U		52	2 U		3.3	0.1 U	
4/30/2020	XX	GWX09BCC2	0.25 U	0.5 U	0.05 U		83	4.3	7.3	0.1 U		41	2 U		2.8	0.1 U	
6/23/2020	XX	GWX09BCGD	0.25 U	0.5 U	0.066		84	3	6.2	0.1 U		41	2 U		3.3	0.1 U	
8/20/2020	XX	GWX09BD20	0.28	0.5 U	0.056		81	2.5 U	5.8	0.1 U		47	2 U		3.4	0.1 U	
7/15/2021	XX	GWXXXXE21	0.25 U	0.5 U	0.08		87	3	4.5	0.1 U		44	2 U		4	0.1 U	
10/7/2021	XD	GWDP5XE8E	0.6	0.5 U	0.05 U		91	2.5 U	3.4	0.1 U		44	2 U		3.8	0.1 U	
10/7/2021	XX	GWX09BE87	0.2 U	0.5 U	0.063		90	2.5 U	4	0.1 U		45	2 U		3.9	0.1 U	
4/27/2022	XD	GWDP5XF30	0.2 U	0.5 U	0.072		82	2.5 U	3.9	0.1 U		43	1 U		4.3	0.1 U	
4/27/2022	XX	GWX09BF2D	0.2 U	0.5 U	0.068		82	2.5 U	3.7	0.1 U		39	1 U		4.3	0.1 U	
7/20/2022	XX	GWXXXXFAG	0.2 U	0.5 U	0.055		93	2.5 U	3.3	0.1 U		39	1 U		4.3	0.1 U	
10/5/2022	XD	GWDP5XG0J	0.23	0.5 U	0.17		280	4 U	3.3	0.1 U		45	1 U		4.1	0.1 U	
10/5/2022	XX	GWX09BG0C	0.57	0.5 U	0.16		42	4 U	3.8	0.1 U		44	1 U		4.4	0.1 U	
4/19/2023	XX	GWX09BH03	0.2 U	0.5 U	0.074		68	4.5	3.6	0.1 U		34	1 U		5.4	0.1 U	
7/12/2023	XX	GWXXXX00C	0.2 U	0.5 U	0.089		78	2.5 U	3.5	0.1 U		35	1 U		5.6	0.1 U	
10/4/2023	XX	GWX09B078	0.2 U	0.5 U	0.17		81	2.5 U	3.2	0.1 U		37	1 U		5	0.1 U	
4/10/2024	XX	GWX09B13H	0.2 U	0.5 U	0.05 U		82	8.3 U	3.4	0.1 U		29	1 U		5.7	0.1 U	
7/17/2024	XX	GWXXXX1FB	0.2 U	0.5 U	0.05 U		75	8.3 U	3.2	0.1 U		37	1 U		6	0.1 U	
10/9/2024	XX	GWX09B20A	0.2 U	0.5 U	0.051		78	8.3 U	3.5	0.1 U		43	1 U		5.8	0.1 U	
MW04-102																	
4/29/2015	XX	GW102X79C	0.5 U		0.5 U		127	4 U	12.7		100		2 U		2.1	0.1 U	
7/14/2015	XX	GW102X7D4	0.5 U		2 U		135	4 U	13.8		98		2 U		2.5	0.1 U	
10/28/2015	XX	GW102X7ID	0.5 U		0.5 U		138	4 U	10.8		99		2 U		2.2	0.1 U	
4/5/2016	XX	GW102X873	0.5 U		0.05 U		133	4 U	14.1		100		2 U		1.6	0.1 U	
7/26/2016	XX	GW102X8BD	0.5 U		0.05 U		136	4 U	14.5		99		2 U		2.2	0.2 U	
10/25/2016	XX	GW102X8JC	0.5 U		0.05		151	5	12.2		99		2 U		1.7	0.2 U	
4/19/2017	XX	GW102X97I	0.5 U		0.07		130	2.5 U	10		100		2 U		1.5	0.2 U	

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CUMBERLAND CENTER, ME 04021

(MW04-102) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/26/2017	XX	GW102X9DG	0.5 U		0.06		123	2.5 U	12		99		2 U		1.7	0.2 U	
10/25/2017	XX	GW102X9HB	0.25 U		0.05		150	2.5 U	12		94		2 U		1.4	0.1 U	
4/4/2018	XX	GW102XA3A	0.5 U		0.12		140	3	5.7		100		2 U		1.1	0.1 U	
7/18/2018	XX	GW102XACB	0.25 U		0.054		133	2.5 U	12		100		2 U		1.7	0.1 U	
10/3/2018	XX	GW102XB19	0.25 U		0.074		143	2.5 U	13		100		2 U		1.5	0.1 U	
4/24/2019	XX	GW102XB66	0.25 U		0.11		131	2.5 U	13		98		2 U		1.2	0.1 U	
7/17/2019	XX	GW102XBCH	0.25 U		0.065		132	2.5 U	13		99		2 U		1.1	0.1 U	
10/28/2019	XX	GW102XBIA	0.25 U		0.091		131	2.5 U	13		100		2 U		1.9	0.1 U	
4/27/2020	XX	GW102XCDH	0.25 U		0.15		138	2.5 U	13		100		2 U		2 U	0.2 U	
7/20/2020	XX	GW102XCIA	0.25 U		0.089		133	2.5 U	13		100		2 U		1.6	0.1 U	
10/26/2020	XX	GW102XD3E	0.28		0.085		136	2.5 U	11		110		5.2 M10		1.1	0.1 U	
4/5/2021	XX	GW102XDCG	0.25 U		0.11		135	2.5 U	13		110		2 U		1.7	0.1 U	
7/12/2021	XX	GW102XE08	0.25 U		0.081		132	2.5 U	13		97		2 U		1 U	0.1 U	
10/4/2021	XX	GW102XE6G	0.2 U		0.058		135	2.5 U	9.5		100		2 U		1.2	0.1 U	
4/25/2022	XX	GW102XF18	0.51		0.16		126	2.5 U	12		100		1 U		1	0.1 U	
7/18/2022	XX	GW102XF96	0.2 U		0.07		139	3	10		100		1 U		1.2	0.1 U	
10/3/2022	XX	GW102XFJ7	0.2 U		0.11		91	4 U	8.8		100		1 U		1.1	0.1 U	
4/17/2023	XX	GW102XGII	0.5 U		0.099		127	2.5 U	11		100		1 U		1.3	0.1 U	
7/10/2023	XX	GW102XH90	0.2 U		0.12		129	2.5 U	10		99		1 U		1.4	0.1 U	
10/2/2023	XX	GW102X067	0.2 U		0.17		125	2.5 U	9.6		110		1 U		1.5	0.1 U	
4/1/2024	XX	GW102X12H	0.2 U		0.099		130	8.3 U	11		100		1 U		1.5	0.1 U	
7/15/2024	XX	GW102X1DJ	0.2 U		0.05 U		128	8.3 U	9		100		1 U		2	0.1 U	
10/7/2024	XX	GW102X1JA	0.2 U		0.05 U		139	8.3 U	9.4		110		1 U		1.6	0.1 U	
MW04-109 & MW04-109R																	
4/28/2015	XX	GW109X79D	0.5 U		0.5 U		256	4 U	9.6		201		2 U		7.2	0.2	
7/14/2015	XX	GW109X7D5	0.5 U		2 U		247	4 U	9.1		193		2 U		6	0.17	
10/27/2015	XX	GW109X7IE	0.5 U		0.5 U		265	4 U	9.2		207		2 U		6.7	0.2	
4/5/2016	XX	GW109X874	0.5 U		0.05 U		256	4 U	10.9		199		2 U		6.6	0.1 U	
7/26/2016	XX	GW109X8BE	0.5 U		0.05 U		245	4 U	10.6		193		2 U		8.4	0.2	
10/25/2016	XX	GW109X8JD	0.5 U		0.08		270	4 U	8.3		200		2 U		4.7	0.2	
4/18/2017	XX	GW109X97J	0.5 U		0.05 U		261	2.5 U	8.6		230		2 U		5.5	0.2 U	
7/25/2017	XX	GW109X9DH	0.5 U		0.06		259	2.5 U	12		210		2 U		6	0.2 U	
10/24/2017	XX	GW109X9HC	0.25 U		0.05 U		267	2.5 U	9.1		190		2 U		9.9	0.1 U	
4/3/2018	XX	GW109XA3B	0.25 U		0.15		271	2.5 U	55		220		2 U		5.5	0.17	
7/17/2018	XX	GW109XACC	0.29		0.21		258	2.5 U	9.9		200		2.1		11	0.15	
10/2/2018	XX	GW109XB1A	0.25 U		0.1		252	2.5 U	9		200		2 U		5	0.11	
4/23/2019	XX	GW109XB67	0.25 U		0.058		256	2.5 U	10		210		2 U		3.8	0.16	
7/16/2019	XX	GW109XBCI	0.25 U		0.05 U		265	2.5 U	8.9		220		2 U		6.8	0.15	
10/29/2019	XX	GW109XBIB	0.92		0.05 U		260	2.5 U	8.5		210		2		1 U	0.2	
4/28/2020	XX	GW109XCDI	0.25 U		0.11		251	2.5 U	10		210		2 U		4.2	0.16	
7/21/2020	XX	GW109XCIB	0.29		0.073		252	2.5 U	8		200		2 U		3.6	0.23	
10/27/2020	XX	GW109XD3F	0.27		0.058		224	2.5 U	6.8		190		54 M10		2.8	0.14	
4/6/2021	XX	GW109XDCH	0.25 U		0.065		245	2.5 U	7.6		210		2 U		3.6	0.2	
7/13/2021	XX	GW109XE09	0.25 U		0.05 U		246	2.5 U	7.1		200		2 U		4.2	0.2	
10/5/2021	XX	GW109XE6H	0.2 U		0.05 U		248	2.5 U	7.6		200		2 U		2.1	0.1 U	
4/26/2022	XX	GW109XF19	0.25		0.052		232	2.5 U	6		190		1.7		3.7	0.15	
7/19/2022	XD	GWDP7XFBI	0.35		0.05 U		248	2.5 U	5.8		190		1.7		5.5	0.2	
7/19/2022	XX	GW109XF97	0.32		0.05 U		244	2.5 U	6.4		190		1.7		5.7	0.18	
10/4/2022	XX	GW109XFJ8	0.2 U		0.12		650	4 U	5.9		180		1.6		3.3	0.13	

(MW04-109 & MW04-109R) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/18/2023	XX	GW109XGIJ	0.2 U		0.066		228	2.5	7.1		190		2		5.3	0.13	
7/11/2023	XD	GWDP8X01C	0.3		0.068		245	2.5 U	6.4		190		1.9		3.5	0.14	
7/11/2023	XX	GW109XH91	0.26		0.05 U		251	2.5 U	5.5		190		1.8		3.1	0.13	
10/2/2023	XX	GW109X068	0.2		0.064		211	2.5 U	4.7		180		1.9		1.5	0.1	
4/2/2024	XX	GW109X12I	0.2 U		0.089		212	8.3 U	6.3		180		2.6		2.8	0.12	
7/16/2024	XD	GWDP8X1GB	0.36		0.05 U		226	8.3 U	5.4		190		2.2		2.1	0.14	
7/16/2024	XX	GW109X1E0	0.35		0.05 U		232	8.3 U	5.3		190		2.4		2.5	0.14	
10/8/2024	XX	GW109X1JB	0.2		0.05 U		218	8.3 U	6		32		2.1		2.8	0.14	
MW06-01																	
4/10/2018	XD	GWDP1XA68	0.25 U	0.5 U	0.14	0.04 U	53	2.5 U	2.3	0.1 U		32	2 U	1 U	4.8	0.1 U	
4/10/2018	XX	GWXXXXA70	0.25 U	0.5 U	0.13	0.04 U	50	2.5 U	2.3	0.1 U		32	2 U	1 U	4.8	0.1 U	
6/4/2018	XX	GWXXXXA7H	0.25 U	0.5 U	0.11	0.04 U	75	2.5 U	2.8	0.1 U		32	2 U	1 U	8.9	0.1 U	
7/18/2018	XX	GWXXXXAEF	0.25 U		0.13		72	2.5 U	3			31	2 U	1 U	8.1	0.1 U	
8/20/2018	XD	GWDP1XAF4	0.25 U		0.097		68	2.5 U	2.7			32	2 U		7.3	0.1 U	
8/20/2018	XX	GWXXXXAFG	0.25 U		0.078		78	2.5 U	2.6			31	2 U		7.3	0.1 U	
4/24/2019	XX	GWXXXXB7D	0.25 U		0.091		60	2.5 U	2.9		30		2 U		4.4	0.1 U	
7/18/2019	XX	GWXXXXBE1	0.25 U		0.13		77	2.5 U	2.6		34		2 U		7.5	0.1 U	
10/30/2019	XX	GWXXXXBJ8	0.25 U		0.11		50	2.5 U	9.2		23		2 U		1.3	0.1 U	
4/29/2020	XX	GWXXXXCF1	0.25 U		0.15		60	2.5 U	3.3		31		2 U		7.8	0.1 U	
7/22/2020	XX	GWXXXXCJE	0.25 U		0.05 U		64	2.5 U	3.3		31		2 U		6.7	0.1 U	
10/28/2020	XX	GWXXXXD4C	0.25 U		0.16		53	2.5 U	2.7		33		4.9 M10		7.7	0.1 U	
4/7/2021	XX	GWXXXXDDI	0.25 U		0.14	0.04 U	81	2.5 U	2 U		37		2 U	2 U	7.9	0.1 U	
7/14/2021	XX	GWXXXXE19	0.25 U		0.22		83	2.5 U	2.6		39		2 U		11	0.1 U	
10/6/2021	XX	GWXXXXE7D	0.2 U		0.26		98	2.5 U	2.4		40		2 U		11	0.1 U	
4/27/2022	XX	GWXXXXF24	0.2 U		0.23		129	2.5 U	2.5		69		1 U		12	0.2	
7/20/2022	XX	GWXXXXFA7	0.2 U	0.5 U	0.27		128	2.5 U	2.5	0.1 U		62	1 U		13	0.1 U	
10/5/2022	XX	GWXXXXG03	0.2 U		0.34		140	4 U	2.3			67	1 U		12	0.14	
4/19/2023	XX	GWXXXXGJE	0.2 U		0.27		121	2.5 U	2.8		78		1 U		13	0.19	
7/12/2023	XX	GWXXXX003	0.2 U	0.5 U	0.25		137	2.5 U	2.7	0.1 U		83	1 U		13	0.24	
10/4/2023	XX	GWXXXX06J	0.2 U	0.5 U	0.23		142	2.5 U	2.6	0.1 U		84	1 U		11	0.23	
4/10/2024	XX	GWXXXX138	0.2 U	0.5 U	0.14		182	8.3 U	4.4	0.1 U		110	2		12	0.59	
7/17/2024	XX	GWXXXX1F2	0.2 U	0.5 U	0.16		141	8.3 U	3.7	0.1 U		89	2.9		12	0.23	
10/9/2024	XX	GWXXXX201	0.2 U	0.5 U	0.2		146	8.3 U	3.3	0.1 U		98	1 U		12	0.19	
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	0.25 U	0.5 U	0.089	0.08	162	4.7	19	0.1 U		93	2 U	2 U	6.9	0.1 U	
4/7/2021	XX	GWXXXXDAJ	0.25 U	0.5 U	0.05 U	0.08	143	3.5	13	0.1 U		95	2 U	2 U	3.8	0.1 U	
6/9/2021	XX	GWXXXXDH2	0.25 U	0.5 U	0.067	0.07	141	2.5 U	12	0.1 U		90	2 U	2 U	2.9	0.1 U	
8/19/2021	XX	GWXXXXE4G	0.2 U	0.5 U	0.05 U	0.07	145	2.5 U	14	0.1 U		90	2 U	2 U	4.2	0.1 U	
10/4/2021	XX	GWXXXXE9B	0.2 U	0.5 U	0.05 U					0.1 U			2 U				
10/5/2021	XX	GWXXXXE9BINO28					149	2.5 U	18			91			5.1	0.1 U	
4/27/2022	XX	GWXXXXF3G	0.38	0.5 U	0.05 U		179	31	19	0.1 U		96	1 U		5.9	0.1 U	
7/21/2022	XX	GWXXXXFBD	0.2 U	0.5 U	0.087		135	3	14	0.3 U		86	1 U		4.2	0.1 U	
10/5/2022	XX	GWXXXXG1F	0.24	0.5 U	1.3		130	6.4	16	0.1 U		89	1.1		7.3	0.1 U	
4/17/2023	XX	GWXXXXH16	0.5 U	0.5 U	0.53		132	3.5	15	0.1 U		90	1 U		5.4	0.1 U	
7/13/2023	XX	GWXXXX019	0.2 U	0.5 U	0.36		126	2.5 U	13	0.1 U		89	1 U		4.5	0.1 U	
10/5/2023	XX	GWXXXX08B	0.2 U	0.5 U	0.25		140	13	14	0.1 U		98	1 U		5.6	0.1 U	
4/11/2024	XX	GWXXXX150	0.2 U	0.5 U	0.16		145	8.3 U	15	0.1 U		94	1 U		5.1	0.1 U	
7/17/2024	XX	GWXXXX1G8	0.2 U	0.5 U	0.12		131	8.3 U	14	0.1 U		90	1 U		4.3	0.1 U	

(MW-08-01) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/10/2024	XX	GWXXXX21D	0.2 U	0.5 U	0.15		129	8.3 U	14	0.1 U		89	1 U		3.8	0.1 U	
MW09-901																	
4/28/2015	XX	GW901X78G	0.5 U		0.5 U		175	4 U	11		142		2 U		4.6	0.1 U	
7/14/2015	XX	GW901X7C8	0.5		2 U		178	4 U	11.2		141		2 U		4.4	0.1 U	
10/27/2015	XX	GW901X7HH	0.6		0.5 U		198	4 U	10.9		154		2 U		5.8	0.1 U	
4/5/2016	XD	GWDP1X85F	0.5 U		0.13		194	4 U	12.4		154		2 U		5.2	0.1 U	
4/5/2016	XX	GW901X867	0.5 U		0.06		188	4 U	12.3		155		2 U		5.4	0.1 U	
7/26/2016	XD	GWDP1X8A5	0.5 U		0.05 U		205	4 U	12.1		158		2 U		6.2	1.2	
7/26/2016	XX	GW901X8AH	1.5		0.05 U		203	4 U	12.4		157		2 U		6.1	0.2 U	
10/25/2016	XX	GW901X8IG	0.5 U		0.11		224	4 U	9.9		159		2 U		5.9	0.2	
4/18/2017	XD	GWDP1X96A	0.5 U		0.29		197	2.5 U	10		170		2 U		6	0.2 U	
4/18/2017	XX	GW901X972	0.5 U		0.29		206	2.5 U	11		170		2 U		6.1	0.2 U	
7/25/2017	XD	GWDP1X9C8	0.5 U		0.35		224	2.5 U	14		170		2 U		6.8	0.2 U	
7/25/2017	XX	GW901X9D0	0.5 U		0.4		230	2.5 U	14		160		2 U		6.8	0.2 U	
10/24/2017	XX	GW901X9GF	0.25 U		0.23		234	2.5 U	13		170		2 U		9.5	0.1 U	
4/3/2018	XD	GWDP1XA21	0.25 U		0.61		220	2.5 U	45		170		2 U		7.4	0.16	
4/3/2018	XX	GW901XA2E	0.34		0.6		235	2.5 U	47		170		2 U		7.4	0.15	
7/17/2018	XD	GWDP1XAB3	0.25 U		0.76		234	2.5 U	13		170		2 U		13	0.12	
7/17/2018	XX	GW901XABF	0.36		0.75		231	2.5 U*	14		180		2 U		14	0.13	
10/2/2018	XX	GW901XB0D	0.25 U		0.37		234	2.5 U	13		170		2 U		10	0.17	
4/23/2019	XD	GWDP1XB4H	0.3		0.18		217	2.5 U	11		170		2 U		4.7	0.32	
4/23/2019	XX	GW901XB5A	0.25 U		0.2		217	2.5 U	11		170		2 U		4.8	0.26	
7/16/2019	XD	GWDP1XBBA	0.25 U		0.24		236	2.5 U	12		180		2 U		8.7	0.22	
7/16/2019	XX	GW901XBC2	0.25 U		0.22		227	2.5 U	12		180		2 U		8.6	0.23	
10/29/2019	XX	GW901XBHF	0.25 U		0.05 U		209	2.5 U	13		160		2 U		5.1	0.27	
4/28/2020	XD	GWDP1XCCA	0.25 U		0.1		220	2.5 U	14		170		2 U		5.9	0.32	
4/28/2020	XX	GW901XCD2	0.25 U		0.11		216	2.5 U	14		170		2 U		6	0.32	
7/21/2020	XD	GWDP1XCH3	0.25 U		0.073		216	2.5 U	12		170		2 U		4.2	0.32	
7/21/2020	XX	GW901XCHF	0.25 U		0.05 U		219	2.5 U	13		170		2 U		4.4	0.29	
10/27/2020	XX	GW901XD2J	0.25 U		0.05 U		194	2.5 U	12		160		39 M10		3.3	0.15	
4/6/2021	XD	GWDP1XDB9	0.25 U		0.09		220	2.5 U	12		180		2 U		4.6	0.3	
4/6/2021	XX	GW901XDC1	0.25 U		0.086		227	2.5 U	12		180		2 U		3.5	0.29	
7/13/2021	XD	GWDP1XDJ1	0.25 U		0.05 U		202	2.5 U	12		160		2 U		1 U	0.1 U	
7/13/2021	XX	GW901XDJD	0.25 U		0.05 U		209	2.5 U	12		160		2 U		4.1	0.24	
10/5/2021	XX	GW901XE61	0.24		0.05 U		202	2.5 U	11		160		2 U		2.5	0.1	
4/26/2022	XX	GW901XF0D	0.31		0.44		240	2.5 U	12		180		1.3		14	0.28	
7/19/2022	XD	GWDP1XF7J	0.2 U		0.05 U		231	2.5 U	10		180		1.2		7.2	0.23	
7/19/2022	XX	GW901XF8B	0.22		0.05 U		212	2.5 U	11		170		1.2		7.8	0.28	
10/4/2022	XX	GW901XFIC	0.2 U		0.12		270	4 U	8.4		140		2.2		6.4	0.21	
4/18/2023	XX	GW901XGI3	0.2 U		0.53		241	2.5 U	12		180		1.6		14	0.23	
7/11/2023	XD	GWDP1XH7D	0.2 U		0.091		229	2.5 U	11		170		1.4		7.2	0.31	
7/11/2023	XX	GW901XH85	0.2 U		0.077		243	2.5	12		170		3.3		6.8	0.25	
10/2/2023	XX	GW901X05D	0.2 U		0.05		203	2.5 U	10		170		1.4		4.5	0.18	
4/2/2024	XX	GW901X123	0.2 U		0.2		210	8.3 U	12		170		2		7.6	0.24	
7/16/2024	XD	GWDP1X1CD	0.2 U		0.083		207	8.3 U	12		160		1.6		5.7	0.2	
7/16/2024	XX	GW901X1D5	0.2 U		0.05 U		207	8.3 U	11		160		1.4		6.7	0.21	
10/8/2024	XX	GW901X1IG	0.2 U		0.05 U		197	8.3 U	13		33		1.3		5	0.24	
MW-206																	

(MW-206) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/27/2015	XX	GW206X77J	0.5 U		0.5 U		88	4 U	2 U		69		2 U		3.6	0.1 U	
7/13/2015	XX	GW206X7BB	0.5 U		2 U		95	4 U	2.1		70		2 U		1.3	0.1 U	
7/13/2015	XD	GWDP3X7C7	0.5 U		2 U		95	4 U	2 U		65		2 U		1.6	0.1 U	
10/26/2015	XX	GW206X7H0	0.5 U		0.5 U		95	4 U	2 U		68		2 U		3.2	0.1 U	
4/4/2016	XX	GW206X85A	1.2		0.05		95	4 U	2.3		70		2 U		1.9	0.1 U	
7/25/2016	XD	GWDP4X8B2	0.7		0.14		95	4 U	2 U		68		2 U		1.4	0.2 U	
7/25/2016	XX	GW206X8A0	0.7		0.05 U		95	4 U	2 U		69		2 U		1.5	0.2 U	
10/24/2016	XX	GW206X8HJ	0.5 U		0.18		97	4 U	2 U		69		2 U		1.6	0.2 U	
4/17/2017	XX	GW206X965	0.5 U		0.16		102	37	2 U		73		2 U		1.3	0.2 U	
7/24/2017	XD	GWDP4X9D5	0.5 U		0.18		110	5 U	2.3		70		2 U		1.9	0.2 U	
7/24/2017	XX	GW206X9C3	0.5 U		0.13		68	5 U	2.3		69		2 U		2.1	0.2 U	
10/23/2017	XX	GW206X9FI	0.25 U		0.22		92	2.5 U	2 U		64		2 U		1	1.2	
4/2/2018	XX	GW206XA1G	0.25 U		0.23		97	8	2 U		71		2 U		1.4	0.1 U	
7/16/2018	XD	GWDP4XAC0	0.49		0.28		80	2.5 U	2 U		66		2 U		1.9	0.1 U	
7/16/2018	XX	GW206XAAI	0.26		0.26		88	2.5 U	2.4		70		2 U		2.3	0.1 U	
10/1/2018	XX	GW206XAJG	0.25 U		0.05 U		92	2.5 U	2.1		72		2 U		1.9	0.1 U	
4/22/2019	XX	GW206XB4C	0.25 U		0.2		97	5	2 U		68		2 U		1.7	0.1 U	
7/17/2019	XX	GW206XBB5	0.25 U		0.18		93	2.5 U	2.3		71		2 U		2	0.1 U	
10/28/2019	XX	GW206XBGJ	0.25 U		0.18		99	2.5 U	2 U		71		2 U		2.2	0.1 U	
4/27/2020	XX	GW206XCC5	0.25 U		0.11		101	3	2.4		74		2 U		2.4	0.1 U	
7/20/2020	XX	GW206XCGI	0.25 U		0.26		89	2.5 U	2.6		70		2 U		2.8	0.1 U	
10/26/2020	XX	GW206XD23	0.25 U		0.16		89	2.5 U	1.7		72		6.6 M10		2	0.1 U	
4/5/2021	XX	GW206XDB4	0.25 U		0.14		93	2.5 U	2.3		70		2 U		2.8	0.1 U	
7/14/2021	XX	GW206XDIG	0.25 U	0.5 U	0.12		90	2.5 U	2.1	0.1 U		68	2 U		2.4	0.1 U	
10/4/2021	XX	GWXXXXE8D	0.31	0.5 U	0.11		95	2.5 U	2 U	0.1 U		70	2 U		2.4	0.1 U	
4/25/2022	XX	GWXXXXF2J	0.5 UH	0.5 U	0.096		94	2.5 U	2 U	0.1 U		68	1 U		2.3	0.1 U	
7/18/2022	XX	GW206XF7E	0.2 U	0.5 U	0.082		101	2.5	2 U	0.1 U		72	1 U		2.5	0.1 U	
10/3/2022	XX	GWXXXXG0I	0.2 U	0.5 U	0.13		23	4 U	2 U	0.1 U		70	1 U		2	0.1 U	
4/17/2023	XX	GWXXXXH09	0.5 U	1	0.11		85	2.5 U	2 U	0.1 U		72	1 U		2.4	0.1 U	
7/10/2023	XX	GW206XH78	0.2 U	0.5 U	0.1		100	2.5 U	4.3	0.1 U		66	1 U		2.5	0.1 U	
10/2/2023	XX	GWXXXX07E	0.2 U	0.5 U	0.075		92	2.5 U	2.3	0.1 U		73	1 U		2.6	0.1 U	
4/1/2024	XX	GWXXXX143	0.2 U	0.5 U	0.083		87	8.3 U	2.3	0.1 U		66	1 U		2.5	0.1 U	
7/15/2024	XX	GW206X1C8	0.2 U	0.5 U	0.05 U		93	8.3 U	2	0.1 U		70	1 U		2.5	0.1 U	
10/7/2024	XX	GWXXXX20G	0.2 U	0.5 U	0.085		90	8.3 U	2 U	0.1 U		70	1 U		2.1	0.1 U	
MW-223A																	
4/28/2015	XX	GW223A781	0.5 U		0.5 U		308	4 U	10.8		184		2 U		34.9	0.1	
4/28/2015	XD	GWDP1X784	0.5 U		0.5 U		302	4 U	11.1		184		2 U		35.2	0.1	
7/14/2015	XX	GW223A7BD	0.5 U		2 U		319	4 U	11.9		182		2 U		37.8	0.1 U	
10/27/2015	XX	GW223A7H2	0.5 U		0.5 U		326	4 U	12.1		186		2 U		41.2	0.1 U	
4/27/2016	XX	GW223A85C	0.5 U		0.48		318	4 U	13.9		191		2 U		43.2	0.1 U	
7/26/2016	XX	GW223A8A2	0.5 U		0.36		345	4 U	14.6		184		2 U		41.9	0.2 U	
10/25/2016	XX	GW223A8I1	0.5 U		0.57		353	4 U	13.4		185		2 U		43.5	0.2 U	
4/18/2017	XX	GW223A967	0.5 U		0.58		334	2.5 U	8		200		2 U		40	0.2 U	
7/25/2017	XX	GW223A9C5	0.5 U		0.48		356	2.5 U	16		190		2 U		46	0.2 U	
10/24/2017	XX	GW223A9G0	0.25 U		0.58		346	2.5 U	16		180		2 U		49	0.1 U	
4/3/2018	XX	GW223AA1I	0.25 U		0.67		333	2.5 U	59		200		2 U		32	0.12	
7/17/2018	XX	GW223AAB0	0.43		0.7		337	2.5 U	16		190		2 U		43	0.11	
10/2/2018	XX	GW223AAJI	0.35		0.63		346	2.5 U	16		200		2 U		41	0.1 U	
4/23/2019	XX	GW223AB4E	0.26		0.72		337	2.5 U	18		210		2 U		26	0.11	

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(MW-223A)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
7/16/2019	XX	GW223ABB7	0.4		0.71		345	2.5 U	18		220		2 U		34	0.11	
10/29/2019	XX	GW223ABH0	0.29		0.64		337	2.5 U	19		230		2 U		32	0.12	
4/28/2020	XX	GW223ACC7	0.25 U		0.74		360	2.5 U	22		230		2 U		32	0.15	
7/21/2020	XX	GW223ACH0	0.25 U		0.17		376	2.5 U	20		240		2 U		31	0.23	
10/27/2020	XX	GW223AD24	0.25 U		0.55		337	2.5 U	19		250		44 M10		31	0.13	
4/6/2021	XX	GW223ADB6	0.25 U		0.46		365	2.5 U	21		260		2 U		24	0.2	
7/13/2021	XX	GW223ADII	0.25 U		0.52		371	2.5 U	20		250		2 U		32	0.1 U	
10/5/2021	XX	GW223AE56	0.26		0.6		387	2.5 U	21		260		2 U		30	0.1 U	
4/26/2022	XX	GW223AEJI	0.61		0.69		375	2.5 U	19		260		1 U		27	0.14	
7/19/2022	XX	GW223AF7G	0.47		0.72		370	2.5 U	19		270		1 U		27	0.14	
10/4/2022	XX	GW223AFHH	0.5		0.86		460	4 U	19		260		1 U		26	0.15	
4/18/2023	XX	GW223AGH8	0.2 U		1.1		364	9	17		260		1		24	0.11	
7/11/2023	XX	GW223AH7A	0.2 U		1.2		408	2.5 U	19		270		1		26	0.12	
10/2/2023	XX	GW223A04H	0.2 U		1.1		377	2.5 U	17		270		1 U		26	0.13	
4/2/2024	XX	GW223A118	0.2 U		1.2		389	8.3 U	20		270		1 U		34	0.19	
7/15/2024	XX	GW223A1CA	0.2 U		1.4		396	8.3 U	18		270		1 U		34	0.19	
10/8/2024	XX	GW223A1I1	0.2 U		1.2		384	8.3 U	19		96		1 U		35	0.2	
MW-223B																	
4/28/2015	XX	GW223B798	0.5 U		0.5 U		234	4 U	7		138		2 U		34.4	0.2	
7/14/2015	XX	GW223B7D0	0.5 U		2 U		240	4 U	6.8		139		2 U		36.7	0.1 U	
10/27/2015	XX	GW223B7I9	0.5 U		0.5 U		261	4 U	7.6		143		2 U		39.7	0.1 U	
4/5/2016	XX	GW223B86J	0.5 U		0.15		228	12	8.8		146		2 U		40.1	0.1 U	
7/26/2016	XX	GW223B8B9	0.5 U		0.17		248	4 U	8.7		146		2 U		36.6	0.2 U	
10/25/2016	XX	GW223B8J8	1		0.43		262	4 U	7.1		147		2 U		34.4	0.2 U	
4/18/2017	XX	GW223B97E	0.5 U		0.43		246	2.5 U	12		160		2 U		1.3	0.2 U	
7/25/2017	XX	GW223B9DC	0.5 U		0.41		261	2.5 U	9.3		150		2 U		40	0.2 U	
10/24/2017	XX	GW223B9H7	0.34		0.45		252	2.5 U	9.4		150		2 U		44	0.1 U	
4/3/2018	XX	GW223BA36	0.27		0.58		254	2.5 U	53		160		2 U		31	0.1 U	
7/17/2018	XX	GW223BAC7	0.25 U		0.67		252	2.5 U	11		160		2 U		42	0.11	
10/2/2018	XX	GW223BB15	0.25 U		0.58		280	2.5 U	11		170		2 U		42	0.1 U	
4/23/2019	XX	GW223BB62	0.25 U		0.65		281	2.5 U	12		170		2 U		32	0.11	
7/16/2019	XX	GW223BBCD	0.25 U		0.7		282	2.5 U	13		180		2 U		42	0.13	
10/29/2019	XX	GW223BBI6	0.25 U		0.63		285	2.5 U	15		180		2 U		39	0.15	
4/28/2020	XX	GW223BCDD	0.35		0.75		288	2.5 U	16		180		2 U		38	0.15	
7/21/2020	XX	GW223BCI6	0.25		0.21		326	2.5 U	14		180		2 U		38	0.22	
10/27/2020	XX	GW223BD3A	0.25 U		0.65		283	2.5 U	14		190		47 M10		38	0.15	
4/6/2021	XX	GW223BDCC	0.25 U		0.58		309	3	14		200		2 U		31	0.2 U	
7/13/2021	XX	GW223BE04	0.25 U		0.61		308	2.5 U	16		200		2 U		38	0.1 U	
10/5/2021	XX	GW223BE6C	0.61		0.6		340	2.5 U	16		200		2 U		35	0.1	
4/26/2022	XX	GW223BF14	0.48		0.51		308	2.5 U	15		200		1 U		32	0.16	
7/19/2022	XX	GW223BF92	0.2 U		0.47		297	2.5 U	15		200		1 U		33	0.16	
10/4/2022	XX	GW223BFJ3	0.7		0.67		350	4 U	17		210		1 U		30	0.16	
4/18/2023	XX	GW223BGIE	0.2 U		0.67		317	2.5 U	15		210		1 U		32	0.15	
7/11/2023	XX	GW223BH8G	0.2 U		0.75		356	2.5 U	16		210		1 U		31	0.15	
10/2/2023	XX	GW223B063	0.3		0.46		304	7.3	15		220		1 U		29	0.12	
4/2/2024	XX	GW223B12D	0.2 U		0.69		312	8.3 U	16		210		1 U		31	0.14	
7/16/2024	XX	GW223B1DF	0.2 U		0.7		314	8.3 U	15		210		1 U		29	0.14	
10/8/2024	XX	GW223B1J6	0.2		0.86		301	8.3 U	17		160		1 U		27	0.16	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

MW-227

(MW-227) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L		Ammonia (N) mg/L		Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/28/2015	XX	GW227X782	0.5 U		0.5 U		0.5 U		110	4 U	13.3		81		2 U		2.2	0.1 U	
4/28/2015	XD	GWDP3X78F	0.5		0.5 U		0.5 U		115	4 U	13.4		82		2 U		2.1	0.1 U	
7/14/2015	XX	GW227X7BE	0.5 U		2 U		2 U		109	4 U	12.4		80		2 U		1.4	0.1 U	
7/14/2015	XD	GWDP1X7BG	0.5 U		2 U		2 U		104	7	13.1		78		2 U		1.8	0.1 U	
10/27/2015	XX	GW227X7H3	0.5 U		0.5 U		0.5 U		115	4 U	12		79		2 U		2.1	0.1 U	
10/27/2015	XD	GWDP1X7H5	0.5 U		0.5 U		0.5 U		108	4 U	12.1		77		2 U		2.2	0.1 U	
4/5/2016	XD	GWDP3X866	0.5 U		0.05 U		0.05 U		112	4 U	13.5		78		2 U		1.5	0.1 U	
4/5/2016	XX	GW227X85D	0.5 U		0.05 U		0.05 U		105	4 U	13.4		79		2 U		1.6	0.1 U	
7/26/2016	XD	GWDP3X8AG	0.5 U		0.05 U		0.05 U		108	4 U	12.4		79		2 U		2.1	0.2 U	
7/26/2016	XX	GW227X8A3	0.5 U		0.05 U		0.05 U		114	4 U	12.5		80		2 U		2	0.2 U	
10/25/2016	XD	GWDP3X8IF	0.7		0.05 U		0.05 U		123	4 U	11.5		79		2 U		1.77	0.2 U	
10/25/2016	XX	GW227X8I2	0.5 U		0.05 U		0.05 U		129	4 U	11.6		79		2 U		1.8	0.2 U	
4/18/2017	XD	GWDP3X971	0.5 U		0.05 U		0.05 U		108	6	12		84		2 U		1.4	0.2 U	
4/18/2017	XX	GW227X968	0.5 U		0.05 U		0.05 U		110	4	12		84		2 U		1.3	0.2 U	
7/25/2017	XD	GWDP3X9CJ	0.5 U		0.05 U		0.05 U		119	2.5 U	13		80		2 U		1.9	0.2 U	
7/25/2017	XX	GW227X9C6	0.5 U		0.05 U		0.05 U		113	2.5 U	13		80		2 U		1.9	0.2 U	
10/24/2017	XD	GWDP3X9GE	0.25 U		0.05 U		0.05 U		110	2.5 U	12		75		2 U		1.8	0.1 U	
10/24/2017	XX	GW227X9G1	0.25 U		0.05 U		0.05 U		122	2.5 U	12		76		2 U		2	0.1 U	
4/3/2018	XD	GWDP3XA2D	0.25 U		0.091		0.091		109	2.5 U	7.8		80		2 U		1.2	0.1 U	
4/3/2018	XX	GW227XA1J	0.25 U		0.11		0.11		109	3.7	7.7		81		2 U		1.4	0.1 U	
7/17/2018	XD	GWDP3XABE	0.25 U		0.057		0.057		102	2.5 U	12		76		2 U		1.1	0.1 U	
7/17/2018	XX	GW227XAB1	0.25 U		0.083		0.083		101	2.5 U	12		80		2 U		1.2	0.1 U	
10/2/2018	XD	GWDP3XB0C	0.88		0.07		0.07		113	2.5 U	12		80		2 U		1.4	0.1 U	
10/2/2018	XX	GW227XAJJ	0.26		0.05 U		0.05 U		115	2.5 U	12		79		2 U		1.6	0.1 U	
4/23/2019	XD	GWDP3XB59	0.25 U		0.092		0.092		106	6.3	14		81		2 U		1.1	0.1 U	
4/23/2019	XX	GW227XB4F	0.25 U		0.12		0.12		108	10	14		81		2 U		1.3	0.1 U	
7/16/2019	XD	GWDP3XBC1	0.25 U		0.05 U		0.05 U		103	2.5 U	12		79		2 U		1.3	0.1 U	
7/16/2019	XX	GW227XBB8	0.25 U		0.05 U		0.05 U		114	4.3	13		80		2 U		1.4	0.1 U	
10/29/2019	XD	GWDP3XBHE	1.8		0.091		0.091		110	2.5 U	13		78		2 U		1.6	0.1 U	
10/29/2019	XX	GW227XBH1	0.25 U		0.05 U		0.05 U		106	2.5 U	12		82		2 U		1.3	0.1 U	
4/28/2020	XD	GWDP3XCD1	0.25 U		0.13		0.13		105	2.5 U	17		82		2 U		1.2	0.1 U	
4/28/2020	XX	GW227XCC8	0.25 U		0.11		0.11		115	2.5 U	15		81		2 U		1.4	0.1 U	
7/21/2020	XD	GWDP3XCHE	0.25 U		0.05 U		0.05 U		118	2.5 U	13		77		2 U		1.3	0.1 U	
7/21/2020	XX	GW227XCH1	0.25 U		0.05 U		0.05 U		117	2.5 U	13		80		2 U		1.5	0.1	
10/27/2020	XD	GWDP3XD2I	0.25 U		0.065		0.065		103	2.5 U	12		82		16 M10		1.2	0.1 U	
10/27/2020	XX	GW227XD25	0.25 U		0.056		0.056		104	2.5 U	11		84		14 M10		1.1	0.1 U	
4/6/2021	XD	GWDP3XDC0	0.25 U		0.066		0.066		117	5.5	13		88		2 U		1.6	0.1 U	
4/6/2021	XX	GW227XDB7	0.25 U		0.067		0.067		102	2.5 U	13		90		2 U		1.7	0.1 U	
7/13/2021	XD	GWDP3XDJC	0.25 U		0.05 U		0.05 U		108	10	13		80		2 U		1.1	0.1 U	
7/13/2021	XX	GW227XDIJ	0.25 U		0.05 U		0.05 U		112	2.5 U	11		83		2 U		1 U	0.1 U	
10/5/2021	XD	GWDP3XE60	0.34		0.05 U		0.05 U		121	6.3	12		83		2 U		1.3	0.1 U	
10/5/2021	XX	GW227XE57	0.2 U		0.05 U		0.05 U		119	3	12		82		2 U		1.2	0.1 U	
4/26/2022	XD	GWDP3XF0C	0.2 U		0.054		0.054		109	2.5 U	12		82		1 U		1.2	0.1 U	
4/26/2022	XX	GW227XEJJ	0.35		0.051		0.051		115	2.5 U	12		82		1 U		1.2	0.1 U	
7/19/2022	XD	GWDP3XF8A	0.2 U		0.05 U		0.05 U		119	2.5 U	11		82		1 U		1.1	0.1 U	
7/19/2022	XX	GW227XF7H	0.2 U		0.05 U		0.05 U		130	2.5 U	12		85		1 U		1.3	0.1 U	
10/4/2022	XD	GWDP3XFIB	0.2 U		0.1		0.1		18	4 U	10		83		1 U		1.3	0.1 U	
10/4/2022	XX	GW227XFHI	0.23		0.11		0.11		190	4 U	11		84		1 U		1.2	0.1 U	

(MW-227) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/18/2023	XD	GWDP3XGI2	0.2 U		0.058		104	2.5 U	11		82		1 U		1.3	0.1 U	
4/18/2023	XX	GW227XGH9	0.2 U		0.05 U		113	2.5 U	12		80		1 U		1.3	0.1 U	
7/11/2023	XD	GWDP3XH84	0.2 U		0.07		128	2.5 U	11		80		1 U		1.3	0.1 U	
7/11/2023	XX	GW227XH7B	0.2 U		0.087		135	2.5 U	11		80		1 U		1.3	0.1 U	
10/2/2023	XD	GWDP3X05C	0.2 U		0.05 U		106	2.5 U	10		84		1 U		1.3	0.1 U	
10/2/2023	XX	GW227X04I	0.2 U		0.05 U		103	2.5 U	10		82		1 U		1.3	0.1 U	
4/2/2024	XD	GWDP3X122	0.2 U		0.069		109	8.3 U	14		80		1 U		1.4	0.1 U	
4/2/2024	XX	GW227X119	0.2 U		0.079		103	8.3 U	12		80		1 U		1.3	0.1 U	
7/16/2024	XD	GWDP3X1D4	0.2 U		0.099		107	8.3 U	11		76		1 U		1.4	0.1 U	
7/16/2024	XX	GW227X1CB	0.2 U		0.062		105	8.3 U	11		81		1 U		1.5	0.1 U	
10/8/2024	XD	GWDP3X1IF	0.2 U		0.05 U		101	8.3 U	11		88		1 U		1.5	0.1 U	
10/8/2024	XX	GW227X1I2	0.2 U		0.055		99	8.3 U	11		75		1 U		1.5	0.1 U	
MW-301																	
4/29/2015	XX	GW301X783	0.5 U		0.5 U		117	4 U	17.2		78		2 U		5.7	0.1 U	
7/15/2015	XX	GW301X7BF	0.5 U		2 U		128	4 U	17		80		2 U		6.4	0.1 U	
10/27/2015	XX	GW301X7H4	0.5 U		0.5 U		129	4 U	16.9		73		2 U		8	0.1 U	
10/27/2015	XD	GWDP4X7I2	0.5 U		0.5 U		131	4 U	16.6		76		2 U		8.3	0.1 U	
4/27/2016	XX	GW301X85E	0.5 U		0.06		133	20	17.5		77		2 U		8.8	0.1 U	
7/27/2016	XX	GW301X8A4	0.5 U		0.06		139	14	14.9		75		2 U		8.2	0.2 U	
10/26/2016	XD	GWDP4X8J1	0.5 U		0.05 U		143	4 U	17.1		75		2 U		8.9	0.2 U	
10/26/2016	XX	GW301X8I3	0.5 U		0.05 U		146	4 U	17.2		76		2 U		9.1	0.2 U	
4/19/2017	XX	GW301X969	0.5 U		0.05 U		138	2.5 U	17		79		2 U		12	0.2 U	
7/26/2017	XX	GW301X9C7	0.5 U		0.05 U		136	2.5 U	19		74		2 U		15	0.2 U	
10/25/2017	XD	GWDP4X9H0	0.25 U		0.09		162	2.5 U	18		71		2 U		12	0.1 U	
10/25/2017	XX	GW301X9G2	0.25 U		0.07		150	2.5 U	18		70		2 U		15	0.1 U	
4/4/2018	XX	GW301XA20	0.25 U		0.1		138	2.5 U	10		78		2 U		12	0.1 U	
7/18/2018	XX	GW301XAB2	0.25 U		0.092		145	6	15		76		2 U		20	0.1 U	
10/1/2018	XD	GWDP4XB0I	0.25 U		0.051		144	2.5 U	16		77		2 U		14	0.1	
10/1/2018	XX	GW301XB00	0.25 U		0.06		147	2.5 U	16		75		2 U		16	0.1	
4/24/2019	XX	GW301XB4G	0.25 U		0.066		148	2.5 U	17		74		2 U		21	0.1	
7/17/2019	XX	GW301XBB9	0.25 U		0.051		159	2.5 U	17		78		2 U		25	0.1 U	
10/28/2019	XD	GWDP4XBI0	0.25 U		0.07		163	2.5 U	18		77		2 U		27	0.15	
10/28/2019	XX	GW301XBH2	0.25 U		0.056		161	2.5 U	17		74		2 U		26	0.15	
4/27/2020	XX	GW301XCC9	0.25 U		0.083		148	2.5 U	19		77		2 U		20	0.1 U	
7/20/2020	XX	GW301XCH2	0.25 U		0.05 U		153	2.5 U	18		76		2 U		25	0.11	
10/26/2020	XD	GWDP4XD34	0.25 U		0.05 U		151	2.5 U	16		76		8.5 M10		21	0.1 U	
10/26/2020	XX	GW301XD26	0.25 U		0.05 U		147	2.5 U	17		76		6.8 M10		20	0.1 U	
4/5/2021	XX	GW301XDB8	0.25 U		0.05 U		171	6.5	19		76		2 U		26	0.1 U	
7/12/2021	XX	GW301XDJ0	0.25 U		0.05 U		152	2.5 U	17		74		16		21	0.1	
10/4/2021	XD	GWDP4XE66	0.27		0.05 U		161	2.5 U	17		78		2 U		21	0.1 U	
10/4/2021	XX	GW301XE58	0.2 U		0.05 U		163	2.5 U	18		76		2 U		22	0.1 U	
4/25/2022	XD	GWDP4XF0I	0.25		0.05 U		154	2.5 U	18		76		1 U		21	0.1 U	
4/25/2022	XX	GW301XF00	0.2 U		0.05 U		158	2.5 U	17		74		1 U		21	0.1 U	
7/18/2022	XX	GW301XF7I	0.2 U		0.05 U		163	2.5 U	17		82		1 U		22	0.1 U	
10/3/2022	XD	GWDP4XFIH	0.2 U		0.05 U		96	4 U	16		74		1 U		20	0.1 U	
10/3/2022	XX	GW301XFHJ	0.2 U		0.05 U		88	4 U	3.9		75		1 U		8.5	0.1 U	
4/17/2023	XD	GWDP4XGI8	0.5 U		0.05 U		148	2.5 U	19		71		1 U		23	0.1 U	
4/17/2023	XX	GW301XGHA	0.5 U		0.054		149	2.5 U	17		73		1 U		22	0.1 U	
7/10/2023	XX	GW301XH7C	0.2 U		0.062		168	2.5 U	17		75		1 U		23	0.1 U	

(MW-301) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/2/2023	XD	GWDP4X05I	0.2 U		0.055		152	2.5 U	18		79		1 U		23	0.11	
10/2/2023	XX	GW301X04J	0.2 U		0.061		152	2.5 U	18		83		1 U		24	0.11	
4/1/2024	XD	GWDP4X128	0.2 U		0.05 U		145	8.3 U	19		63		1 U		25	0.1 U	
4/1/2024	XX	GW301X11A	0.2 U		0.05 U		151	8.3 U	19		73		1 U		25	0.1 U	
7/15/2024	XX	GW301X1CC	0.2 U		0.05 U		153	9.7	18		75		1 U		29	0.1 U	
10/7/2024	XD	GWDP4X1J1	0.2 U		0.05 U		160	8.3 U	18		75		1 U		24	0.1	
10/7/2024	XX	GW301X1I3	0.2 U		0.05 U		160	10	17		74		1 U		23	0.1	
MW-303 & MW12-303R																	
4/27/2015	XX	GW303X799	0.5 U		0.5 U		533	4 U	9.5		87		4.3		57.2	0.1 U	
6/18/2015	XX	42173-1	0.5 U	0.5 U	0.5 U		314	6	4.1		135	135	2 U	1 U	76.4		
7/13/2015	XX	GW303X7D1	0.6		2 U		221	4 U	3		130		2 U		39.4	0.19	
10/26/2015	XX	GW303X7IA	0.5 U		0.5 U		214	4	4		136		2 U		39.4	0.1 U	
4/4/2016	XX	GW303X870	0.5 U		0.05 U		236	4 U	18.2		103		6.4		48.8	0.1 U	
7/25/2016	XX	GW303X8BA	0.5 U		5.9		326	4 U	10.6		130		4.1		51.8	0.2 U	
10/24/2016	XX	GW303X8J9	1		2.4		391	38	32.8		152		11.6		71.3	0.2 U	
4/17/2017	XX	GW303X97F	0.5 U		2.2		284	2.5 U	23		120		5.5		57	0.2 U	
7/24/2017	XX	GW303X9DD	0.5 U		0.28		250	5 U	8.7		120		3.7		52	0.2 U	
10/23/2017	XX	GW303X9H8	0.73		0.13		244	130	5.3		120		3.5		44	0.17	
4/2/2018	XX	GW303XA37	0.63		1.5		1016	2.5	430		42		5.2		220	0.5 U	
7/16/2018	XX	GW303XAC8	0.25 U		0.074		289	2.5 U	14		140		2 U		57	0.1 U	
10/1/2018	XX	GW303XB16	0.34		0.072		265	37	5.7		120		2 U		45	0.1 U	
4/22/2019	XX	GW303XB63	2		1		353	12	56		120		16		27	2.4	
7/17/2019	XX	GW303XBCE	0.71		0.72		297	2.5 U	33		130		7.8		40	0.62	
10/28/2019	XX	GW303XBI7	0.9		1.7		268	2.5 U	45		120		11		15	0.27	
4/27/2020	XX	GW303XCDE	0.25 U		0.58		297	4.7	22		77		4.4		42	0.1 U	
7/20/2020	XX	GW303XCI7	0.25 U		0.17		176	2.5 U	5.1		90		2 U		29	0.2 U	
10/26/2020	XX	GW303XD3B	0.8		12		372	2.5 U	29		72		34 M10		77	0.1 U	
4/5/2021	XX	GW303XDCD	0.49		1.9		294	5	26		69		4.3		59	0.2 U	
7/12/2021	XX	GW303XE05	0.89		3.8		425	2.5 U	22		70		6.8		97	0.5 U	
10/4/2021	XX	GW303XE6D	0.44		0.2		454	3	29		110		6.4		110	0.3 U	
4/25/2022	XX	GW303XF15	0.36		0.78		205	15	26		62		4.7		35	0.1 U	
7/18/2022	XX	GW303XF93	0.78		0.72		250	7.5	25		150		1.2		12	0.1 U	
10/3/2022	XX	GW303XFJ4	0.42		1.1		180	4.8	28		120		4.1		34	0.1 U	
4/17/2023	XX	GW303XGIF	0.5 U		1.3		242	22	25		150		2.2		12	0.1 U	
7/10/2023	XX	GW303XH8H	0.24		0.61		200	3	22		100		4.3		14	0.1 U	
10/2/2023	XX	GW303X064	0.32		0.39		187	8	25		110		4.5		12	0.1 U	
4/1/2024	XX	GW303X12E	0.24		0.91		109	21	13		43		3.7		2.9	0.1 U	
7/15/2024	XX	GW303X1DG	0.54		2.1		169	19	24		91		4.6		4.6	0.1 U	
10/7/2024	XX	GW303X1J7	0.28		0.53		192	19	27		130		1.5		7.8	0.1 U	
MW-401A																	
4/27/2015	XX	GW401A78H	0.6		0.5 U		89	4 U	4.1		60		2 U		3.8	0.1 U	
7/13/2015	XX	GW401A7C9	0.5 U		1 U		99	4 U	3.7		59		2 U		4.1	0.1 U	
10/26/2015	XX	GW401A7HI	0.5 U		0.5 U		87	4 U	4.1		59		2 U		2.7	0.1 U	
4/27/2016	XX	GW401A868	0.5 U		0.1		91	4 U	4.2		59		2 U		2.4	0.1 U	
7/25/2016	XX	GW401A8AI	0.5 U		0.05 U		90	4 U	3.8		63		2 U		2.2	0.2 U	
10/24/2016	XX	GW401A8IH	0.5 U		0.1		98	4 U	4		58		2 U		2.2	0.2 U	
4/17/2017	XX	GW401A973	0.5 U		0.05		95	2.5 U	3.7		62		2 U		2.3	0.2 U	
7/24/2017	XX	GW401A9D1	0.5 U		0.1		89	7	4.7		63		2 U		2.7	0.2 U	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-401A) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/25/2017	XX	GW401A9GG	0.25 U		0.11		112	2.5 U	4.4		57		2 U		2.2	0.1 U	
4/2/2018	XX	GW401AA2F	0.25 U		0.14		85	2.5 U	2.8		58		2 U		2.1	0.1 U	
7/16/2018	XX	GW401AABG	0.25 U		0.14		89	2.5 U	4.7		60		2 U		3.1	0.1 U	
10/1/2018	XX	GW401AB0E	0.25 U		0.083		91	2.5 U	4		61		2 U		2.8	0.1 U	
4/22/2019	XX	GW401AB5B	0.25 U		0.1		91	2.5 U	4.5		61		2 U		3.4	0.1 U	
7/15/2019	XX	GW401ABC3	0.25 U		0.1		92	2.5 U	4.3		62		2 U		3.8	0.1 U	
10/28/2019	XX	GW401ABHG	0.25 U		0.12		98	2.5 U	5		61		2 U		4.9	0.1 U	
4/27/2020	XX	GW401ACD3	0.25 U		0.16		106	2.5 U	5		63		2 U		4.8	0.1 U	
7/20/2020	XX	GW401ACHG	0.25 U		0.05 U		97	2.5 U	4.9		61		2 U		5.3	0.1 U	
10/26/2020	XX	GW401AD30	0.25 U		0.084		92	2.5 U	4		62		5 M10		4.6	0.1 U	
4/5/2021	XX	GW401ADC2	0.25 U		0.11		98	3	4.7		62		2 U		6.1	0.11	
7/12/2021	XX	GW401ADJE	0.25 U		0.091		101	2.5 U	4.2		62		9.6		6.2	0.1 U	
10/4/2021	XX	GW401AE62	0.24		0.095		98	2.5 U	4		62		2 U		6.8	0.1 U	
4/25/2022	XX	GW401AF0E	0.21		0.078		105	2.5 U	4.2		58		1 U		7.9	0.1 U	
7/18/2022	XX	GW401AF8C	0.27		0.096		111	2.5 U	4		64		1 U		8.1	0.1 U	
10/3/2022	XX	GW401AFID	0.2 U		0.12			4 U	16		62		1 U		21	0.1 U	
10/3/2022	XX	GW401AFIDRR					77 H										
4/17/2023	XX	GW401AGI4	0.5 U		0.12		99	2.5 U	3.7		58		1 U		11	0.1 U	
7/10/2023	XX	GW401AH86	0.2 U		0.11		118	2.5 U	4		60		1 U		13	0.1 U	
10/2/2023	XX	GW401A05E	0.2 U		0.098		109	2.5 U	4.3		66		1 U		13	0.11	
4/1/2024	XX	GW401A124	0.2 U		0.097		212	8.3 U	4.3		56		1 U		18	0.1 U	
7/15/2024	XX	GW401A1D6	0.2 U		0.061		108	8.3 U	3.9		59		1 U		18	0.1 U	
10/7/2024	XX	GW401A1IH	0.2 U		0.1		123	8.3 U	3.9		59		1 U		16	0.1 U	
MW-401B																	
4/27/2015	XX	GW401B78I	0.5 U		0.5 U		177	4 U	10.9		126		2 U		11.3	0.18	
4/27/2015	XD	GWDP4X791	0.5 U		0.5 U		170	4 U	11.3		123		2 U		11	0.18	
7/13/2015	XX	GW401B7CA	0.5 U		1 U		205	4 U	10.7		146		2 U		13	0.16	
7/13/2015	XD	GWDP4X7CD	0.5 U		2 U		208	4 U	10.3		144		2 U		11.7	0.25	
10/26/2015	XX	GW401B7HJ	0.5 U		0.5 U		211	4 U	11.9		158		2 U		13.6	0.1 U	
10/26/2015	XD	GWDP3X7HG	0.5 U		0.5 U		219	4 U	11.8		155		2 U		13.7	0.1 U	
4/6/2016	XD	GWDP4X86C	0.5 U		0.05 U		177	4 U	11.7		124		2 U		11.5	0.1 U	
4/6/2016	XX	GW401B869	0.5 U		0.05 U		185	4 U	11.8		127		2 U		11.8	0.1 U	
7/25/2016	XX	GW401B8AJ	0.5 U		0.05 U		225	4 U	10.4		157		2 U		13.1	0.2	
10/24/2016	XD	GWDP1X8I4	0.5 U		0.05 U		214	4 U	12.2		163		2 U		8.5	0.2	
10/24/2016	XX	GW401B8II	1		0.05 U		213	4 U	12.5		158		2 U		8.9	0.2	
4/17/2017	XD	GWDP4X977	0.5 U		0.05 U		183	7	11		130		2 U		9.5	0.2 U	
4/17/2017	XX	GW401B974	0.5 U		0.05 U		196	5	11		140		2 U		9.4	0.2 U	
7/24/2017	XX	GW401B9D2	0.5 U		0.05 U		180	5 U	12		150		2 U		12	0.2 U	
10/25/2017	XD	GWDP1X9G3	0.25 U		0.07		235	2.5 U	13		150		2 U		6.9	0.19	
10/25/2017	XX	GW401B9GH	0.25 U		0.05 U		226	2.5 U	13		150		2 U		6.5	0.21	
4/2/2018	XD	GWDP4XA2J	0.25 U		0.092		192	2.5 U	6		150		2 U		5.5	0.16	
4/2/2018	XX	GW401BA2G	0.25 U		0.069		176	2.5 U	5.9		130		2 U		6.4	0.14	
7/16/2018	XX	GW401BABH	0.25 U		0.057		198	2.5 U	12		150		2 U		11	0.14	
10/1/2018	XD	GWDP1XB01	0.25 U		0.058		214	2.5 U	11		160		2 U		6.2	0.19	
10/1/2018	XX	GW401BB0F	0.25 U		0.05 U		213	2.7	11		160		2 U		6.3	0.2	
4/22/2019	XD	GWDP4XB5F	0.25 U		0.05 U		156	2.5 U	12		120		2 U		6.9	0.16	
4/22/2019	XX	GW401BB5C	0.25 U		0.05 U		166	2.5 U	12		120		2 U		6.4	0.14	
7/15/2019	XD	GWDP4XBC7	0.25 U		0.05 U		175	2.7	11		140		2 U		8.7	0.17	
7/15/2019	XX	GW401BBC4	0.25 U		0.21		167	2.5 U	11		130		2 U		9.1	0.15	

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(MW-401B) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/28/2019	XD	GWDP1XBH3	0.25 U		0.06		208	2.5	13		150		2 U		10	0.2	
10/28/2019	XX	GW401BBHH	0.25 U		0.067		208	2.5 U	14		150		2 U		10	0.23	
4/27/2020	XD	GWDP4XCD7	0.25 U		0.05 U		162	2.5 U	13		110		2 U		9	0.14	
4/27/2020	XX	GW401BCD4	0.25 U		0.091		166	2.5 U	13		120		2 U		9.4	0.15	
7/20/2020	XD	GWDP4XCI0	0.25 U		0.05 U		188	2.5 U	12		160		2 U		8.5	0.24	
7/20/2020	XX	GW401BCHH	0.25 U		0.05 U		196	2.5 U	13		160		2 U		8.4	0.21	
10/26/2020	XD	GWDP1XD27	0.25 U		0.05 U		208	2.5 U	11		160		32 M10		6.9	0.19	
10/26/2020	XX	GW401BD31	0.25 U		0.051		211	2.5 U	11		160		23 M10		7.2	0.19	
4/5/2021	XD	GWDP4XDC6	0.25 U		0.05 U		190	3	12		150		2 U		5	0.23	
4/5/2021	XX	GW401BDC3	0.25 U		0.05 U		183	2.5	12		150		2 U		1 U	0.24	
7/12/2021	XD	GWDP5XE1B	0.25 U		0.05 U		190	2.5 U	10		150		2 U		1.6	0.2	
7/12/2021	XX	GW401BDJF	0.25 U		0.05 U		198	2.5 U	11		160		49		1.5	0.21	
10/4/2021	XD	GWDP1XE59	0.2 U		0.05 U		203	2.5 U	11		160		2 U		4.8	0.17	
10/4/2021	XX	GW401BE63	0.2 U		0.05 U		199	2.5 U	11		160		2 U		5	0.2	
4/25/2022	XD	GWDP1XF01	0.2 U		0.05 U		195	2.5 U	9.7		150		1 U		4.7	0.18	
4/25/2022	XX	GW401BF0F	0.5		0.05 U		190	2.5 U	10		150		1 U		4.5	0.18	
7/18/2022	XD	GWDP5XFA8	0.2 U		0.06		201	2.5	9.2		160		1 U		4.5	0.19	
7/18/2022	XX	GW401BF8D	0.2 U		0.05 U		210	2.5	9.7		160		1 U		4.7	0.18	
10/3/2022	XD	GWDP1XFI0	0.2 U		0.05 U		140	4 U	9.3		160		1 U		4.2	0.18	
10/3/2022	XX	GW401BFIE	0.41		0.05 U			4 U	10		160		1 U		5.3	0.18	
10/3/2022	XX	GW401BFIERR					150 H										
4/17/2023	XD	GWDP1XGHB	0.5 U		0.05 U		186	2.5 U	10		150		1		5.2	0.17	
4/17/2023	XX	GW401BGI5	0.5 U		0.051		180	2.5 U	10		150		1.1		5.4	0.16	
7/10/2023	XD	GWDP5X004	0.2 U		0.053		192	2.5 U	10		140		1 U		4.5	0.2	
7/10/2023	XX	GW401BH87	0.2 U		0.06		189	2.5 U	10		140		1 U		5.4	0.19	
10/2/2023	XD	GWDP1X050	0.2 U		0.05 U		189	2.5 U	11		150		1		3.7	0.2	
10/2/2023	XX	GW401B05F	0.2 U		0.05 U		193	2.5 U	11		160		1 U		3.9	0.25	
4/1/2024	XD	GWDP1X11B	0.2 U		0.05 U		190	8.3 U	10		150		1 U		5.4	0.2	
4/1/2024	XX	GW401B125	0.2 U		0.054		175	8.3 U	11		130		1 U		7.1	0.2	
7/15/2024	XD	GWDP5X1F3	0.2 U		0.05 U		192	8.3 U	9.7		150		1.1		4.1	0.19	
7/15/2024	XX	GW401B1D7	0.2 U		0.05 U		188	8.3 U	10		150		1 U		4.6	0.21	
10/7/2024	XD	GWDP1X1I4	0.2 U		0.05 U		203	8.3 U	9.3		160		1.1		4.3	0.23	
10/7/2024	XX	GW401B1II	0.2		0.05 U		208	8.3 U	9.8		160		1		4.1	0.22	
MW-402A																	
4/29/2015	XX	GW402A78J	0.5 U		0.5 U		79	4 U	9.1		57		2 U		2.1	0.1 U	
7/15/2015	XX	GW402A7CB	0.5 U		2 U		91	4 U	8.4		56		2 U		1.5	0.1 U	
10/28/2015	XX	GW402A7I0	0.5 U		0.5 U		91	4 U	8.8		54		2 U		2.2	0.1 U	
4/27/2016	XX	GW402A86A	0.5 U		0.06		86	4 U	8.8		57		2 U		2.1	0.1 U	
7/27/2016	XX	GW402A8B0	0.5 U		0.05		86	4 U	7.8		55		2 U		1.6	0.2 U	
10/26/2016	XX	GW402A8IJ	0.5 U		0.05		95	4 U	8.8		53		2 U		1.8	0.2 U	
4/19/2017	XX	GW402A975	0.5 U		0.05 U		94	2.5 U	6.3		56		2 U		1.4	0.2 U	
7/26/2017	XX	GW402A9D3	0.5 U		0.05 U		78	2.5 U	9.6		54		2 U		1.9	0.2 U	
10/26/2017	XX	GW402A9GI	0.25 U		0.1		100	2.5 U	9.5		51		2 U		1.6	0.1 U	
4/4/2018	XX	GW402AA2H	0.5 U		0.11		90	2.5 U	6.1		59		2 U		1.6	0.1 U	
7/18/2018	XX	GW402AABI	0.27		0.065		81	2.5 U	8.4		54		2 U		1.4	0.1 U	
10/3/2018	XX	GW402AB0G	0.25 U		0.059		95	2.5 U	8.8		54		2 U		1.7	0.1 U	
4/24/2019	XX	GW402AB5D	0.25 U		0.06		87	2.5 U	9.2		55		2 U		1.5	0.1 U	
7/17/2019	XX	GW402ABC5	0.25 U		0.064		90	2.5 U	8.8		55		2 U		1.4	0.1 U	
10/30/2019	XX	GW402ABHI	0.25 U		0.062		83	2.5 U	11		57		2 U		1.7	0.1 U	

(MW-402A)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
4/29/2020	XX	GW402ACD5	0.25 U		0.085		76	2.5 U	9.6		56		2 U		1.7	0.1 U	
7/22/2020	XX	GW402ACHI	0.25 U		0.051		80	2.5 U	9.3		57		2 U		1.8	0.1 U	
10/28/2020	XX	GW402AD32	0.25 U		0.057		75	2.5 U	8.3		55		4.8 M10		1.4	0.1 U	
4/7/2021	XX	GW402ADC4	0.25 U		0.05 U		94	2.5 U	7.8		60		2 U		1.3	0.1 U	
7/14/2021	XX	GW402ADJG	0.25 U		0.059		84	2.5 U	8.9		54		2 U		1.8	0.1 U	
10/4/2021	XX	GW402AE64	0.2 U		0.05 U		87	2.5 U	8.9		56		2 U		1.8	0.1 U	
4/25/2022	XX	GW402AF0G	0.2 U		0.052		89	2.5 U	8		55		1 U		1.7	0.1 U	
7/20/2022	XX	GW402AF8E	0.2 U		0.072		96	2.5 U	8.4		56		1 U		2	0.1 U	
10/3/2022	XX	GW402AFIF	0.2 U		0.069			4 U	8		58		1 U		1.8	0.1 U	
10/3/2022	XX	GW402AFIFRR					45 H										
4/17/2023	XX	GW402AGI6	0.5 U		0.093		78	2.5 U	7.9		53		1 U		2	0.1 U	
7/10/2023	XX	GW402AH88	0.2 U		0.091		94	2.5 U	8		54		1 U		2.1	0.1 U	
10/2/2023	XX	GW402A05G	0.2 U		0.093		55	2.5 U	8.3		59		1 U		2.1	0.1 U	
4/1/2024	XX	GW402A126	0.2 U		0.088		85	8.3 U	9.8		53		1 U		2.4	0.1 U	
7/15/2024	XX	GW402A1D8	0.2 U		0.05 U		79	8.3 U	7.8		55		1 U		2.3	0.1 U	
10/7/2024	XX	GW402A1IJ	0.2 U		0.074		88	8.3 U	7.3		56		1 U		2.1	0.1 U	
MW-402B																	
4/29/2015	XX	GW402B790	0.5 U		0.5 U		92	4 U	10.1		68		2 U		2	0.1 U	
7/15/2015	XX	GW402B7CC	0.5 U		2 U		98	4 U	9.6		67		2 U		1.9	0.1 U	
10/28/2015	XX	GW402B7I1	0.5 U		0.5 U		95	4 U	9.9		67		2 U		2.4	0.1 U	
4/27/2016	XX	GW402B86B	0.5 U		0.05 U		94	4 U	9.8		68		2 U		2.1	0.1 U	
7/27/2016	XX	GW402B8B1	0.5 U		0.05 U		94	4 U	8.8		66		2 U		1.7	0.2 U	
10/26/2016	XX	GW402B8J0	0.5 U		0.05 U		105	8	9.8		66		2 U		2	0.2 U	
4/19/2017	XX	GW402B976	0.5 U		0.06		96	2.5 U	6.5		68		2 U		1.6	0.2 U	
7/26/2017	XX	GW402B9D4	0.5 U		0.05 U		88	2.5 U	11		67		2 U		2	0.2 U	
10/26/2017	XX	GW402B9GJ	0.25 U		0.05		113	2.5 U	10		64		2 U		1.7	0.1 U	
4/4/2018	XX	GW402BA2I	0.25 U		0.091		104	8	6.2		69		2 U		1.5	0.1 U	
7/18/2018	XX	GW402BABJ	0.36		0.05 U		91	9.3	9.3		69		2 U		1.8	0.1 U	
10/3/2018	XX	GW402BB0H	0.25 U		0.05 U		106	2.5 U	9.9		66		2 U		1.8	0.1 U	
4/24/2019	XX	GW402BB5E	0.25 U		0.05 U		88	2.5 U	9.8		65		2 U		1.5	0.1 U	
7/17/2019	XX	GW402BBC6	0.25 U		0.05 U		93	2.5 U	9.7		67		2 U		1.3	0.1 U	
10/30/2019	XX	GW402BBHJ	0.25 U		0.05 U		88	2.5 U	2.6		69		2 U		18	0.11	
4/29/2020	XX	GW402BCD6	0.25 U		0.059		79	2.5 U	11		68		2 U		1.4	0.1 U	
7/22/2020	XX	GW402BCHJ	0.39		0.071		81	3.3	10		67		2 U		1.5	0.1 U	
10/28/2020	XX	GW402BD33	0.25 U		0.05 U		85	2.5 U	9.3		72		6.1 M10		1.2	0.1 U	
4/7/2021	XX	GW402BDC5	0.25 U		0.05 U		96	2.5 U	8.4		71		2 U		1.1	0.1 U	
7/14/2021	XX	GW402BDJH	0.25 U		0.05 U		93	2.5 U	10		67		2 U		1.3	0.1 U	
10/4/2021	XX	GW402BE65	0.2 U		0.05 U		93	35	9.7		69		2 U		1.3	0.1 U	
4/25/2022	XX	GW402BF0H	0.41		0.05 U		93	2.5 U	8.9		65		1 U		1.2	0.1 U	
7/20/2022	XX	GW402BF8F	0.2 U		0.05 U		122	2.5 U	8.9		85		1 U		2	0.1 U	
10/3/2022	XX	GW402BFIG	0.2 U		0.054			4 U	9.8		69		1 U		1.2	0.1 U	
10/3/2022	XX	GW402BFIGRR					66 H										
4/17/2023	XX	GW402BGI7	0.5 U		0.05 U		81	24	8.7		67		1 U		1.3	0.1 U	
7/10/2023	XX	GW402BH89	0.2 U		0.054		102	7	9		66		1 U		1.4	0.1 U	
10/2/2023	XX	GW402B05H	0.2 U		0.05 U		91	2.5 U	9.4		74		1 U		1.5	0.1 U	
4/1/2024	XX	GW402B127	0.2 U		0.05 U		88	8.3 U	11		66		1 U		1.4	0.1 U	
7/15/2024	XX	GW402B1D9	0.2 U		0.05 U		84	11	8.9		64		1 U		1.5	0.1 U	
10/7/2024	XX	GW402B1J0	0.2 U		0.05 U		93	8.3 U	8.3		68		1 U		1.2	0.1 U	

(MW-501)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
MW-501																	
4/5/2018	XX	GW501XA6I	0.25 U	0.5 U	0.25	0.04 U	130	2.5 U	9.8	0.1 U		83	2 U	2 U	8.3	0.1 U	
6/4/2018	XX	GW501XA7F	0.25 U	0.5 U	0.18	0.04 U	131	2.5 U	2.9	0.1 U		84	2 U	1 U	10	0.1 U	
7/19/2018	XX	GW501XAED	0.33		0.24		151	2.5 U	2.5			92	2 U	1 U	10	0.1 U	
8/20/2018	XX	GW501XAFE	0.25 U		0.21		157	2.5 U	2.8			100	2 U		11	0.1 U	
4/24/2019	XX	GW501XB7C	0.25 U		0.43		190	2.5 U	2.9		140		2 U		10	0.12	
7/17/2019	XX	GW501XBE0	0.25 U		0.25		117	2.5 U	2.5		75		6.4		9	0.1 U	
10/30/2019	XX	GW501XBJ9	0.25 U		0.57		247	2.5 U	47		170		2 U		2.4	0.1 U	
4/29/2020	XX	GW501XCF0	0.25 U		0.21		105	2.5 U	3		72		2 U		12	0.1 U	
7/22/2020	XX	GW501XCJD	0.25 U		0.077		214	2.5 U	3		130		2 U		24	0.1	
10/28/2020	XX	GW501XD4D	0.25 U		0.29		208	2.5 U	2.9		150		22 M10		23	0.1 U	
4/7/2021	XX	GW501XDDH	0.25 U		0.22	0.04 U	167	2.5 U	2 U		110		2 U	2 U	15	0.1 U	
7/14/2021	XX	GW501XE18	0.25 U	0.5 U	0.26		153	2.5 U	3.6	0.1 U		100	2 U		15	0.1 U	
10/6/2021	XX	GW501XE8A	0.2 U	0.5 U	0.33		161	2.5 U	3.2	0.1 U		96	2 U		14	0.1 U	
4/27/2022	XX	GW501XF2G	0.2 U	0.5 U	0.32		179	2.5 U	3.9	0.1 U		110	1 U		13	0.1 U	
7/20/2022	XX	GW501XFA6	0.2 U	0.5 U	0.32		170	2.5 U	3.7	0.1 U		100	1 U		14	0.1 U	
10/5/2022	XX	GW501XG0F	0.42	0.5 U	0.45		160	4 U	3.8	0.1 U		100	1 U		13	0.1 U	
4/19/2023	XX	GW501XH06	0.2 U	0.5 U	0.44		163	2.5 U	4.3	0.1 U		120	1 U		14	0.1 U	
7/12/2023	XX	GW501X002	0.2 U	0.5 U	0.39		186	2.5 U	5.7	0.1 U		120	1 U		13	0.1 U	
10/4/2023	XX	GW501X07B	0.26	0.5 U	0.25		181	2.5 U	4.5	0.1 U		120	1 U		12	0.1 U	
4/10/2024	XX	GW501X140	0.2 U	0.5 U	0.22		198	8.3 U	5.7	0.1 U		120	1 U		12	0.1 U	
7/17/2024	XX	GW501X1EJ	0.2 U	0.5 U	0.2		181	8.3 U	5.3	0.1 U		120	1.5		13	0.1 U	
10/9/2024	XX	GW501X20D	0.2 U	0.5 U	0.29		187	8.3 U	4.4	0.1 U		120	1 U		15	0.1 U	
MW-502																	
2/26/2020	XD	GWDP1XC52	0.25 U	0.5 U	0.25		163	2.5 U	2 U	0.1 U		100	2 U		21	0.14	
2/26/2020	XX	GW502XC55	0.25 U	0.5 U	0.23		166	2.5 U	2 U	0.1 U		120	2 U		21	0.14	
4/30/2020	XX	GW502XCBJ	0.25 U	0.5 U	0.1		175	2.5 U	4.9	0.1 U		110	2 U		19	0.22	
6/23/2020	XX	GW502XCGB	0.25 U	0.5 U	0.18		183	2.5 U	4.4	0.1 U		120	2 U		20	0.15	
8/20/2020	XX	GW502XD1I	0.25 U	0.5 U	0.17		176	2.5 U	4.5	0.1 U		120	2 U		20	0.17	
7/14/2021	XX	GW502XE23	0.25 U	0.5 U	0.05 U		234	3	4.2	0.1 U		190	2 U		13	0.33	
10/7/2021	XX	GW502XE8B	0.2 U	0.5 U	0.069		250	2.5 U	3.6	0.1 U		190	2 U		14	0.29	
4/27/2022	XX	GW502XF2H	0.75	0.5 U	0.16		204	2.5 U	3.4	0.1 U		120	1 U		17	0.16	
7/20/2022	XX	GW502XFAI	0.2 U	0.5 U	0.077		223	2.5 U	4	0.1 U		160	1 U		17	0.26	
10/5/2022	XX	GW502XG0G	0.49	0.5 U	0.16		250	4 U	4.7	0.1 U		200	1		15	0.31	
4/19/2023	XX	GW502XH07	0.2 U	0.5 U	0.23		179	3	4.3	0.1 U		130	1 U		19	0.18	
7/12/2023	XX	GW502X00E	0.2 U	0.5 U	0.26		214	4	4.3	0.1 U		150	1 U		18	0.2	
10/4/2023	XX	GW502X07C	0.2 U	0.5 U	0.2		196	2.5 U	3.9	0.1 U		140	1 U		17	0.18	
4/10/2024	XX	GW502X141	0.2 U	0.5 U	0.2		215	8.3 U	4.6	0.1 U		140	1 U		20	0.22	
7/18/2024	XX	GW502X1FD	0.2 U	0.5 U	0.05 U		201	8.3 U	4.4	0.1 U		140	1 U		19	0.23	
10/9/2024	XX	GW502X20E	0.2 U	0.5 U	0.12		200	8.3 U	4.5	0.1 U		150	1 U		15	0.2	
MW-503																	
2/9/2021	XX	GW503XD9A	0.25 U	0.5 U	0.12	0.04 U	140	2.5 U	12	0.1 U		90	2 U	2 U	17	0.1 U	
4/8/2021	XX	GW503XDA9	0.25 U	0.5 U	0.093	0.04 U	153	2.5 U	8.6	0.1 U		85	2 U	2 U	17	0.1 U	
6/8/2021	XX	GW503XDGC	0.25 U	0.5 U	0.15	0.04 U	147	2.5 U	7.9	0.1 U		91	2 U	2 U	13	0.1 U	
8/19/2021	XX	GW503XE46	0.2 U	0.5 U	0.11	0.04 U	151	2.5 U	8.6	0.1 U		90	2 U	2 U	14	0.1 U	
10/7/2021	XX	GW503XE96	0.2 U	0.5 U	0.11		147	2.5 U	7.4	0.1 U		83	2 U		14	0.1 U	
4/27/2022	XX	GW503XF3B	0.58	0.5 U	0.11		153	2.5 U	7.3	0.1 U		96	1 U		11	0.1 U	

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CUMBERLAND CENTER, ME 04021

(MW-503) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/20/2022	XX	GW503XFB5	0.2 U	0.5 U	0.09		164	2.5 U	6.9	0.1 U		120	1 U		6.1	0.1 U	
10/5/2022	XX	GW503XG1A	0.41	0.5 U	0.15		250	4 U	6.8	0.1 U		110	1 U		6.4	0.1 U	
4/20/2023	XX	GW503XH11	0.2 U	0.5 U	0.11		135	2.5 U	7.2	0.1 U		110	1 U		7.6	0.1 U	
7/13/2023	XX	GW503X011	0.2 U	0.5 U	0.13		134	2.5 U	7.7	0.1 U		94	1 U		10	0.1 U	
10/4/2023	XX	GW503X086	0.2 U	0.5 U	0.083		141	2.5 U	6.9	0.1 U		110	1 U		6.9	0.1 U	
4/10/2024	XX	GW503X14F	0.2 U	0.5 U	0.087		155	8.3 U	9.4	0.1 U		93	1 U		11	0.1 U	
7/18/2024	XX	GW503X1G0	0.2	0.5 U	0.077		136	8.3 U	9.8	0.1 U		77	1 U		16	0.1 U	
10/9/2024	XX	GW503X218	0.2 U	0.5 U	0.074		135	8.3 U	8.5	0.1 U		86	1 U		11	0.1 U	
MW-504																	
2/9/2021	XD	GWDP1XD94	0.25 U	0.5 U	0.075	0.07	108	6	14	0.1 U		63	2 U	2 U	3.3	0.1 U	
2/9/2021	XX	GW504XD9B	0.25 U	0.5 U	0.072	0.06	101	4	14	0.1 U		65	2 U	2 U	3.2	0.1 U	
4/7/2021	XX	GW504XDAA	0.25 U	0.5 U	0.05 U	0.06	92	4.5	6.3	0.1 U		64	2 U	2 U	1.1	0.1 U	
6/9/2021	XD	GWDP1XDG9	0.25 U	0.5 U	0.077	0.06	108	5	6.2	0.1 U		63	2 U	2 U	1.3	0.1 U	
6/9/2021	XX	GW504XDGD	0.25 U	0.5 U	0.091	0.05	112	25	6.2	0.1 U		63	2 U	2 U	1.3	0.1 U	
8/19/2021	XX	GW504XE47	0.2 U	0.5 U	0.08	0.07	97	6.3	5.8	0.1 U		62	2 U	2 U	1.4	0.1 U	
10/7/2021	XD	GWDP6XE9A	0.26	0.5 U	0.072		99	22	5.1	0.1 U		59	2 U		1.2	0.1 U	
10/7/2021	XX	GW504XE97	0.26	0.5 U	0.05 U		101	3.7	6.3	0.1 U		63	2 U		1.2	0.1 U	
4/27/2022	XD	GWDP6XF3F	0.2 U	0.5 U	0.081		88	27	4.7	0.1 U		56	1 U		1.1	0.1 U	
4/27/2022	XX	GW504XF3C	1.5	0.5 U	0.078		92	34	5.4	0.1 U		58	1 U		1.1	0.1 U	
7/21/2022	XX	GW504XFB6	!	!	!		!	!	!	!		!	!		!	!	
10/5/2022	XD	GWDP6XG1E	0.2 U	0.5 U	0.14		120	24	5.7	0.1 U		61	1 U		1.1	0.1 U	
10/5/2022	XX	GW504XG1B	1.8	0.5 U	0.22		15	110	5.4	0.2 U		58	1 U		1.2	0.1 U	
4/20/2023	XD	GWDP6XH15	0.2 U	0.5 U	0.082		79	4.5	6.5	0.1 U		60	1 U		1.3	0.1 U	
4/20/2023	XX	GW504XH12	0.2 U	0.5 U	0.09		77	26	6	0.1 U		59	1 U		1.3	0.1 U	
7/13/2023	XX	GW504X012	0.2 U	0.5 U	0.064		87	2.5 U	5.9	0.1 U		58	1 U		1.3	0.1 U	
10/5/2023	XD	GWDP6X08A	0.2 U	0.5 U	0.091		88	2.5 U	6.1	0.1 U		66	1 U		1.2	0.1 U	
10/5/2023	XX	GW504X087	0.2 U	0.5 U	0.091		88	2.5 U	6.4	0.1 U		66	1 U		1.2	0.1 U	
4/11/2024	XD	GWDP6X14J	0.2 U	0.5 U	0.073		96	8.3 U	6.9	0.1 U		65	1 U		1.3	0.1 U	
4/11/2024	XX	GW504X14G	0.2 U	0.5 U	0.078		103	8.3 U	7.6	0.1 U		64	1 U		1.3	0.1 U	
7/18/2024	XX	GW504X1G1	0.2 U	0.5 U	0.05 U		88	8.3 U	6.9	0.1 U		59	1 U		1.3	0.1 U	
10/10/2024	XD	GWDP6X21C	0.2 U	0.5 U	0.085		93	8.3 U	6.3	0.1 U		65	1 U		1.2	0.1 U	
10/10/2024	XX	GW504X219	0.2 U	0.5 U	0.069		91	8.3 U	7.1	0.1 U		64	1 U		1.2	0.1 U	
MW-505																	
2/10/2021	XX	GW505XD9C	0.25 U	0.5 U	0.057	0.04 U	237	4	55	0.1 U		110	3.5	4	22	0.1 U	
4/8/2021	XX	GW505XDAB	0.25 U	0.5 U	0.05 U	0.04 U	208	2.5 U	45	0.26		96	2.3	3	11	0.1 U	
6/9/2021	XX	GW505XDGE	0.25 U	0.5 U	0.062	0.04	174	2.5 U	37	0.25		88	2 U	3 *	6.5	0.1 U	
8/18/2021	XX	GW505XE48	0.29	0.5 U	0.05 U	0.05	198	2.5 U	48	0.61		92	2 U	3	12	0.1 U	
10/7/2021	XX	GW505XE98	0.2 U	0.5 U	0.065		202	2.7	47	0.35		94	2 U		11	0.1 U	
4/27/2022	XX	GW505XF3D	0.2 U	0.5 U	0.05 U		189	3	40	0.32		94	2.3		6	0.1 U	
7/21/2022	XX	GW505XFB7	0.2 U	0.5 U	0.05 U		160	2.5 U	35	0.17		90	1.5		4.2	0.1 U	
10/5/2022	XX	GW505XG1C	0.26	0.5 U	0.16		63	4 U	28	0.1 U		93	1.3		3.3	0.1 U	
4/20/2023	XX	GW505XH13	0.2 U	0.5 U	0.05 U		141	2.5 U	24	0.17		91	1.4		2.5	0.1 U	
7/13/2023	XX	GW505X013	0.2 U	0.5 U	0.067		136	2.5 U	22	0.16		92	1.2		2.3	0.1 U	
10/4/2023	XX	GW505X088	0.2 U	0.5 U	0.05 U		137	2.5 U	21	0.13		90	1.3		2.1	0.1 U	
4/11/2024	XX	GW505X14H	0.2 U	0.5 U	0.05 U		143	8.3 U	20	0.19		89	1.3		1.9	0.1 U	
7/18/2024	XX	GW505X1G2	0.2 U	0.5 U	0.05 U		146	8.3 U	36	0.28		82	1.8		2.5	0.1 U	
10/9/2024	XX	GW505X21A	0.2 U	0.5 U	0.05 U		136	8.3 U	21	0.19		87	1.5		2	0.1 U	

(MW-506)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
MW-506																	
2/18/2021	XX	GW506XD9D	0.25 U	0.5 U	0.057	0.06	802	20	340	0.1 U		120	25	21	57	0.5 U	
4/8/2021	XX	GW506XDAC	0.82	0.5 U	0.05 U	0.05	628	24	2 U	0.1 U		140	19	23	44	0.1 U	
6/8/2021	XX	GW506XDGF	F16	F16	F16	F16	F16	F16	F16	F16		F16	F16	F16	F16	F16	
7/14/2021	XX	GW506XE38	0.25 U	0.5 U	0.05 U	0.07	487	14	180	0.57		130	14	18	23	0.1 U	
9/1/2021	XX	GW506XE49	0.27	0.5 U	0.06	0.05	499	2.5 U	160	1.5		140	15	18	20	0.1 U	
10/7/2021	XX	GW506XE99	0.2 U	0.5 U	0.05 U		490	3	170	0.75		140	13		19	0.1 U	
4/27/2022	XX	GW506XF3E	0.61	0.5 U	0.057		410	130	130	1		140	11		14	0.3 U	
7/18/2022	XX	GW506XFB8	2.2	0.5 U	0.05 U		360	47	100	0.44		140	13		8.8	0.1 U	
10/5/2022	XX	GW506XG1D	3.8	0.5 U	0.17		270	61	110	0.23		140	5.7		7.1	0.1 U	
4/18/2023	XX	GW506XH14	0.92	0.5 U	0.27		235	75	53	0.18		130	8.6		6.1	0.1 U	
7/11/2023	XX	GW506X014	0.2 U	0.5 U	0.058		264	16	42	0.23		130	2.8		4.2	0.1 U	
10/4/2023	XX	GW506X089	0.27	0.5 U	0.05 U		193	6.3	33	0.25		130	3.9		4	0.1 U	
4/10/2024	XX	GW506X14I	!	!	!		!	!	!	!		!	!		!	!	
7/17/2024	XX	GW506X1G3	!	!	!		!	!	!	!		!	!		!	!	
10/9/2024	XX	GW506X21B	!	!	!		!	!	!	!		!	!		!	!	
MW-507																	
4/5/2018	XX	GW507XA6J	0.25 U	0.5 U	0.088	0.04 U	106	2.5 U	2 U	0.1 U		61	2 U	2 U	6.9	0.1 U	
6/5/2018	XX	GW507XA7G	0.25 U	0.5 U	0.079	0.04 U	161	2.5 U	3.4	0.1 U		69	2 U	1 U	25	0.1 U	
7/18/2018	XX	GW507XAEE	0.25 U		0.05 U		164	2.5 U	3.7			74	2 U	1 U	29	0.1 U	
8/20/2018	XX	GW507XAFF	0.25 U		0.05 U		177	2.5 U	4.3			85	2 U		28	0.1 U	
7/14/2021	XX	GW507XE24	0.25 U	0.5 U	0.065		236	2.5 U	3.4	0.1 U		84	2 U		43	0.1 U	
10/7/2021	XX	GW507XE8C	0.2 U	0.5 U	0.05 U		451	2.7	3.6	0.1 U		78	2 U		17	0.1 U	
4/27/2022	XX	GW507XF2I	0.24	0.5 U	0.051		69	4.7	3.1	0.1 U		47	1 U		1.2	0.1 U	
7/20/2022	XX	GW507XFAJ	0.2 U	0.5 U	0.061		190	2.5 U	2.9	0.1 U		86	1 U		37	0.1 U	
10/5/2022	XX	GW507XG0H	0.37	0.5 U	0.21		150	4 U	3.3	0.1 U		110	1 U		37	0.1 U	
4/19/2023	XX	GW507XH08	0.2 U	0.5 U	0.051		65	2.5	3.3	0.1 U		48	1 U		1.7	0.1 U	
7/13/2023	XX	GW507X00F	0.2 U	0.5 U	0.096		89	2.5 U	3.6	0.1 U		59	1 U		4	0.1 U	
10/5/2023	XX	GW507X07D	0.22	0.5 U	0.064		132	2.5 U	3.2	0.1 U		85	1 U		15	0.1 U	
4/10/2024	XX	GW507X142	0.2 U	0.5 U	0.05 U		139	8.3 U	3.4	0.1 U		75	1 U		14	0.1 U	
7/17/2024	XX	GW507X1FE	0.2 U	0.5 U	0.05 U		202	8.3 U	2.9	0.1 U		97	1 U		34	0.1 U	
10/8/2024	XX	GW507X20F	0.2 U	0.5 U	0.051		203	8.3 U	3.2	0.1 U		110	1 U		34	0.1 U	
MW-508																	
10/5/2022	XX	GW508XG2E	0.48	0.5 U	0.42		150	4 U	16	0.1 U		110	1 U		29	0.1 U	
1/24/2023	XX	GW508XGBF	F	F	F		F	F	F	F		F	F		F	F	
3/30/2023	XX	GW508XGH2	0.2 U	0.5 U	0.26		209	20	12	0.1 U		110	1 U		26	0.1 U	
4/19/2023	XX	GW508XH1H	0.2 U	0.5 U	0.23		202	3	12	0.1 U		110	1 U		24	0.1 U	
6/19/2023	XX	GW508XH5H	0.2 U	0.5 U	0.2		189	2.5 U	11	0.1 U		110	1 U		23	0.1 U	
7/13/2023	XX	GW508X01I	0.2 U	0.5 U	0.24		185	2.5 U	11	0.1 U		110	1 U		23	0.1 U	
10/4/2023	XD	GWDP5X07F	0.2 U	0.5 U	0.18		182	2.5 U	11	0.1 U		120	1 U		21	0.1 U	
10/4/2023	XX	GW508X090	0.2 U	0.5 U	0.18		179	2.5 U	11	0.1 U		110	1 U		19	0.1 U	
4/10/2024	XD	GWDP5X144	0.2 U	0.5 U	0.15		198	8.3 U	12	0.1 U		110	1 U		19	0.1 U	
4/10/2024	XX	GW508X157	0.2 U	0.5 U	0.16		194	8.3 U	12	0.1 U		110	1 U		22	0.1 U	
7/17/2024	XX	GW508X1GG	0.2 U	0.5 U	0.11		171	8.3 U	12	0.1 U		110	1 U		15	0.1 U	
10/10/2024	XD	GWDP5X20H	0.2 U	0.5 U	0.19		181	8.3 U	13	0.1 U		120	1 U		15	0.1 U	
10/10/2024	XX	GW508X220	0.2 U	0.5 U	0.15		178	8.3 U	14	0.1 U		120	1 U		14	0.1 U	
OW-06-03																	

(OW-06-03) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/10/2018	XX	GWXXXXA73	0.25 U	0.5 U	0.1	0.04 U	84	2.5 U	2.1	0.1 U		65	2	4	1.6	0.58	
6/5/2018	XX	GWXXXXA80	I	I	I	I	I	I	I	I		I	I	I	I	I	
7/19/2018	XX	GWXXXXAEI	I		I		I	I	I			I	I	I	I	I	
8/21/2018	XX	GWXXXXAFH	I		I		I	I	I			I	I		I	I	
7/18/2019	XX	GWXXXXBDJ	I		I		I	I	I		I		I		I	I	
7/20/2020	XX	GWXXXXCJC	I		I		I	I	I		I		I		I	I	
7/14/2021	XX	GWXXXXE17	8.4	6.7	0.05 U		491	16	12	5 U		270	68		6.3	0.51	
7/20/2022	XX	GWXXXXFA5	I	I	I		I	I	I	I		I	I		I	I	
7/12/2023	XX	GWXXXX001	D	D	D		D	D	D	D		D	D		D	D	
7/18/2024	XX	GWXXXX1EI	I	I	I		I	I	I	I		I	I		I	I	
OW-601A																	
4/11/2018	XX	GW601AA69	0.25 U	0.5 U	0.3	0.22	180	7100	2.1	0.1 U		120	2 U	1 U	16	0.17	
6/6/2018	XX	GW601AA76	0.25 U	0.5 U	0.18	0.1	198	230	6.1	0.1 U		120	2 U	1 U	24	0.13	
7/19/2018	XX	GW601AAE4	0.3		0.3		209	13	6.8			130	2 U	1 U	18	1.1	
8/22/2018	XX	GW601AAF5	0.25 U		0.19		212	2.5 U	7			130	2 U		27	0.15	
7/18/2019	XX	GW601ABB6	0.86		0.33		234	2.5 U	11		140		2 U		26	0.18	
7/22/2020	XX	GW601ACGJ	0.25 U		0.45		225	57	25		150		2 U		20	0.13	
7/12/2021	XX	GW601ADIH	0.25 U	0.5 U	0.41		244	2.5 U	6.7	0.1 U		160	42		22	0.19	
7/21/2022	XX	GW601AF7F	0.2 U	0.5 U	0.62		264	2.5 U	15	0.1 U		170	1 U		26	0.24	
7/12/2023	XX	GW601AH79	0.2 U	0.5 U	0.58		261	2.5 U	8.2	0.1 U		170	1 U		31	0.21	
7/18/2024	XX	GW601A1C9	0.2 U	0.5 U	0.26		171	8.3 U	12	0.1 U		120	1		12	0.1 U	
OW-601B																	
4/11/2018	XX	GW601BA6A	0.25 U	0.5 U	0.42	0.04 U	184	5.7	2 U	0.1 U		120	2 U	1 U	22	0.21	
6/6/2018	XX	GW601BA77	0.25 U	0.5 U	0.25	0.04 U	196	6.5	2.6	0.1 U		110	2 U	1 U	31	0.16	
7/19/2018	XX	GW601BAE5	0.25 U		0.58		224	2.5 U	3			98	2 U	1 U	41	0.21	
8/22/2018	XX	GW601BAF6	0.25 U		0.49		277	16	10 U			88	2 U		61	0.5 U	
7/18/2019	XX	GW601BBDF	0.25 U		0.51		213	3.3	3.1		120		2 U		26	0.2	
7/22/2020	XX	GW601BCJ8	0.25 U		0.23		263	2.5 U	4 U		92		2 U		44	0.24	
7/12/2021	XD	GWDP4XDJI	0.25 U	0.5 U	0.58		250	2.5 U	2.7	0.1 U		110	2 U		42	0.26	
7/12/2021	XX	GW601BE13	0.25 U	0.5 U	0.58		242	2.5 U	2.3	0.1 U		110	55		42	0.25	
7/21/2022	XD	GWDP4XF8G	0.2 U	0.5 U	0.67		232	2.5 U	2.9	0.1 U		110	1 U		45	0.27	
7/21/2022	XX	GW601BFA1	0.2 U	0.5 U	0.34		237	11	2.1	0.1 U		110	1 U		48	0.3	
7/12/2023	XD	GWDP4XH8A	0.2 U	0.5 U	0.7		232	2.5 U	2	0.1 U		120	1 U		40	0.21	
7/12/2023	XX	GW601BH9F	0.2 U	0.5 U	0.64		229	2.5 U	2.5	0.1 U		120	1 U		41	0.21	
7/18/2024	XD	GWDP4X1DA	0.2 U	0.5 U	0.55		214	8.3 U	2.3	0.1 U		120	1 U		39	0.18	
7/18/2024	XX	GW601B1ED	0.2 U	0.5 U	0.53		206	8.3 U	2.3	0.1 U		110	1 U		36	0.2	
OW-602A																	
4/11/2018	XX	GW602AA6B	0.25 U	0.5 U	0.05 U	0.04 U	59	2.5 U	3.9	0.1 U		44	2 U	1 U	2.3	0.1 U	
6/6/2018	XD	GWDP1XA75	0.25 U	0.5 U	0.56	0.04 U	102	2.5 U	4.4	0.1 U		48	2 U	1 U	11	0.1 U	
6/6/2018	XX	GW602AA78	0.25 U	0.5 U	0.13	0.04 U	93	2.5 U	4.6	0.1 U		49	2 U	1 U	12	0.1 U	
7/19/2018	XD	GWDP1XAE3	0.25 U		0.19		92	2.5 U	4.6			44	2 U	1 U	13	0.1 U	
7/19/2018	XX	GW602AAE6	0.3		0.15		97	2.5 U	4.5			44	2 U	1 U	13	0.1 U	
8/21/2018	XX	GW602AAF7	0.25 U		0.094		100	2.5 U	4.5			45	2 U		12	0.1 U	
7/18/2019	XX	GW602ABDG	0.72		0.26		77	2.5 U	2.8		43		2 U		5.6	0.1 U	
7/22/2020	XX	GW602ACJ9	0.25 U		0.064		108	2.5 U	2.9		56		2 U		11	0.1 U	
7/12/2021	XX	GW602AE14	0.25 U	0.5 U	0.9		165	2.5 U	2.4	0.1 U		110	36		16	0.17	
7/21/2022	XX	GW602AFA2	0.2 U	0.5 U	0.76		214	2.5 U	3.2	0.1 U		140	1 U		20	0.33	

(OW-602A) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/12/2023	XX	GW602AH9G	0.2 U	0.5 U	0.43		221	2.5 U	3.6	0.1 U		170	1.1		18	0.26	
7/18/2024	XX	GW602A1EE	0.2 U	0.5 U	0.4		231	8.3 U	5.9	0.1 U		170	1.1		17	0.33	
OW-603B																	
4/12/2018	XX	GW603BA6C	0.34	0.5 U	0.081	0.04 U	161	7	2.2	0.1 U		120	4	3	2.1	1.1	
6/5/2018	XX	GW603BA79	0.25 U	0.5 U	0.054	0.04 U	136	2.5 U	2.1	0.1 U		90	2 U	1 U	1.2	0.27	
7/19/2018	XX	GW603BAE7	1.2		0.11		103	1500	2.4			65	2 U	2	1.7	0.1 U	
8/21/2018	XX	GW603BAF8	0.25 U		0.099		99	28	2.4			58	2 U		2.5	0.1 U	
7/18/2019	XX	GW603BBDH	11		0.28		99	2.5 U	2.9		60		2 U		2	0.1 U	
7/22/2020	XX	GW603BCJA	I		I		I	I	I		I		I		I	I	
7/13/2021	XX	GW603BE15	D	D	D		D	D	D	D		D	D		D	D	
10/6/2021	XX	GW603BE7J	D	D	D		D	D	D	D		D	D		D	D	
7/21/2022	XX	GW603BFA3	D	D	D		D	D	D	D		D	D		D	D	
7/12/2023	XX	GW603BH9H	I	I	I		I	I	I	I		I	I		I	I	
4/2/2024	XX	GW603B13D	D	D	D		D	D	D	D		D	D		D	D	
7/18/2024	XX	GW603B1EF	D	D	D		D	D	D	D		D	D		D	D	
OW-604A																	
4/12/2018	XX	GW604AA6D	0.25 U	0.5 U	0.46	0.04 U	62	2.5 U	3.5	0.1 U		38	2 U	1 U	1.1	0.1 U	
6/4/2018	XX	GW604AA7A	0.25 U	0.5 U	0.18	0.04 U	63	2.5 U	2.5	0.1 U		36	2 U	1 U	1.7	0.1 U	
7/19/2018	XX	GW604AAE8	0.28		0.16		74	2.5 U	2.7			38	2 U	1 U	1.9	0.1 U	
8/21/2018	XX	GW604AAF9	0.25 U		0.24		101	2.5 U	2.6			58	2 U		1.8	0.1 U	
7/18/2019	XX	GW604ABDI	0.62		0.57		87	2.5 U	2.8		53		2 U		1.5	0.1 U	
7/21/2020	XX	GW604ACJB	0.25 U		0.78		116	2.5 U	3.3		69		2 U		4.7	0.1	
7/14/2021	XX	GW604AE16	0.25 U	0.5 U	2.4		145	3	2.4	0.1 U		84	2 U		6	0.1 U	
7/21/2022	XX	GW604AFA4	0.5	0.5 U	4		190	2.5	2.4	0.1 U		110	1 U		11	0.12	
7/12/2023	XX	GW604AH9I	0.2 U	0.5 U	3.2		216	2.5 U	6.9	0.1 U		140	1.7		12	0.1 U	
7/18/2024	XX	GW604A1EG	0.2 U	0.5 U	3.6		247	8.3 U	2.8	0.1 U		130	1 U		39	0.1 U	
OW-605A																	
4/10/2018	XX	GW605AA6E	0.25 U	0.5 U	0.11	0.04 U	91	2.5 U	2.9	0.1 U		56	2 U	1 U	9.4	0.1 U	
6/5/2018	XX	GW605AA7B	0.25 U	0.5 U	0.086	0.04 U	107	2.5 U	3.1	0.1 U		54	2 U	1 U	12	0.1 U	
7/19/2018	XX	GW605AAE9	0.25 U		0.12		106	2.5 U	3.4			53	2 U	1 U	11	0.1 U	
8/21/2018	XX	GW605AAFA	0.25 U		0.09		105	2.5 U	3			52	2 U		10	0.1 U	
7/14/2021	XD	GWDP6XE1J	0.25 U	0.5 U	0.21		137	2.5 U	2 U	0.1 U		93	2 U		13	0.11	
7/14/2021	XX	GW605AE25	0.25 U	0.5 U	0.23		142	3.7	2 U	0.1 U		95	2 U		13	0.1	
10/7/2021	XX	GW605AE8G	0.2 U	0.5 U	0.21		151	2.5 U	2 U	0.1 U		100	2 U		11	0.1 U	
7/21/2022	XD	GWDP6XFAE	0.2 U	0.5 U	0.13		59	40	2 U	0.1 U		28	1 U		13	0.1 U	
7/21/2022	XX	GW605AFB0	0.2 U	0.5 U	0.13		61	35	2 U	0.1 U		27	1 U		13	0.1 U	
7/12/2023	XD	GWDP7X00A	0.2 U	0.5 U	0.16		179	5	2 U	0.1 U		120	1 U		16	0.14	
7/12/2023	XX	GW605A00G	0.2 U	0.5 U	0.15		179	8	2 U	0.1 U		120	1 U		16	0.13	
7/18/2024	XD	GWDP7X1F9	0.2 U	0.5 U	0.05 U		166	14	2 U	0.5 U		110	1 U		17	0.1 U	
7/18/2024	XX	GW605A1FF	0.2 U	0.5 U	0.05 U		167	14	2 U	0.5 U		110	1 U		17	0.1	
OW-606A																	
4/3/2018	XX	GW606AA6F	0.25 U	0.5 U	0.33	0.04 U	195	2.5 U	36	0.1 U		91	2 U	1 U	36	0.1 U	
6/4/2018	XX	GW606AA7C	0.25 U	0.5 U	0.33	0.04 U	231	2.5 U	7.6	0.1 U		94	2 U	1 U	44	0.1 U	
7/19/2018	XX	GW606AAEA	0.25 U		0.49		234	2.5 U	8.2			96	2 U	1 U	44	0.1 U	
8/21/2018	XX	GW606AAFB	0.25 U		0.33		232	2.5 U	7.7			94	2 U		40	0.1 U	
7/14/2021	XX	GW606AE06	0.25 U	0.5 U	0.48		195	2.5 U	8.8	0.1 U		110	2 U		37	0.12	
10/7/2021	XX	GW606AE8H	0.2 U	0.5 U	0.3		211	16	8.3	0.1 U		110	2 U		37	0.1 U	

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
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(OW-606A) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/20/2022	XX	GW606AF94	0.2 U	0.5 U	0.26		204	2.5 U	8.3	0.1 U		110	1 U		36	0.13	
7/12/2023	XX	GW606AH8I	0.3	0.5 U	0.3		223	2.5 U	7.7	0.1 U		130	1 U		35	0.16	
7/17/2024	XX	GW606A1DH	0.2 U	0.5 U	0.25		235	8.3 U	7.7	0.1 U		150	1 U		35	0.2	
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	F	F	F	F	F		F	F	F	F	F	
4/8/2021	XX	GW606BDAD	0.27	0.5 U	0.05 U	0.11	286	880	33	0.22		120	2 U	2 U	18	0.12	
6/8/2021	XX	GW606BDGG	0.25 U	0.5 U	0.077	0.09	139	23	8.1	0.5 U		71	2 U	2 U	15	0.1 U	
7/14/2021	XX	GW606BE37	0.25 U	0.5 U	0.1	0.06	118	27	6.2	0.1 U		60	2 U	2 U	15	0.1 U	
8/18/2021	XX	GW606BE4A	0.33	0.5 U	0.12	0.06	128	6.3	6	0.1 U		64	2 U	1 U	15	0.11	
10/7/2021	XX	GW606BE8I	0.2 U	0.5 U	0.1		126	9.3	5.9	0.1 U		64	2 U		15	0.1 U	
7/20/2022	XX	GW606BFB9	0.2 U	0.5 U	0.11		175	150	5.3	0.1 U		72	1 U		14	0.1 U	
7/12/2023	XX	GW606B015	0.2 U	0.5 U	0.12		114	14	4.5	0.1 U		65	1 U		12	0.11	
7/17/2024	XX	GW606B1G4	0.2 U	0.5 U	0.053		123	8.3 U	4.3	0.1 U		67	1 U		15	0.1 U	
OW-607B																	
2/9/2021	XX	GW607BD9F	0.25 U	0.5 U	0.08	0.04	95	2.7	6	0.1 U		66	2 U	2 U	2.6	0.1 U	
4/7/2021	XX	GW607BDAE	0.25 U	0.5 U	0.05 U	0.04 U	89	2.5 U	3.3	0.1 U		67	2 U	2 U	1.3	0.1 U	
6/9/2021	XX	GW607BDGH	0.25 U	0.5 U	0.066	0.04 U	105	2.5 U	4.6	0.1 U		66	2 U	2 U	1.6	0.1 U	
8/19/2021	XX	GW607BE4B	0.2 U	0.5 U	0.07	0.04 U	98	2.5 U	4.1	0.1 U		64	2 U	2 U	1.5	0.1 U	
10/7/2021	XX	GW607BE8J	0.2 U	0.5 U	0.05 U		104	4.7	5.7	0.1 U		81	2 U		1.8	0.1 U	
7/20/2022	XX	GW607BFBA	0.2 U	0.5 U	0.088		111	32	4.3	0.1 U		38	1 U		1.3	0.1 U	
7/13/2023	XX	GW607B016	0.2 U	0.5 U	0.085		90	2.5 U	5	0.1 U		69	1 U		1.3	0.1 U	
7/18/2024	XX	GW607B1G5	0.2 U	0.5 U	0.05 U		97	8.3 U	6.6	0.1 U		71	1 U		1.4	0.1 U	
OW-608A																	
4/4/2018	XX	GW608AA6G	0.25 U	0.5 U	0.077	0.04 U	127	8	3.9	0.1 U		95	2 U	2 U	1.3	0.1 U	
6/4/2018	XX	GW608AA7D	0.25 U	0.5 U	0.053	0.04 U	126	13	6.7	0.1 U		92	2 U	1 U	1.4	0.1 U	
7/18/2018	XX	GW608AAEB	0.37		0.061		114	9	7.2			93	2 U	1 U	2.1	0.1 U	
8/20/2018	XX	GW608AAFC	0.25 U		0.05 U		105	15	5.9			72	2 U		4.1	0.1 U	
7/15/2021	XX	GW608AE26	0.25 U	0.5 U	0.054		118	2.5 U	5.8	0.1 U		95	2 U		1.2	0.1 U	
10/6/2021	XX	GW608AE90	0.2 U	0.5 U	0.05 U		95	3.7	2 U	0.1 U		73	2 U		2.5	0.1 U	
7/20/2022	XX	GW608AFB1	0.2 U	0.5 U	0.05 U		132	11	6	0.1 U		130	1 U		1.9	0.1 U	
8/2/2023	XX	GW608A00H	0.2 U	0.5 U	0.05 U		122	7	5.2	0.1 U		94	1 U		1.5	0.1 U	
7/17/2024	XX	GW608A1FG	0.2 U	0.5 U	0.05 U		54	8.3 U	2 U	0.1 U		53	1 U		3.1	0.1 U	
OW-608B																	
2/10/2021	XX	GW608BD9G	0.25 U	0.5 U	0.066	0.08	223	31	29	0.5 U		110	2 U	2 U	6	0.1 U	
4/8/2021	XD	GWDP1XDA6	0.25 U	0.5 U	0.05 U	0.06	177	3.5	32	0.1 U		100	2 U	2 U	3.7	0.1 U	
4/8/2021	XX	GW608BDAF	0.25 U	0.5 U	0.05 U	0.06	188	3.5	41	0.1 U		99	2 U	2 U	4.8	0.1 U	
6/8/2021	XX	GW608BDGI	0.25 U	0.5 U	0.06	0.06	175	2.5 U	39	0.1 U		99	2 U	2 U	3.1	0.1 U	
8/17/2021	XD	GWDP1XE43	0.21	0.5 U	0.05 U	0.07	142	5	20	0.1 U		95	2 U	2 U	1.9	0.1 U	
8/17/2021	XX	GW608BE4C	0.22	0.5 U	0.05 U	0.07	142	2.5 U	21	0.1 U		97	2 U	2 U	1.9	0.1 U	
10/6/2021	XX	GW608BE91	0.2 U	0.5 U	0.05 U		163	2.7	38	0.1 U		100	2 U		2.6	0.1 U	
7/20/2022	XX	GW608BFBB	0.2 U	0.5 U	0.05 U		156	2.5 U	25	0.1 U		98	1 U		2	0.1 U	
7/13/2023	XX	GW608B017	0.2 U	0.5 U	0.06		120	2.5 U	8.6	0.1 U		100	1 U		1.4	0.1 U	
7/17/2024	XX	GW608B1G6	0.56	0.5 U	0.22		150	26	8.1	0.1 U		100	4.8		3.5	0.1 U	
OW-609B																	
2/10/2021	XX	GW609BD9H	0.25 U	0.5 U	0.065	0.04 U	543	3.7	44	0.1 U		72	2 U	2 U	51	0.1 U	
4/8/2021	XX	GW609BDAG	0.49	0.5 U	0.05 U	0.07	246	15	21	0.1 U		71	5.5	2 U	35	0.1 U	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-609B) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
6/8/2021	XX	GW609BDGJ	0.25 U	0.5 U	0.068	0.04	337	4.3	97	0.1 U		110	3.2	2	36	0.1 U	
8/17/2021	XX	GW609BE4D	0.25	0.5 U	0.05 U	0.07	309	7	77	0.1 U		120	2.8	3	31	0.1 U	
10/7/2021	XX	GW609BE92	0.2 U	0.5 U	0.05 U		271	8.3	56	0.1 U		120	2 U		34	0.1 U	
7/18/2022	XX	GW609BFBC	0.84	0.5 U	0.05 U		209	5.5	39	0.1 U		110	1.5		23	0.1 U	
7/11/2023	XX	GW609B018	0.2 U	0.5 U	0.5 U		219	3	27	0.1 U		94	1.7		13	0.1 U	
7/17/2024	XX	GW609B1G7	0.2 U	0.5 U	0.05 U		222	8.3 U	25	0.1 U		98	1.5		49	0.1 U	
OW-610A																	
10/5/2022	XX	GW610AG2F	0.27	0.5 U	0.13		210	4 U	2 U	0.1 U		180	2.1		25	0.1 U	
1/24/2023	XX	GW610AGBG	0.21	0.5 U	0.073		286	2.5 U	2.9	0.1 U		200	2.2		28	0.1 U	
4/19/2023	XX	GW610AH1I	0.2 U	0.5 U	0.05 U		265	2.5 U	2.9	0.1 U		180	1.7		27	0.1 U	
6/19/2023	XX	GW610AH61	0.2 U	0.5 U	0.05 U		242	2.5 U	2.9	0.1 U		160	1.6		25	0.1 U	
7/13/2023	XX	GW610A01H	0.2 U	0.5 U	0.073		237	2.5 U	3.1	0.1 U		150	1.6		27	0.1 U	
7/17/2024	XX	GW610A1GF	0.2 U	0.5 U	0.05 U		275	8.3 U	2.2	0.1 U		190	2.1		23	0.13	
OW-611A																	
4/4/2018	XX	GW611AA6H	0.25 U	0.5 U	0.48	0.04 U	256	2.5 U	40	0.1 U		130	2 U	2 U	31	0.1 U	
6/5/2018	XX	GW611AA7E	0.25 U	0.5 U	0.44	0.04 U	257	2.5 U	15	0.1 U		120	2 U	1 U	39	0.1 U	
7/18/2018	XX	GW611AAEC	0.28		0.46		249	2.5 U	13			120	2 U	1 U	42	0.1 U	
8/20/2018	XX	GW611AAFD	0.25 U		0.33		233	2.5 U	13			110	2 U		41	0.1 U	
7/14/2021	XX	GW611AE27	0.25 U	0.5 U	0.51		287	2.5 U	17	0.1 U		130	2 U		48	0.1 U	
10/7/2021	XX	GW611AE93	0.2 U	0.5 U	0.55		301	2.5 U	18	0.1 U		140	2 U		48	0.1 U	
7/20/2022	XX	GW611AFB2	0.32	0.5 U	0.85		277	2.5 U	17	0.1 U		140	1 U		44	0.1 U	
7/13/2023	XX	GW611A00I	0.2 U	0.5 U	1.1		289	2.5 U	19	0.1 U		150	1 U		48	0.1	
7/17/2024	XX	GW611A1FH	0.2 U	0.5 U	0.89		278	8.3 U	19	0.1 U		160	1.7		38	0.1 U	
P-04-02 & P-04-02R																	
7/15/2015	XX	GWXXXX7DJ	0.5 U		2 U		188	26	32.4		82		2 U		15.4	0.1 U	
10/28/2015	XX	GWXXXX7J4	0.5 U		0.5 U		442	5	147		106		2 U		42.5	0.1 U	
4/6/2016	XX	GWXXXX87I	0.5		0.05 U		325	4 U	114		112		2 U		15.4	0.1 U	
7/27/2016	XX	GWXXXX8C7	0.5 U		0.05		456	4 U	158		129		2 U		15.8	0.4 U	
10/26/2016	XX	GWXXXX904	0.5		0.05 U		394	4 U	146		121		32.5		13	0.4 U	
4/19/2017	XX	GWXXXX98C	0.5 U		0.05		412	10	120		150		2 U		9.6	0.2 U	
7/26/2017	XX	GWXXXX9E8	0.5 U		0.06		357	2.5 U	120		140		2 U		7.4	0.2 U	
10/25/2017	XX	GWXXXX9I3	0.25 U		0.08		331	2.5 U	110		120		2 U		5	0.1 U	
4/4/2018	XX	GWXXXXA44	0.25 U		0.14		281	3.3	45		140		2 U		3	0.1 U	
7/18/2018	XX	GWXXXXAD3	0.25 U		0.15		267	2.5 U	70		140		2 U		4	0.1 U	
10/3/2018	XX	GWXXXXB21	0.25 U		0.094		254	2.5 U	69		130		2 U		3	0.1 U	
4/22/2019	XX	GWXXXXB70	0.25 U		0.088		233	2.5 U	57		130		2 U		1.9	0.1 U	
7/17/2019	XX	GWXXXXBDA	0.25 U		0.097		260	2.5 U	57		150		2 U		2.4	0.1 U	
10/30/2019	XX	GWXXXXBJ2	0.25 U		0.1		215	2.5 U	9		140		2 U		6.2	0.1 U	
4/29/2020	XX	GWXXXXCEA	0.25 U		0.092		236	2.5 U	45		170		2 U		2.8	0.1 U	
7/22/2020	XX	GWXXXXCJ3	0.25 U		0.05 U		213	2.5 U	39		150		2 U		2.1	0.1 U	
10/28/2020	XX	GWXXXXD46	0.25 U		0.05 U		195	2.5 U	34		140		15 M10		1.7	0.1 U	
4/7/2021	XX	GWXXXXDD9	0.25 U		0.05 U		206	2.5 U	31		140		2 U		1.8	0.1 U	
7/12/2021	XX	GWXXXXE10	0.25 U		0.1		196	2.5 U	29		140		29		1.6	0.1 U	
10/6/2021	XX	GWXXXXE77	0.36		0.056		193	6	31		140		2 U		1.6	0.1 U	
4/26/2022	XX	GWXXXXF1I	0.5		0.15		202	12	22		140		1 U		1.5	0.1 U	
7/19/2022	XX	GWXXXXF9I	0.2 U		0.087		202	2.5 U	23		140		1 U		1.5	0.1 U	
10/4/2022	XX	GWXXXXFJH	0.22		0.18		210	12	11		120		1.4		1 U	0.1 U	

(P-04-02 & P-04-02R)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
4/17/2023	XX	GWXXXXGJ8	0.5 U		0.15		114	5	8.2		89		3		1 U	0.1 U	
7/10/2023	XX	GWXXXXH9C	0.2 U		0.15		170	11	12		110		2		1.2	0.1 U	
10/2/2023	XX	GWXXXX06G	0.2 U		0.11		153	43	15		120		1.4		1.4	0.1 U	
4/1/2024	XX	GWXXXX135	0.2 U		0.58		121	8.3 U	9.1		87		2.3		1.6	0.1 U	
7/15/2024	XX	GWXXXX1EA	0.2 U		0.4		136	8.3 U	13		110		1.6		1.7	0.1 U	
10/7/2024	XX	GWXXXX1JI	0.2 U		0.072		149	8.3 U	14		110		1.2		1.6	0.1 U	
P-04-04																	
4/29/2015	XX	GWXXXX79B	0.5 U		0.5 U		105	4 U	9.2		79		2 U		2	0.1 U	
7/15/2015	XX	GWXXXX7D3	0.5 U		2 U		108	4 U	8.9		78		2 U		2.1	0.1 U	
10/28/2015	XX	GWXXXX7IC	0.5 U		0.5 U		111	4 U	8.9		76		2 U		2.6	0.1 U	
4/6/2016	XX	GWXXXX872	0.5 U		0.05 U		115	4 U	9.4		80		2 U		2.2	0.1 U	
7/27/2016	XX	GWXXXX8BC	0.9		0.05 U		113	4 U	8.1		77		2 U		2.2	0.2 U	
10/26/2016	XX	GWXXXX8JB	0.5 U		0.1		119	4 U	8.8		78		2 U		2.7	0.2 U	
4/19/2017	XX	GWXXXX97H	0.5 U		0.05		112	2.5 U	5.3		81		2 U		2.8	0.2 U	
7/26/2017	XX	GWXXXX9DF	0.5 U		0.09		109	2.5 U	9.4		77		2 U		3.4	0.2 U	
10/25/2017	XX	GWXXXX9HA	0.25 U		0.11		125	2.5 U	8.7		73		2 U		3.1	0.1 U	
4/4/2018	XX	GWXXXXA39	0.25 U		0.16		111	2.5 U	4.1		80		2 U		3.3	0.1 U	
7/18/2018	XX	GWXXXXACA	0.28		0.13		112	2.5 U	7.8		77		2 U		4	0.1 U	
10/3/2018	XX	GWXXXXB18	0.25 U		0.11		118	2.5 U	8.5		78		2 U		4.5	0.1 U	
4/22/2019	XX	GWXXXXB65	0.27		0.13		118	2.5 U	9.7		76		2 U		4.3	0.1 U	
7/17/2019	XX	GWXXXXBCG	0.25 U		0.13		115	2.5 U	9.1		81		2 U		5.6	0.1 U	
10/30/2019	XX	GWXXXXBI9	0.25 U		0.14		114	2.5 U	8.8		78		2 U		5.9	0.1 U	
4/29/2020	XX	GWXXXXCDG	0.41		0.14		105	2.5 U	9.4		81		2 U		7.2	0.1 U	
7/22/2020	XX	GWXXXXCI9	0.25 U		0.05 U		115	2.5 U	8.8		77		2 U		7.4	0.1 U	
10/28/2020	XX	GWXXXXD3D	0.25 U		0.092		109	2.5 U	7.8		77		3.7 M10		7.5	0.1 U	
4/7/2021	XX	GWXXXXDCF	0.25 U		0.097		128	2.5 U	7.3		79		2 U		8.4	0.1 U	
7/12/2021	XX	GWXXXXE07	0.25 U		0.17		121	2.5 U	7.8		78		18		9.2	0.1 U	
10/6/2021	XX	GWXXXXE6F	0.2 U		0.14		131	3.3	8.3		77		2 U		9.7	0.1 U	
4/26/2022	XX	GWXXXXF17	0.46		0.14		136	2.5 U	7.5		77		1 U		10	0.1 U	
7/19/2022	XX	GWXXXXF95	0.54		0.1		134	2.5 U	9		83		1 U		11	0.1 U	
10/4/2022	XX	GWXXXXFJ6	0.2 U		0.22		160	4 U	8.4		77		1 U		11	0.1 U	
4/17/2023	XX	GWXXXXGIH	0.5 U		0.16		115	2.5 U	8.9		77		1 U		12	0.1 U	
7/10/2023	XX	GWXXXXH8J	0.2 U		0.2		147	2.5 U	8.4		75		1 U		13	0.1	
10/2/2023	XX	GWXXXX066	0.2 U		0.17		120	2.5 U	7.8		80		1 U		14	0.11	
4/1/2024	XX	GWXXXX12G	0.2 U		0.19		122	8.3 U	11		73		1 U		18	0.1 U	
7/15/2024	XX	GWXXXX1DI	0.2 U		0.22		122	8.3 U	8.5		73		1 U		15	0.1 U	
10/7/2024	XX	GWXXXX1J9	0.2 U		0.12		132	8.3 U	7.5		78		1 U		14	0.11	
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	0.2 U	0.5 U	0.21			4 U	9.4	0.1 U		96	1 U		27	0.1 U	
10/3/2022	XX	GWXXXXG2GRR					130 H										
1/24/2023	XX	GWX07AGBD	F	F	F		F	F	F	F		F	F		F	F	
3/30/2023	XD	GWDP1XGGJ	0.2 U	0.5 U	0.49		308	7	21	0.1 U		150	1 U		63	0.1 U	
3/30/2023	XX	GWX07AGH0	0.2 U	0.5 U	0.13		195	5.5	8.4	0.1 U		93	1 U		26	0.1 U	
4/19/2023	XD	GWDP5XH0A	0.2 U	0.5 U	0.13		154	2.5 U	8.3	0.1 U		88	1 U		25	0.1 U	
4/19/2023	XX	GWXXXXH1J	0.2 U	0.5 U	0.13		173	2.5	8.6	0.1 U		89	1 U		25	0.1 U	
6/19/2023	XD	GWDP1XH5E	0.2 U	0.5 U	0.16		169	2.5 U	8.2	0.1 U		93	1 U		22	0.1 U	
6/19/2023	XX	GWX07AH5F	0.2 U	0.5 U	0.16		164	3.5	8.3	0.1 U		90	1 U		22	0.1 U	
7/13/2023	XD	GWDP6X021	0.2 U	0.5 U	0.16		166	2.5 U	8.3	0.1 U		89	1 U		22	0.1 U	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-07A) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
7/13/2023	XX	GWX07A01J	0.2 U	0.5 U	0.17		160	2.5 U	8.6	0.1 U		91	1 U		23	0.1 U	
7/17/2024	XD	GWDP6X1GJ	0.2 U	0.5 U	0.072		160	8.3 U	9.2	0.1 U		100	1 U		14	0.1 U	
7/17/2024	XX	GWX07A1GH	0.2 U	0.5 U	0.059		158	8.3 U	9.5	0.1 U		99	1 U		19	0.1 U	
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	0.55	0.5 U	0.58			7.6	19	0.1 U		140	1 U		59	0.2 U	
10/3/2022	XX	GWXXXXG2HRR					290 H										
1/24/2023	XX	GWX07BGBE	F	F	F		F	F	F	F		F	F		F	F	
3/30/2023	XX	GWX07BGH1	0.24	0.5 U	0.45		328	7	23	0.1 U		160	1 U		63	0.1 U	
4/19/2023	XX	GWXXXXH20	0.2 U	0.5 U	0.48		327	2.5 U	20	0.1 U		150	1 U		63	0.1 U	
6/19/2023	XX	GWX07BH5G	0.2 U	0.5 U	0.47		322	2.5 U	20	0.1 U		150	1 U		60	0.1 U	
7/13/2023	XX	GWX07B020	0.2 U	0.5 U	0.47		325	2.5 U	21	0.1 U		150	1 U		63	0.1 U	
7/17/2024	XX	GWX07B1GI	0.2 U	0.5 U	0.12		320	8.3 U	29	0.1 U		180	1 U		57	0.1 U	
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	0.25 U	0.5 U	0.19	0.12	105	7	4.6	0.1 U		75	2 U	2 U	2.2	0.1 U	
4/8/2021	XX	GWXXXXDAH	0.25 U	0.5 U	0.17	0.12	102	2.5 U	4.3	0.1 U		68	2 U	2 U	1.7	0.1 U	
6/9/2021	XX	GWXXXXDH0	0.25 U	0.5 U	0.34	0.1	106	2.5 U	4.2	0.1 U		67	2 U	2	1.6	0.1 U	
8/18/2021	XX	GWXXXXE4E	0.55	0.5 U	0.19	0.13	120	2.5 U	5	0.1 U		69	2 U	1 U	1.9	0.1 U	
10/6/2021	XX	GWX11AE94	0.2 U	0.5 U	0.17		97	2.5 U	4.5	0.1 U		69	2 U		1.6	0.1 U	
4/27/2022	XX	GWX11AF39	6.1	0.5 U	0.17		95	6.3	3.8	0.1 U		63	1 U		1.5	0.1 U	
7/21/2022	XX	GWXXXXFBE	0.2 U	0.5 U	0.1		95	65	4.2	0.1 U		59	1 U		2.3	0.1 U	
7/12/2023	XX	GWXXXX01A	0.2 U	0.5 U	0.28		88	2.5 U	3.5	0.1 U		61	1 U		1.9	0.1 U	
7/18/2024	XX	GWXXXX1G9	0.2 U	0.5 U	0.05 U		88	8.3 U	3.5	0.1 U		78	1 U		2.4	0.1 U	
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	0.25 U	0.5 U	0.085	0.05	62	47	3.6	0.1 U		13	2 U	2 U	4.9	0.1 U	
4/8/2021	XX	GWXXXXDAI	0.25 U	0.5 U	0.05 U	0.04	62	19	3.2	0.1 U		12	2 U	2 U	4.7	0.1 U	
6/9/2021	XX	GWXXXXDH1	0.25 U	0.5 U	0.059	0.04	67	17	2.9	0.1 U		11	2 U	2 U	4.9	0.1 U	
8/18/2021	XX	GWXXXXE4F	0.24	0.5 U	0.05 U	0.04 U	63	43	3.3	0.1 U		12	2 U	1 U	6	0.1 U	
10/6/2021	XX	GWX11BE95	0.31	0.5 U	0.05 U		52	16	3.1	0.1 U		11	2 U		7.5	0.1 U	
4/27/2022	XX	GWX11BF3A	0.2 U	0.5 U	0.096		62	40	2	0.1 U		7.9	1 U		8.9	0.1 U	
7/21/2022	XX	GWXXXXFBF	D	D	D		D	D	D	D		D	D		D	D	
7/12/2023	XX	GWXXXX01B	0.2 U	0.5 U	0.061		50	37	3.3	0.1 U		11	1 U		5.1	0.1 U	
7/18/2024	XX	GWXXXX1GA	0.34	0.5 U	0.05 U		48	8.3 U	2.3	0.1 U		13	1 U		6.4	0.1 U	
P-206A																	
4/27/2015	XX	GW206A79A			0.5 U				4.8						5.5		
7/13/2015	XX	GW206A7D2			0.5 U				2 U						7.9		
10/26/2015	XX	GW206A7IB			0.7				2 U						8.5		
4/4/2016	XX	GW206A871			0.05 U				2 U						10.2		
4/26/2016	XX	GW206AHBC	0.5 U				95	57			63		2 U			0.1 U	
7/25/2016	XX	GW206A8BB	0.6		0.05 U		103	20	2 U		63		2 U		12.5	0.2 U	
10/24/2016	XX	GW206A8JA	0.5		0.05 U		108	11	2.2		61		2 U		15.7	0.2 U	
4/17/2017	XX	GW206A97G	0.5 U		0.05 U		118	35	2 U		69		2 U		20	0.2 U	
7/24/2017	XX	GW206A9DE	0.5 U		0.05 U		120	5 U	2.2		70		2 U		21	0.2 U	
10/23/2017	XX	GW206A9H9	0.25 U		0.05 U		120	6	2.7		65		2 U		20	0.1 U	
4/2/2018	XX	GW206AA38	0.25 U		0.063		123	2.5 U	2 U		71		2 U		19	0.1 U	
7/16/2018	XX	GW206AAC9	0.31		0.064		130	2.5 U	2.8		74		2 U		24	0.1 U	
10/1/2018	XX	GW206AB17	0.29		0.05 U		131	4.7	2.2		75		2 U		21	0.1 U	
4/22/2019	XX	GW206AB64	0.25 U		0.05 U		124	4.3	2 U		74		2 U		19	0.1 U	

(P-206A)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
7/17/2019	XX	GW206ABCF	0.3		0.05 U		136	7.7	2.4		79		2 U		22	0.1 U	
10/28/2019	XX	GW206ABI8	0.25 U		0.067		135	18	3.1		78		2 U		21	0.1	
4/27/2020	XX	GW206ACDF	0.25 U		0.088		135	15	2.1		78		2 U		20	0.1 U	
7/20/2020	XX	GW206ACI8	0.25 U		0.05 U		134	2.5 U	3.4		83		2 U		22	0.1 U	
10/26/2020	XX	GW206AD3C	A		A		A	A	A		A		A		A	A	
4/5/2021	XX	GW206ADCE	0.25 U		0.093		147	17	3.2		88		2 U		20	0.11	
7/14/2021	XX	GW206AE22	0.25 U	0.5 U	0.34		127	5	2.4	0.1 U		66	2 U		23	0.1	
10/4/2021	XX	GW206AE6E	0.32		0.58		149	2.5 U	3.2		81		2 U		23	0.1 U	
4/25/2022	XX	GW206AF16	0.44		0.33		139	5.3	2.8		73		1 U		20	0.1 U	
7/18/2022	XX	GW206AFAH	0.2 U	0.5 U	0.15		158	2.5 U	4.6	0.1 U		80	1 U		21	0.1 U	
10/3/2022	XX	GW206AFJ5	0.2 U		0.24			4 U	3.5		87		1 U		21	0.1 U	
10/3/2022	XX	GW206AFJ5RR					120 H										
4/17/2023	XX	GW206AGIG	0.5 U		0.42		130	3	3.9		77		1.6		20	0.1 U	
7/10/2023	XX	GW206A00D	0.2 U	0.5 U	0.38		169	2.5 U	5.4	0.1 U		75	1 U		22	0.1 U	
10/2/2023	XX	GW206A065	0.2 U	0.5 U	0.22		145	2.5 U	5.3	0.1 U		86	1 U		22	0.1 U	
4/1/2024	XX	GW206A12F	0.2 U	0.5 U	0.39		133	8.3 U	5.4	0.1 U		66	1 U		27	0.1 U	
7/15/2024	XX	GW206A1FC	0.2 U	0.5 U	0.4		129	8.3 U	6.9	0.1 U		64	1 U		26	0.1 U	
10/7/2024	XX	GW206A1J8	0.2 U	0.5 U	0.3		154	8.3 U	7.2	0.1 U		74	1 U		24	0.1 U	
PWS10-1																	
4/27/2015	XX	GWPWS1788			0.5 U	0.04 U	182	4 U	4.3		109		5.5		19.4	0.1 U	
7/13/2015	XX	GWPWS17C0			2 U	0.52	156	156	2 U		76		12.5		8.4	0.1 U	
10/26/2015	XX	GWPWS17H9			0.5 U	0.06	89	8	2.4		31		10.3		8.7	0.1 U	
4/4/2016	XX	GWPWS185J			0.05 U	0.04	166	166	2.5		102		5.6		14.7	0.1 U	
7/25/2016	XX	GWPWS18A9			0.05 U	0.19	122	21	2 U		50		13.8		3.1	0.2 U	
10/24/2016	XX	GWPWS18I8			0.05 U	0.07	195	19	3.3		125		7.5		7.9	0.2 U	
4/17/2017	XX	GWPWS196E			0.05 U	0.04 U	97	2.5 U	4		35		7.6		11	0.2 U	
7/24/2017	XX	GWPWS19CC			0.05 U	0.04	150	110	3.4		130		5		7.3	0.2 U	
10/25/2017	XX	GWPWS19G7			0.05 U	0.14	156	17	8.5		72		5.4		5.4	0.1 U	
4/2/2018	XX	GWPWS1A25			0.27	0.04 U	106	2.5 U	4.5		56		3.8		8.2	0.1 U	
7/16/2018	XX	GWPWS1AB7			0.076	0.13	132	16	2 U		77		12		5.1	0.1 U	
10/1/2018	XX	GWPWS1B05			0.062	0.06	100	9.7	15		40		10		6	0.1 U	
4/22/2019	XX	GWPWS1B51			0.14	0.04 U	141	16	6.4		67		10		8.7	0.1 U	
7/15/2019	XX	GWPWS1BBE			0.16	0.08	105	24	2 U		38		21		8.4	0.1 U	
10/28/2019	XX	GWPWS1BH7			0.057	0.04 U	134	11	9.9		69		9.4		8.7	0.1 U	
4/27/2020	XX	GWPWS1CCE			0.073	0.04 U	180	11	8.9		99		8.6		13	0.1 U	
7/20/2020	XX	GWPWS1CH7			0.05 U	0.09	191	14	2 U		81		30		12	0.1 U	
10/26/2020	XX	GWPWS1D2B			0.05 U	0.04	172	21	9		95		28 M10		9.6	0.1 U	
4/5/2021	XX	GWPWS1DBD			0.05 U	0.22	176	75	2.9		89		24		9.2	0.11	
7/12/2021	XX	GWPWS1DJ5			0.05 U	0.1	104	12	8.2		27		35		2.4	0.1 U	
10/4/2021	XX	GWPWS1E5D			0.05 U	0.18	192	81	3		120		35		7.2	0.1 U	
4/25/2022	XX	GWPWS1F05			0.05 U	0.23	184	83	2.1		81		24		5.5	0.1 U	
7/18/2022	XX	GWPWS1F83			0.05 U	0.09	121	6	2 U		38		20		10	0.1 U	
10/3/2022	XX	GWPWS1FI4			0.05 U	0.07		14	4.7		81		17		5.1	0.1 U	
10/3/2022	XX	GWPWS1FI4RR					110 H										
4/17/2023	XX	GWPWS1GHF			0.05 U	0.05	116	12	9.6		83		2.5		3.9	0.1 U	
7/10/2023	XX	GWPWS1H7H			0.1	0.09	160	27	2 U		62		27		6.5	0.1 U	
10/2/2023	XX	GWPWS1055			0.14	0.81	141	240	4.9		100		27		5.9	0.1	
4/1/2024	XX	GWPWS111F			0.085	0.04 U	87	19	7.5		54		5		2.8	0.1 U	
7/15/2024	XX	PWPWS11CH			0.076	0.23	181	77	30		120		13		3.4	0.1 U	

(PWS10-1)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
10/7/2024	XX	PWPWS11I8			0.05 U	0.041	142	21	3.1		93		14		5.7	0.1 U	
PWS10-2																	
4/27/2015	XX	GWPWS2789			0.5 U	0.05	91	6	2.5		39		9.9		5.8	0.1 U	
7/13/2015	XX	GWPWS27C1			2 U	0.09	94	327	2.2		31		11.9		6.4	0.1 U	
10/26/2015	XX	GWPWS27HA			0.5 U	0.04 U	62	4 U	5.2		27		2.6		5	0.1 U	
4/4/2016	XX	GWPWS2860			0.08	0.08	81	12	6.3		38		4		8.5	0.1 U	
7/25/2016	XX	GWPWS28AA			0.05 U	0.06	103	4 U	2 U		47		12.6		3	0.2 U	
10/24/2016	XX	GWPWS28I9			0.05	0.22	89	82	7.4		35		9		5.4	0.2 U	
4/17/2017	XX	GWPWS296F			0.08	0.04 U	81	7	3.1		37		7		4.9	0.2 U	
7/24/2017	XX	GWPWS29CD			0.05 U	0.04 U	87	5	4		64		7.4		5.4	0.2 U	
10/24/2017	XX	GWPWS29G8			D	D	D	D	D		D		D		D	D	
4/2/2018	XX	GWPWS2A26			0.17	0.06	56	44	2.6		24		2.8		3.2	0.1 U	
7/16/2018	XX	GWPWS2AB8			0.05	0.04	98	2.5 U	3		53		11		3.9	0.1 U	
10/1/2018	XX	GWPWS2B06			0.087	0.04	86	3.7	9.7		38		8.3		4.2	0.1 U	
4/22/2019	XX	GWPWS2B52			0.05 U	0.04 U	79	2.5 U	12		13		7.5		8.3	0.1 U	
7/15/2019	XX	GWPWS2BBF			0.11	0.06	106	4	2 U		34		24		8.5	0.1 U	
10/28/2019	XX	GWPWS2BH8			0.064	0.04	76	19	15		14		6.4		6.8	0.1 U	
4/27/2020	XX	GWPWS2CCF			0.099	0.04	107	44	19		21		6.2		17	0.1 U	
7/20/2020	XX	GWPWS2CH8			0.05 U	0.06	99	2.5 U	8.6		42		13		13	0.1 U	
10/26/2020	XX	GWPWS2D2C			0.05 U	0.05	101	20	12		29		19 M10		8.6	0.1 U	
4/5/2021	XX	GWPWS2DBE			0.05 U	0.08	74	34	7.8		16		7.5		8.3	0.1 U	
7/12/2021	XX	GWPWS2DJ6			0.05 U	0.06	80	5	2 U		22		26		2.8	0.1 U	
10/4/2021	XX	GWPWS2E5E			0.05 U	0.05	103	31	3		21		23		6.2	0.1 U	
4/25/2022	XX	GWPWS2F06			0.05 U	0.04 U	79	2.5 U	3.2		16		10		13	0.1 U	
7/18/2022	XX	GWPWS2F84			0.05 U	0.18	105	3	2 U		23		20		9.5	0.1 U	
10/3/2022	XX	GWPWS2FI5			0.05	0.04 U		7.2	4.1		27		14		4	0.1 U	
10/3/2022	XX	GWPWS2FI5RR					47 H										
4/17/2023	XX	GWPWS2GHG			0.05 U	0.04	51	7.5	3		21		7.3		10	0.1 U	
7/10/2023	XX	GWPWS2H7I			0.071	0.11	116	24	2 U		39		22		6.9	0.1 U	
10/2/2023	XX	GWPWS2056			0.052	0.11	81	240	2 U		31		26		4.4	0.1 U	
4/1/2024	XX	GWPWS211G			0.05 U	0.04 U	51	11	2.7		8.2		5.7		5.6	0.1 U	
7/15/2024	XX	PWPWS21CI			0.086	0.04 U	93	9.3	6.9		69		6.7		1.4	0.1 U	
10/7/2024	XX	PWPWS21I9			0.05 U	0.067	102	39	6.8		47		16		4.5	0.1 U	
PWS10-3																	
4/27/2015	XX	GWPWS378A			0.5 U	0.09	68	58	7.4		10.4		8.7		5.3	0.1 U	
7/13/2015	XX	GWPWS37C2			2 U	0.11	87	14	2 U		26		11.9		6.6	0.1 U	
10/26/2015	XX	GWPWS37HB			0.5 U	0.05	91	9	10.2		25		12.3		2.4	0.1 U	
4/4/2016	XX	GWPWS3861			0.05 U	0.04	98	14	4.6		68		2 U		3.2	0.1 U	
7/25/2016	XX	GWPWS38AB			D	D	D	D	D		D		D		D	D	
10/24/2016	XX	GWPWS38IA			1.5	0.04 U	135	4 U	47.3		7.9		13.3		4	0.2 U	
4/17/2017	XX	GWPWS396G			0.05 U	0.06	91	17	4.6		21		16		3.3	0.2 U	
7/24/2017	XX	GWPWS39CE			0.05 U	0.11	120	17	2 U		62		20		4.6	0.2 U	
10/24/2017	XX	GWPWS39G9			D	D	D	D	D		D		D		D	D	
4/2/2018	XX	GWPWS3A27			0.23	0.04 U	48	4	4.1		5.8		6.6		4.5	0.1 U	
7/16/2018	XX	GWPWS3AB9			D	D	D	D	D		D		D		D	D	
10/1/2018	XX	GWPWS3B07			0.062	0.04	98	11	20		11		12		8.6	0.1 U	
4/22/2019	XX	GWPWS3B53			0.05 U	0.04 U	82	3.3	2.3		12		13		15	0.1 U	
7/15/2019	XX	GWPWS3BBG			0.062	0.14	82	18	2 U		26		27		8.9	0.1 U	

(PWS10-3)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
10/28/2019	XX	GWPWS3BH9			0.15	0.04 U	29	11	2 U		11		2 U		1 U	0.1 U	
4/27/2020	XX	GWPWS3CCG			0.14	0.04 U	61	2.5 U	2		22		11		1	0.1 U	
7/20/2020	XX	GWPWS3CH9			0.092	0.15	129	11	2 U		51		30		1.8	0.1 U	
10/26/2020	XX	GWPWS3D2D			0.054	0.1	106	53	3.9		25		34 M10		7.8	0.1 U	
4/5/2021	XX	GWPWS3DBF			0.05 U	0.08	114	92	2 U		51		11		2.1	0.1 U	
7/12/2021	XX	GWPWS3DJ7			0.05 U	0.06	97	47	2.1		30		41		1.8	0.1 U	
10/4/2021	XX	GWPWS3E5F			0.05 U	0.09	115	48	2 U		28		29		5.7	0.1 U	
4/25/2022	XX	GWPWS3F07			0.05 U	0.04 U	91	2.5 U	2 U		30		16		5.7	0.1 U	
7/18/2022	XX	GWPWS3F85			0.05 U	0.1	117	25	2 U		46		19		3	0.1 U	
10/3/2022	XX	GWPWS3FI6			0.13	0.04		10	2 U		30		21		3	0.1 U	
10/3/2022	XX	GWPWS3FI6RR					83 H										
4/17/2023	XX	GWPWS3GHH			0.067	0.24	67	110	2.3		30		11		9.9	0.1 U	
7/10/2023	XX	GWPWS3H7J			0.072	0.33	163	15	2 U		41		31		11	0.1 U	
10/2/2023	XX	GWPWS3057			0.05 U	0.04 U	87	2.5 U	2 U		25		18		5.8	0.1 U	
4/1/2024	XX	GWPWS311H			0.061	0.18	66	62	4		1.7		13		2.1	0.1 U	
7/15/2024	XX	PWPWS31CJ			0.05 U	0.28	204	220	50		46		21		6	0.1 U	
10/7/2024	XX	PWPWS31IA			0.05 U	0.071	144	28	2 U		84		8.3		6.8	0.1 U	
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A	A	A	A	A	A	A	A		A	A		A	A	
3/30/2023	XX	PWXX4XGH5	0.56	0.5 U	0.088	0.09	102	98	5.6	0.1 U		29	7.1		9.6	0.1 U	
4/19/2023	XX	GWXXXXH22	0.38	0.5 U	0.05 U	0.07	100	7	3	0.2 U		30	9.7		12	0.1 U	
6/19/2023	XX	PWXX4XH5J	0.45	0.5 U	0.053	0.033	92	30	4.8	0.5 U		37	10		4.5	0.1 U	
7/13/2023	XX	PWXX4X023	0.5	0.5 U	0.05 U	0.06	122	26	2 U	0.1 U		71	14	2 U	5.8	0.1	
10/4/2023	XX	GWXXXX094	0.37	0.5 U	0.092	0.04 U	121	18	2 U	0.1 U		70	8.2		11	0.14	
4/2/2024	XX	GWXXXX15B	0.22		0.055		65	8.3 U	6		16		4.4		4.5	0.1 U	
7/16/2024	XX	PWXX4X1H1	0.76	0.5	0.05 U	0.05	96	28	3	0.1 U	37	37	15	2 U	2.4	0.1 U	
10/9/2024	XX	PWXXXX224			0.12	0.04 U	83	44	13		26		5.4		4.7	0.1 U	
SW-1																	
4/28/2015	XX	SWXX1X785			0.5 U	0.04 U	79	4 U	3.1		21		7.3	3 U	18	0.1 U	
7/14/2015	XX	SWXX1X7BH			2 U	0.06	80	9	1.6 J		37		11.1	3 U	5.7	0.1 U	
10/27/2015	XX	SWXX1X7H6			0.5 U	0.04 U	76	4 U	2.6		28		10.4	3 U	9	0.1 U	
4/5/2016	XX	SWXX1X85G			0.05 U	0.04 U	69	4 U	3.4		21		6.1	3 U	16.3	0.1 U	
7/26/2016	XX	SWXX1X8A6			0.05 U	0.95	135	377	2.2		83		12.9	4	4.1	0.2 U	
10/25/2016	XX	SWXX1X8I5			0.05	0.04	126	4	6.6		15.5		17.3	3 U	11	0.2 U	
4/18/2017	XX	SWXX1X96B			0.05	0.04 U	60	2.5 U	2 U		13		8.9	3 U	9.8	0.2 U	
7/25/2017	XX	SWXX1X9C9			0.06	0.17	169	35	6.8		110		6.7	4	6.4	0.2 U	
10/25/2017	XX	SWXX1X9G4			0.12	0.09	139	14	13		27		16	5	13	0.1 U	
4/3/2018	XX	SWXX1XA22			0.25	0.04 U	92	2.5 U	3.5		45		4.5	2	11	0.1 U	
7/17/2018	XX	SWXX1XAB4			0.063	0.17	151	640	2.2		100		10	6	5	0.1 U	
10/2/2018	XX	SWXX1XB02			0.05 U	0.04	105	49	15		44		9.7	1 U	6.3	0.1 U	
4/23/2019	XX	SWXX1XB4I			0.15	0.16	97	2.5 U	5.3		48		8.2	1 U	7.3	0.1 U	
7/16/2019	XX	SWXX1XBBB			0.05 U	0.08	118	30	8.8		33		21	5	9.4	0.1 U	
10/29/2019	XX	SWXX1XBH4			0.12	0.04 U	142	16	10		100		5	4	9.7	0.1 U	
4/28/2020	XX	SWXX1XCCB			0.18	0.04	144	2.5 U	11		90		5.4	3	13	0.1 U	
7/21/2020	XX	SWXX1XCH4			0.05 U	0.09	138	13	2 U		55		18	4	12	0.13	
10/27/2020	XX	SWXX1XD28			0.064	0.11	196	46	15		85		49 M10	9	17	0.1 U	
4/6/2021	XX	SWXX1XDBA			0.05 U	0.11	139	35	4.8		72		14	2 U	7.6	0.1 U	
7/13/2021	XX	SWXX1XDJ2			0.081	0.14	93	15	2 U		40		20	5	2.2	0.1 U	

(SW-1)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
10/5/2021	XX	SWXX1XE5A			0.05 U	0.17	235	170	5.9		170		17	20	8.3	0.13	
4/26/2022	XX	SWXX1XF02			0.19	0.04 U	136	8.7	5		80		7.6	2	8.9	0.1 U	
7/19/2022	XX	SWXX1XF80			0.05 U	0.27	118	140	2 U		30		21	19	9.9	0.1 U	
10/4/2022	XX	SWXX1XFI1			0.097	0.26	200	19	5.1		96		19	9	6.1	0.1 U	
4/18/2023	XX	SWXX1XGHC			0.069	0.06	92	14	8.5		49		9.9	7.6	4.9	0.1 U	
7/11/2023	XX	SWXX1XH7E			0.08	0.23	173	180	2 U		69		27	16	7.5	0.1 U	
10/3/2023	XX	SWXX1X052			0.05 U	0.36	143	91	3.6		82		23	14	6	0.1 U	
4/2/2024	XX	SWXX1X11C			0.41	0.06	141	30	8.7		110		3.9	2 U	3.3	0.1 U	
7/16/2024	XX	SWXX1X1CE			0.18	0.14	178	46	21		120	120	13	6	3.9	0.1 U	
10/8/2024	XX	SWXX1X1I5			0.05 U	0.04 U	123	8.3 U	2.4		75	75	14	4	5.6	0.1 U	
SW-2																	
4/28/2015	XX	SWXX2X786			0.5 U	0.04 U	77	4 U	2.3		12		7.9	3 U	17.6	0.1 U	
4/28/2015	XD	SWDP2X78B			0.5 U	0.04 U	76	4 U	3.4		11.9		7.8	3 U	19.3	0.1 U	
7/14/2015	XX	SWXX2X7BI			2 U	0.04	73	19	2 U		27		12.4	3	6	0.1 U	
10/27/2015	XX	SWXX2X7H7			0.5 U	0.04 U	71	30	2 U		16.2		14.1	3 U	9.2	0.1 U	
10/27/2015	XD	SWDP2X7HC			0.5 U	0.04 U	74	4 U	2		16.1		12.3	3 U	9.3	0.1 U	
4/5/2016	XD	SWDP2X862			0.05 U	0.04 U	62	4 U	3.1		15.7		6.3	3 U	16.4	0.1 U	
4/5/2016	XX	SWXX2X85H			0.05 U	0.04 U	71	4 U	2.8		16.7		6.3	3 U	17.5	0.1 U	
7/26/2016	XX	SWXX2X8A7			0.05 U	0.05	92	15	2 U		34		17.7	3	2.1	0.2 U	
10/25/2016	XD	SWDP2X8IB			0.05 U	0.04	121	4 U	4.1		14.6		18.5	3 U	11.8	0.2 U	
10/25/2016	XX	SWXX2X8I6			0.05 U	0.04	131	4 U	3.8		14.5		20.6	3 U	11.7	0.2 U	
4/18/2017	XD	SWDP2X96H			0.05 U	0.04 U	61	2.5 U	2.5		12		8.7	3 U	7.2	0.2 U	
4/18/2017	XX	SWXX2X96C			0.05 U	0.04 U	63	2.5 U	2.2		12		9.4	3 U	6.8	0.2 U	
7/25/2017	XX	SWXX2X9CA			0.06	0.09	93	9	3.2		46		8.9	2 U	3.4	0.2 U	
10/25/2017	XD	SWDP2X9GA			0.11	0.11	107	10	3.8		22		14	5	13	0.1 U	
10/25/2017	XX	SWXX2X9G5			0.16	0.1	114	4.7	3.5		21		14	4	13	0.1 U	
4/3/2018	XD	SWDP2XA28			0.076	0.04 U	54	2.5 U	2 U		7.9		6.9	1 U	6.4	0.1 U	
4/3/2018	XX	SWXX2XA23			0.084	0.04 U	67	2.5 U	2 U		8.6		7.2	1 U	6.8	0.1 U	
7/17/2018	XX	SWXX2XAB5			0.05 U	0.43	103	76	2.3		40		18	42	4.6	0.1 U	
10/2/2018	XD	SWDP2XB08			0.05 U	0.11	96	42	9.8		21		16	8	10	0.1 U	
10/2/2018	XX	SWXX2XB03			0.065	0.09	94	16	9.2		25		16	7	9.8	0.1 U	
4/23/2019	XD	SWDP2XB54			0.05 U	0.04 U	77	2.5 U	2.1		13		13	1 U	16	0.1 U	
4/23/2019	XX	SWXX2XB4J			0.05 U	0.04 U	73	2.5 U	2 U		13		13	1 U	16	0.1 U	
7/16/2019	XD	SWDP2XBBH			0.05 U	0.06	107	19	2 U		23		24	3	12	0.1 U	
7/16/2019	XX	SWXX2XBBC			0.05 U	0.05	93	22	2 U		23		30	3	12	0.1 U	
10/29/2019	XD	SWDP2XBHA			0.05 U	0.04 U	117	2.5 U	2 U		14		30	1 U	9.5	0.1 U	
10/29/2019	XX	SWXX2XBH5			0.05 U	0.04 U	66	2.5 U	2 U		13		13	1 U	9.3	0.1 U	
4/28/2020	XD	SWDP2XCCH			0.089	0.04 U	62	2.5 U	3.1		15		7.1	2 U	12	0.1 U	
4/28/2020	XX	SWXX2XCCC			0.084	0.04 U	61	2.5 U	2.8		14		7.2	2 U	12	0.1 U	
7/21/2020	XD	SWDP2XCHA			0.05 U	0.12	100	3.7	2 U		33		21	2	4.5	0.1 U	
7/21/2020	XX	SWXX2XCH5			0.05 U	0.04	113	2.5 U	2 U		33		21	2	4.3	0.1 U	
10/27/2020	XD	SWDP2XD2E			0.05 U	0.04 U	84	2.5 U	4.4		13		28 M10	1	9.8	0.1 U	
10/27/2020	XX	SWXX2XD29			0.05 U	0.04 U	87	2.5 U	4.3		13		28 M10	1 U	9.8	0.1 U	
4/6/2021	XD	SWDP2XDBG			0.05 U	0.04 U	74	2.5 U	2.6		20		7.9	2 U	13	0.1 U	
4/6/2021	XX	SWXX2XDBB			0.05 U	0.04 U	77	2.5 U	2.8		16		8.1	2 U	13	0.1 U	
7/13/2021	XD	SWDP2XDJ8			0.093	0.07	101	2.5	2 U		24		24	4	5.6	0.1 U	
7/13/2021	XX	SWXX2XDJ3			0.05 U	0.06	104	2.5	2 U		24		25	2	6	0.1 U	
10/5/2021	XD	SWDP2XE5G			0.05 U	0.04 U	92	10	2 U		16		21	2 U	6.6	0.1 U	
10/5/2021	XX	SWXX2XE5B			0.05 U	0.04 U	97	2.5 U	2 U		15		21	2 U	6.8	0.1 U	

(SW-2) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
4/26/2022	XD	SWDP2XF08			0.05 U	0.04 U	73	2.5 U	2.1		15		8	1 U	12	0.1 U	
4/26/2022	XX	SWXX2XF03			0.05 U	0.04 U	72	2.5 U	2		14		8.3	1 U	12	0.1 U	
7/19/2022	XD	SWDP2XF86			0.05 U	0.04	104	2.5 U	2.4		23		18	2 U	6.2	0.1 U	
7/19/2022	XX	SWXX2XF81			0.05 U	0.04	104	2.5 U	2.5		22		18	2 U	6.2	0.1 U	
10/4/2022	XD	SWDP2XFI7			0.085	0.04 U	120	5.6	2.1		22		17	2 U	4.6	0.1 U	
10/4/2022	XX	SWXX2XFI2			0.12	0.04 U	120	4 U	2		21		17	2 U	4.5	0.1 U	
4/18/2023	XD	SWDP2XGHI			0.05 U	0.04 U	63	2.5 U	2 U		16		9	2 U	11	0.1 U	
4/18/2023	XX	SWXX2XGHD			0.05 U	0.04 U	51	2.5 U	2 U		17		9.3	2 U	11	0.1 U	
7/11/2023	XD	SWDP2XH80			0.05 U	0.09	136	3.5	2 U		25		28	6	8	0.1 U	
7/11/2023	XX	SWXX2XH7F			0.05 U	0.09	131	2.5	2 U		25		28	6	8.2	0.1 U	
10/3/2023	XD	SWDP2X058			0.05 U	0.05	91	2.5 U	2 U		23		19	2 U	6	0.1 U	
10/3/2023	XX	SWXX2X053			0.05 U	0.06	91	2.5 U	2 U		24		19	2	6	0.1 U	
4/2/2024	XD	SWDP2X11I			0.24	0.04 U	56	8.3 U	2.3		13		6.1	2 U	9.5	0.1 U	
4/2/2024	XX	SWXX2X11D			0.05 U	0.04 U	45	8.3 U	2.3		12		5.9	2 U	8.4	0.1 U	
7/16/2024	XD	SWDP2X1D0			0.05 U	0.04 U	112	8.3 U	3.2		27	27	23	2 U	8.3	0.1 U	
7/16/2024	XX	SWXX2X1CF			0.05 U	0.04 U	109	13 U	3.8		28	28	23	2 U	7.8	0.1 U	
10/8/2024	XD	SWDP2X1IB			0.05 U	0.04 U	86	8.3 U	2 U		84	84	15	2	9.2	0.1 U	
10/8/2024	XX	SWXX2X1I6			0.05 U	0.04 U	85	8.3 U	2 U		22	22	15	2	10	0.1 U	
SW-3																	
4/28/2015	XX	SWXX3X787			0.5 U	0.04 U	68	4 U	3.1		12.6		7.1	3 U	13.5	0.1 U	
7/14/2015	XX	SWXX3X7BJ			2 U	0.04 U	69	4 U	2.3		29		9.7	3 U	6.1	0.1 U	
7/14/2015	XD	SWDP2X7C3			2 U	0.04 U	69	4 U	2.2		28		9.7	3 U	6.1	0.1 U	
10/27/2015	XX	SWXX3X7H8			0.5 U	0.04 U	85	4 U	3		23		9.1	3 U	9.1	0.1 U	
4/5/2016	XX	SWXX3X85I			0.06	0.04 U	60	4 U	3.6		16.8		6.4	3 U	12.3	0.1 U	
7/26/2016	XD	SWDP2X8AC			0.05 U	0.05	85	4 U	2.1		37		12.8	3 U	4.9	0.2 U	
7/26/2016	XX	SWXX3X8A8			0.05 U	0.05	85	4 U	2.1		36		12.9	3 U	4.9	0.2 U	
10/25/2016	XX	SWXX3X8I7			0.05 U	0.04 U	104	4 U	10.8		15.6		12.5	3 U	8.7	0.2 U	
4/18/2017	XX	SWXX3X96D			0.05 U	0.04 U	55	2.5 U	4.2		12		8.4	3 U	4.3	0.2 U	
7/25/2017	XD	SWDP2X9CF			0.06	0.04	101	4.3	2.6		43		8.5	2 U	11	0.2 U	
7/25/2017	XX	SWXX3X9CB			0.05	0.04	100	2.5 U	2.6		43		9.6	2 U	11	0.2 U	
10/25/2017	XX	SWXX3X9G6			0.22	0.06	139	2.5 U	11		22		15	7	20	0.1 U	
4/3/2018	XX	SWXX3XA24			0.26	0.04 U	79	2.5 U	2 U		11		6.8	1 U	14	0.1 U	
7/17/2018	XD	SWDP2XABA			0.07	0.09	85	25	2.5		41		13	3	11	0.1 U	
7/17/2018	XX	SWXX3XAB6			0.074	0.09	91	17	2.6		40		12	3	10	0.1 U	
10/2/2018	XX	SWXX3XB04			0.05 U	0.04 U	69	2.5 U	14		23		9	1 U	5.2	0.1 U	
4/23/2019	XX	SWXX3XB50			0.05 U	0.04 U	63	2.5 U	2.7		11		11	1 U	10	0.1 U	
7/16/2019	XX	SWXX3XBBD			0.05 U	0.05	93	2.5 U	2 U		31		19	2 U	7.3	0.1 U	
10/29/2019	XX	SWXX3XBH6			0.05 U	0.04 U	66	2.5 U	2.5		11		14	1 U	5.9	0.1 U	
4/28/2020	XX	SWXX3XCCD			0.1	0.04 U	56	2.5 U	3		13		8.1	2 U	9.9	0.1 U	
7/21/2020	XX	SWXX3XCH6			0.05 U	0.04 U	108	2.5 U	2 U		31		12	1	12	0.1 U	
10/27/2020	XX	SWXX3XD2A			0.065	0.04 U	73	2.5 U	6.4		26		17 M10	1 U	18	0.11	
4/6/2021	XX	SWXX3XDBC			0.05 U	0.04 U	61	2.5 U	3		12		7.8	2 U	8.9	0.1 U	
7/13/2021	XX	SWXX3XDJ4			0.05 U	0.04	72	3.3	2 U		23		14	2	4.5	0.1 U	
10/5/2021	XX	SWXX3XE5C			0.077	0.04 U	94	2.5 U	2 U		20		18	2 U	6	0.1 U	
4/26/2022	XX	SWXX3XF04			0.055	0.04 U	65	2.5 U	2.3		13		9.2	1 U	11	0.1 U	
7/19/2022	XX	SWXX3XF82			0.096	0.04	116	12	2 U		30		12	2 U	18	0.1 U	
10/4/2022	XX	SWXX3XFI3			0.19	0.04 U	68	4 U	6.1		27		10	2 U	5.9	0.1 U	
4/18/2023	XX	SWXX3XGHE			0.064	0.04 U	51	2.5	2		14		7.7	2 U	11	0.1 U	
7/11/2023	XX	SWXX3XH7G			0.061	0.06	100	5	2 U		27		18	3	4.8	0.1 U	

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(SW-3) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrite/Nitrate - (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Chloride mg/L	Bromide mg/L	
10/3/2023	XX	SWXX3X054			0.23	0.05	75	30	2.5		29		13	2 U	5.8	0.1 U	
4/2/2024	XX	SWXX3X11E			0.051	0.04 U	33	8.3 U	2.2		6.6		6.2	2 U	4.6	0.1 U	
7/16/2024	XX	SWXX3X1CG			0.05 U	0.04 U	85	8.3 U	8.8		30	30	13	2 U	4.6	0.1 U	
10/8/2024	XX	SWXX3X1I7			0.05 U	0.04 U	73	8.3 U	2.1		31	31	11	2	4.9	0.1 U	
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A	A	A	A	A	A	A	A		A	A	A	A	A	
3/30/2023	XX	SWXX4XGH4	0.28	0.5 U	0.092	0.04 U	78	2.5	5.6	0.1 U		15	6.7	2 U	11	0.1 U	
4/19/2023	XX	GWXXXXH23	0.35	0.5 U	0.05 U	0.04	89	2.5 U	5	0.1 U		26	9.2	2 U	13	0.1 U	
6/19/2023	XX	SWXX4XH5I	0.44	0.5 U	0.079	0.028	80	5	6.8	0.1 U		24	10	2 U	4.8	0.1 U	
7/13/2023	XX	SWXX4X022	0.52	0.5 U	0.061	0.04 U	119	4	2 U	0.1 U		68	14	2 U	5.9	0.11	
10/4/2023	XX	GWXXXX095	0.41	0.5 U	0.08	0.04 U	86	8.3	2.6	0.1 U		42	7.2	2 U	7.6	0.11	
4/2/2024	XX	GWXXXX15C			0.055	0.04	45	8.3 U	4.6		7.7		36	2 U	3.4	0.1 U	
7/16/2024	XX	SWXX4X1H0	0.7	0.5	0.05 U	0.04 U	93	8.3 U	2 U	0.1 U	41	41	15	3	2.2	0.1 U	
10/9/2024	XX	SWXXXX225			0.14	0.04 U	82	8.3 U	11		29	30	5.3	2	5.3	0.1 U	
10/22/2024	XX	SWXXXX25B												2			
SW-DP1																	
4/28/2015	XX	SWDP1X78D			0.5 U	0.05	75	11	7.4		35		2 U		8.3	0.1 U	
7/14/2015	XX	SWDP1X7C5			2 U	0.04 U	68	4 U	4.1		46		2.8		3.1	0.1 U	
10/27/2015	XX	SWDP1X7HE			0.5 U	0.04 U	56	4	5		25		2 U		5.3	0.1 U	
4/5/2016	XX	SWDP1X864			0.05 U	0.05	67	11	8.1		32		2 U		6.7	0.1 U	
7/26/2016	XX	SWDP1X8AE			0.05 U	0.04 U	78	4 U	7.2		45		3.8		3.9	0.2 U	
10/25/2016	XX	SWDP1X8ID			0.05 U	0.04 U	72	8	8.6		24		2.7		2.1	0.2 U	
4/18/2017	XX	SWDP1X96J			0.05 U	0.04 U	55	2.5 U	7		32		2.1		7.4	0.2 U	
7/25/2017	XX	SWDP1X9CH			0.09	0.04	94	11	5.4		57		3.7		6.6	0.2 U	
10/23/2017	XX	SWDP1X9GC			0.05 U	0.04 U	93	2.5 U	6.8		39		2.9		3.9	0.1 U	
4/3/2018	XX	SWDP1XA2B			0.21	0.04 U	52	6	2.6		7.2		2 U		1.9	0.1 U	
7/17/2018	XX	SWDP1XABC			0.055	0.05	61	18	4.6		30		3.4		1.4	0.1 U	
10/2/2018	XX	SWDP1XB0A			0.05 U	0.04 U	49	3.7	7		25		2.4		1.9	0.1 U	
4/23/2019	XX	SWDP1XB57			0.15	0.04 U	69	3.7	21		21		2 U		3.2	0.1 U	
7/16/2019	XX	SWDP1XBBJ			0.05 U	0.04 U	60	2.5 U	12		23		2.3		1.5	0.1 U	
10/29/2019	XX	SWDP1XBHC			0.23	0.06	84	16	9.4		42		3.6		2.2	0.1 U	
4/28/2020	XX	SWDP1XCCJ			0.55	0.04	251	8	22		59		5.4		79	1.1	
7/21/2020	XX	SWDP1XCHC			0.05 U	0.12	164	31	22		83		5.8		12	0.22	
10/27/2020	XX	SWDP1XD2G			0.051	0.12	114	25	23		52		12 M10		6.3	0.1 U	
4/6/2021	XX	SWDP1XDBI			0.15	0.2	191	18	12		23		2 U		2.5	0.1 U	
7/13/2021	XX	SWDP1XDJA			0.07	0.24	185	29	7.9		41		3.6		1.3	0.1 U	
10/5/2021	XX	SWDP1XE5I			0.05 U	0.06	83	11	5.3		42		2 U		1 U	0.1 U	
4/26/2022	XX	SWDP1XF0A			0.05 U	0.12	101	26	32		28		2.8		5.2	0.1 U	
7/19/2022	XX	SWDP1XF88			0.052	0.14	192	33	44		49		4.4		7.2	0.1 U	
10/4/2022	XX	SWDP1XFI9			0.13	0.04	110	9.6	36		40		2.2		2.9	0.1 U	
4/18/2023	XX	SWDP1XGI0			0.089	0.14	58	19	5.8		15		3		1.5	0.1 U	
7/11/2023	XX	SWDP1XH82			0.064	0.23	161	62	4		34		3.5		1.1	0.1 U	
10/3/2023	XX	SWDP1X05A			0.05 U	0.04 U	48	29	8.3		30		7		1 U	0.1 U	
4/2/2024	XX	SWDP1X120			0.26	0.07	70	12	22		6.4		3.1		2.7	0.1 U	
7/16/2024	XX	SWDP1X1D2			0.61	0.052	89	8.3 U	6.5		54		5.5		1.4	0.1 U	
10/8/2024	XX	SWDP1X1ID			0.05 U	0.04	68	8.3 U	11		34		3.5		1.7	0.1 U	
SW-DP6																	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-DP6)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide	
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
4/28/2015	XX	SWDP6X78E			0.5 U	0.05	81	4	17.4		21		3.4		7.2	0.1 U	
7/14/2015	XX	SWDP6X7C6			2 U	0.12	131	43	13.5		28		5.7		5.6	0.1 U	
10/27/2015	XX	SWDP6X7HF			0.5 U	0.04 U	58	4 U	10.3		22		4		2.7	0.1 U	
4/5/2016	XX	SWDP6X865			0.05 U	0.04 U	61	4 U	15		12.7		3.2		6.9	0.1 U	
7/26/2016	XX	SWDP6X8AF			0.05 U	0.04 U	92	4 U	29.8		28		5.7		2.8	0.2 U	
10/25/2016	XX	SWDP6X8IE			0.1	0.07	104	29	18.8		22		3.8		2	0.2 U	
4/18/2017	XX	SWDP6X970			0.05 U	0.04 U	46	4	2 U		9.6		3.5		9.7	0.2 U	
7/25/2017	XX	SWDP6X9CI			0.06	0.05	87	6	10		16		6.7		9.1	0.2 U	
10/23/2017	XX	SWDP6X9GD			0.05 U	0.04 U	88	3.3	21		10		4.5		9.2	0.1 U	
4/3/2018	XX	SWDP6XA2C			0.12	0.04	44	31	9.7		11		2.1		3.6	0.1 U	
7/17/2018	XX	SWDP6XABD			0.05 U	0.05	94	9.7	32		18		6.6		7.9	0.1 U	
10/2/2018	XX	SWDP6XB0B			0.05 U	0.04 U	58	2.5 U	40		6		4.7		4.6	0.1 U	
4/23/2019	XX	SWDP6XB58			0.05 U	0.06	57	9.3	12		12		4.2		6.7	0.1 U	
7/16/2019	XX	SWDP6XBC0			0.056	0.04 U	59	3.7	8.7		14		6.5		4.6	0.1 U	
10/29/2019	XX	SWDP6XBHD			0.05 U	0.04 U	43	5	12		6.3		4.6		1.7	0.1 U	
4/28/2020	XX	SWDP6XCD0			0.056	0.05	38	6.7	10		8.4		3.3		4.3	0.1 U	
7/21/2020	XX	SWDP6XCHD			0.05 U	0.04	83	8	16		13		6.1		2.3	0.1 U	
10/27/2020	XX	SWDP6XD2H			0.058	0.06	65	13	24		14		5.8 M10		1.8	0.1 U	
4/6/2021	XX	SWDP6XDBJ			0.05 U	0.04	52	6.5	7.2		10		3.5		2.2	0.1 U	
7/13/2021	XX	SWDP6XDJB			0.05 U	0.09	60	9	4.5		12		6.2		1 U	0.1 U	
10/5/2021	XX	SWDP6XE5J			0.05 U	0.04	63	4.3	6.6		15		4.7		5.8	0.1 U	
4/26/2022	XX	SWDP6XF0B			0.12	0.04	42	6.7	3.8		10		4.1		1.9	0.1 U	
7/19/2022	XX	SWDP6XF89			0.05 U	0.15	107	36	4.8		20		5.2		1 U	0.1 U	
10/4/2022	XX	SWDP6XFIA			0.14	0.1	55	16	5.5		16		3.4		1.2	0.1 U	
4/18/2023	XX	SWDP6XGI1			0.052	0.04	43	8	14		9		3.5		2	0.1 U	
7/11/2023	XX	SWDP6XH83			0.096	0.04 U	356	2.5 U	200		16		5.3		13	0.1 U	
10/3/2023	XX	SWDP6X05B			0.14	0.16	186	48	41		17		5		6.7	0.1 U	
4/2/2024	XX	SWDP6X121			0.064	0.08	124	8.3 U	16		25		2.7		2.1	0.1 U	
7/16/2024	XX	SWDP6X1D3			0.05 U	0.26	240	130	30		40		5.6		1.7	0.1 U	
10/9/2024	XX	SWDP6X1IE			D	D	D	D	D		D		D		D	D	

DATA SUMMARY TABLE

Inorganics Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(SW-DP6)			Total Kjeldahl Nitrogen	Ammonia (N)	Nitrite/Nitrate - (N)	Total Phosphorus	Total Dissolved Solids	Total Suspended Solids	Sulfate	Sulfide	Bicarbonate Alkalinity (CaCO3)	Alkalinity (CaCO3)	Organic Carbon	Biochemical Oxygen Demand	Chloride	Bromide
Date	Type	Sample ID	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

Units Abbreviations:

mg/L - MILLIGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
* - Analysis not within control limits
A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H - Analyzed outside U.S.EPA's recommended hold time.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
J - Analyte was positively identified/Associated value is an estimate.
M10 - Due to a identified laboratory instrumentation malfunction, this analytical result is likely elevated–the laboratory has fixed the issue.
U - Not Detected above the laboratory reporting limit.
UH - Not Detected above the laboratory reporting limit. Analyzed outside U.S.EPA's recommended hold time

DATA SUMMARY TABLE

Metals Parameters

SME SEVEE & MAHER ENGINEERS

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-11)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
LF-LD-11																	
7/13/2021	XX	LFXXXXE1C	UF	0.005 U	120	0.003 U	0.05 U	26	0.06	7.1	10	0.05 U					
10/5/2021	XX	LFXXXXE88	UF	0.005 U	140	0.003 U	0.05 U	28	0.18	7.2	11	0.05 U					
7/19/2022	XX	LFXXXXFA9	UF	0.005 U	150	0.006 U	0.17	33	0.56	7.8	12	0.05 U					
7/11/2023	XX	LFXXXX005	UF	0.005 U	150	0.003 U	0.05 U	32	0.05 U	8.3	14	0.05 U					
7/16/2024	XX	LFXXXX1F4	UF	0.005 U	140	0.003 U	0.05 U	29	0.05 U	7.9	15	0.05 U					
LF-LD-12																	
7/13/2021	XX	LFXXXXE1D	UF	0.005 U	47	0.003 U	0.19	8.1	0.77	3.2	7	0.05 U					
10/5/2021	XX	LFXXXXE89	UF	0.005	91	0.003 U	0.06	16	3.3	4.5	9.2	0.05 U					
7/19/2022	XX	LFXXXXFAA	UF	0.005 U	86	0.003 U	0.46	16	5.3	4.5	7.8	0.05 U					
7/11/2023	XX	LFXXXX006	UF	0.005 U	77	0.003 U	1.2	13	5.9	4.2	6.3	0.05 U					
7/16/2024	XX	LFXXXX1F5	UF	0.005 U	130	0.0042	5.7	21	15	5.9	14	0.05 U					
LF-LD-13																	
7/19/2022	XX	LFXXXXFB4	UF	0.005 U	43	0.003 U	0.05 U	9	0.48	4.1	6.4	0.05 U					
7/11/2023	XX	LFXXXX010	UF	0.005 U	61	0.003 U	0.13	13	2.5	4.7	8.6	0.05 U					
7/16/2024	XX	LFXXXX1FJ	UF	0.005 U	66	0.0031	0.52	14	4.6	4.6	9.6	0.05 U					
LF-LD-14																	
7/11/2023	XX	LFXXXX01G	UF	0.005 U	96	0.003 U	0.72	22	1.3	7	7.8	0.05 U					
7/16/2024	XX	LFXXXX1GE	UF	0.005 U	120	0.003	1.6	25	4.7	6.7	7.8	0.05 U					
LF-LD-15																	
7/16/2024	XX	LFXXXX1H2	UF	0.005 U	160	0.0032	0.17	27	5.1	8.5	9.7	0.05 U					
10/8/2024	XX	LFXXXX227	UF	0.005 U	130	0.003 U	0.062	26	3.3	7.2	9.1	0.05 U					
LF-UD-1																	
4/28/2015	XX	LFUD1X792		0.005 U	48.9		0.59	11.2	0.05 U	3.7	8.2						
7/14/2015	XX	LFUD1X7CE		0.013	52.8		0.05 U	10.7	0.05 U	3.5	8.1						
10/27/2015	XX	LFUD1X7I3		F6	F6		F6	F6	F6	F6	F6						
4/5/2016	XX	LFUD1X86D		0.015	48.9		0.05 U	10.2	0.05 U	3.2	8.1						
7/26/2016	XX	LFUD1X8B3		I	I		I	I	I	I	I						
10/25/2016	XX	LFUD1X8J2		F6	F6		F6	F6	F6	F6	F6						
4/18/2017	XX	LFUD1X978		0.005	45		0.22	12	0.05 U	3.5	9.2						
7/25/2017	XX	LFUD1X9D6		0.005 U	58		0.12	14	0.05 U	3.9	10						
10/25/2017	XX	LFUD1X9H1		F6	F6		F6	F6	F6	F6	F6						
4/3/2018	XX	LFUD1XA30	UF	0.005 U	57		0.05 U	13	0.05 U	3.6	9.5						
7/17/2018	XX	LFUD1XAC1		F6	F6		F6	F6	F6	F6	F6						
10/2/2018	XX	LFUD1XB0J		F6	F6		F6	F6	F6	F6	F6						
4/23/2019	XX	LFUD1XB5G	UF	0.005 U	58		0.05	10	0.05 U	3.3	7.8						
7/16/2019	XX	LFUD1XBC8		F6	F6		F6	F6	F6	F6	F6						
10/29/2019	XX	LFUD1XBI1		F6	F6		F6	F6	F6	F6	F6						
4/28/2020	XX	LFUD1XCD8		F6	F6		F6	F6	F6	F6	F6						
7/21/2020	XX	LFUD1XCI1		F6	F6		F6	F6	F6	F6	F6						
10/27/2020	XX	LFUD1XD35		F6	F6		F6	F6	F6	F6	F6						
4/6/2021	XX	LFUD1XDC7		H8	H8		H8	H8	H8	H8	H8						
7/13/2021	XX	LFUD1XDJJ		F6	F6		F6	F6	F6	F6	F6						
10/5/2021	XX	LFUD1XE67		F6	F6		F6	F6	F6	F6	F6						
4/26/2022	XX	LFUD1XF0J		F6	F6		F6	F6	F6	F6	F6						

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
7/19/2022	XX	LFUD1XF8H		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD1XFII		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD1XGI9		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD1XH8B		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD1X05J		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFUD1X129		D	D		D	D	D	D	D							
7/16/2024	XX	LFUD1X1DB		F6	F6		F6	F6	F6	F6	F6							
10/8/2024	XX	LFUD1X1J2		F6	F6		F6	F6	F6	F6	F6							
LF-UD-2																		
4/28/2015	XX	LFUD2X793		0.013	49.8		0.05 U	10.9	0.05 U	3.3	7.7							
7/14/2015	XX	LFUD2X7CF		0.013	50.8		0.05 U	10.8	0.05 U	3.4	8							
10/27/2015	XX	LFUD2X7I4		0.011	57.2		0.05 U	11.9	0.05 U	3.7	8.4							
4/5/2016	XX	LFUD2X86E		0.015	47		0.05 U	11.2	0.05 U	3	7.5							
7/26/2016	XX	LFUD2X8B4		0.024	58.9		0.12	13.5	0.05 U	4.2	9.6							
10/25/2016	XX	LFUD2X8J3		0.005 U	68.8		0.05 U	12	0.05 U	3.9	9							
4/18/2017	XX	LFUD2X979		0.005	46		0.38	12	0.05 U	3.7	10							
7/25/2017	XX	LFUD2X9D7		0.005 U	57		0.14	15	0.05 U	3.3	8.7							
10/25/2017	XX	LFUD2X9H2		0.008	68		0.71	14	0.05 U	4.6	9.6							
4/3/2018	XX	LFUD2XA31	UF	0.005 U	49		0.05 U	13	0.05 U	3.5	9.5							
7/17/2018	XX	LFUD2XAC2	UF	0.005 U	67		0.13	14	0.05 U	3.6	9.3							
10/2/2018	XX	LFUD2XB10	UF	0.005 U	70		0.05 U	14	0.05 U	4.5	12							
4/23/2019	XX	LFUD2XB5H		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFUD2XBC9	UF	0.005 U	59		0.05 U	12	0.05 U	3.8	11							
10/29/2019	XX	LFUD2XBI2	UF	0.005 U	52		0.7	10	0.05 U	3.5	9.2							
4/28/2020	XX	LFUD2XCD9	UF	0.005 U	60		0.1	11	0.05 U	3.6	9							
7/21/2020	XX	LFUD2XCI2	UF	0.005	65		2.5	15	0.13	5.4	14							
10/27/2020	XX	LFUD2XD36	UF	0.005 U	61		0.05 U	13	0.05 U	4.3	14							
4/6/2021	XX	LFUD2XDC8		H8	H8		H8	H8	H8	H8	H8							
7/13/2021	XX	LFUD2XE00		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LFUD2XE68		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFUD2XF10		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFUD2XF8I		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD2XFIJ		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD2XGIA		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD2XH8C		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD2X060		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFUD2X12A		D	D		D	D	D	D	D							
7/16/2024	XX	LFUD2X1DC		D	D		D	D	D	D	D							
10/8/2024	XX	LFUD2X1J3		F6	F6		F6	F6	F6	F6	F6							
LF-UD-3A,B																		
4/28/2015	XX	LFXXXX79G		F6	F6		F6	F6	F6	F6	F6							
7/14/2015	XX	LFXXXX7D8		F6	F6		F6	F6	F6	F6	F6							
10/27/2015	XX	LFXXXX7IF		F6	F6		F6	F6	F6	F6	F6							
4/5/2016	XX	LFXXXX877		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LFXXXX8BH		F6	F6		F6	F6	F6	F6	F6							
10/25/2016	XX	LFXXXX8JF		F6	F6		F6	F6	F6	F6	F6							
4/18/2017	XX	LFXXXX982		F6	F6		F6	F6	F6	F6	F6							
7/25/2017	XX	LFXXXX9DJ		F6	F6		F6	F6	F6	F6	F6							

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-3A,B)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/25/2017	XX	LFXXXX9HE		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFXXXXA3E		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LFXXXXACE		F6	F6		F6	F6	F6	F6	F6							
10/2/2018	XX	LFXXXXB1C		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFXXXXB6A		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFXXXXBD1		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LFXXXXBID		F6	F6		F6	F6	F6	F6	F6							
4/28/2020	XX	LFXXXXCE1		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFXXXXCIE		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFXXXXD3H		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFXXXXDD0		H8	H8		H8	H8	H8	H8	H8							
7/13/2021	XX	LFXXXXE0C		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LFXXXXE6J		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFXXXXF1B		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFXXXXF9A		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFXXXXFJA		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFXXXXGJ1		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFXXXXH94		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFXXXX06A		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFXXXX12J		D	D		D	D	D	D	D							
7/16/2024	XX	LFXXXX1E3		D	D		D	D	D	D	D							
10/8/2024	XX	LFXXXX1JC		F6	F6		F6	F6	F6	F6	F6							
LF-UD-4																		
4/28/2015	XX	LFXXXX79H		F6	F6		F6	F6	F6	F6	F6							
7/14/2015	XX	LFXXXX7D9		F6	F6		F6	F6	F6	F6	F6							
10/27/2015	XX	LFXXXX7IG		F6	F6		F6	F6	F6	F6	F6							
4/5/2016	XX	LFXXXX878		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LFXXXX8BI		0.005	60.7		0.28	13.9	0.05 U	4.3	10.2							
10/25/2016	XX	LFXXXX8JG		0.005 U	75.7		0.05 U	13.8	0.05 U	4.3	9.9							
4/18/2017	XX	LFXXXX983		0.007	47		0.06	12	0.05 U	3.6	9.5							
7/25/2017	XX	LFXXXX9E0		0.005 U	57		0.13	14	0.05 U	3.9	11							
10/25/2017	XX	LFXXXX9HF		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFXXXXA3F		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LFXXXXACF	UF	0.005	68		0.06	14	0.05 U	3.6	9.5							
10/2/2018	XX	LFXXXXB1D		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFXXXXB6B		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFXXXXBD2		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LFXXXXBIE	UF	0.005	51		1.4	9.9	0.16	3.4	8.5							
4/28/2020	XX	LFXXXXCE2		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFXXXXCIF		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFXXXXD3I		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFXXXXDD1		H8	H8		H8	H8	H8	H8	H8							
7/13/2021	XX	LFXXXXE0D	UF	0.005 U	57		0.15	9.5	0.05 U	4.2	11							
10/5/2021	XX	LFXXXXE70	UF	0.005	58		0.05 U	9.9	0.05 U	3.7	9.4							
4/26/2022	XX	LFXXXXF1C	UF	0.005 U	57		0.45	9.4	0.05 U	3.7	7.9							
7/19/2022	XX	LFXXXXF9B		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFXXXXFJB	UF	0.005 U	64		0.37	11	0.05 U	4	10							
4/18/2023	XX	LFXXXXGJ2		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFXXXXH95		F6	F6		F6	F6	F6	F6	F6							

SEVEE & MAHER ENGINEERS, INC.
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(LF-UD-4)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/3/2023	XX	LFXXXX06B		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFXXXX130		D	D		D	D	D	D	D							
7/16/2024	XX	LFXXXX1E4		F6	F6		F6	F6	F6	F6	F6							
10/8/2024	XX	LFXXXX1JD		F6	F6		F6	F6	F6	F6	F6							
LF-UD-5and6																		
4/28/2015	XX	LFXXXX79I		0.015	55.8		0.05 U	11.2	0.05 U	3.4	8.3							
7/14/2015	XX	LFXXXX7DA		I	I		I	I	I	I	I							
10/27/2015	XX	LFXXXX7IH		0.01	47.4		0.05 U	10.1	0.05 U	4.2	8							
4/5/2016	XX	LFXXXX879		0.016	54.5		0.05 U	10.4	0.05 U	3.3	8.3							
7/26/2016	XX	LFXXXX8BJ		0.024	62.3		0.05 U	12.5	0.05 U	3.8	8.8							
10/25/2016	XX	LFXXXX8JH		0.005 U	52.6		0.05 U	9.8	0.05 U	2.9	6.9							
4/18/2017	XX	LFXXXX984		0.005 U	39		0.09	10	0.05 U	3	8.1							
7/25/2017	XX	LFXXXX9E1		0.005 U	55		0.05 U	12	0.05 U	3.5	9.4							
10/25/2017	XX	LFXXXX9HG		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFXXXXA3G	UF	0.007	38		0.05 U	10	0.05 U	2.6	8							
7/17/2018	XX	LFXXXXACG	UF	0.005	52		0.05 U	9.7	0.05 U	2.7	7.2							
10/2/2018	XX	LFXXXXB1E	UF	0.005 U	54		0.62	12	0.05 U	3.1	9.2							
4/23/2019	XX	LFXXXXB6C	UF	0.005 U	42		0.05 U	9.5	0.05 U	2.4	7.5							
7/16/2019	XX	LFXXXXBD3	UF	0.005 U	45		0.05 U	10	0.05 U	2.7	8.5							
10/29/2019	XX	LFXXXXBIF	UF	0.005 U	40		0.88	9.1	0.05	2.5	7.4							
4/28/2020	XX	LFXXXXCE3	UF	0.005 U	43		0.05 U	9.5	0.05 U	2.4	7.7							
7/21/2020	XX	LFXXXXCIG	UF	0.005 U	50		0.05 U	11	0.05 U	3.1	9							
10/27/2020	XX	LFXXXXD3J		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFXXXXDD2	UF	0.005 U	40		0.05 U	9.8	0.05 U	2.3	7.5							
7/13/2021	XX	LFXXXXE0E	UF	0.005 U	51		0.1	12	0.05 U	2.7	8.4							
10/5/2021	XX	LFXXXXE71	UF	0.005 U	48		0.05 U	11	0.05 U	2.4	8.3							
4/26/2022	XX	LFXXXXF1D	UF	0.005 U	44		0.36	11	0.05 U	3.3	8.1							
7/19/2022	XX	LFXXXXF9C	UF	0.005 U	56		0.05 U	13	0.05 U	2.7	8.8							
10/4/2022	XX	LFXXXXFJC	UF	0.005 U	52		0.59	11	0.05 U	2.5	8.2							
4/18/2023	XX	LFXXXXGJ3	UF	0.005 U	46		0.05 U	11	0.05 U	2.7	9.2							
7/11/2023	XX	LFXXXXH96	UF	0.005 U	47		0.097	10	0.05 U	2.5	8.8							
10/3/2023	XX	LFXXXX06C	UF	0.005 U	34		0.05 U	8.2	0.05 U	1.8	6.9							
4/2/2024	XX	LFXXXX131	UF	0.005 U	35		0.11	8.7	0.05 U	2.2	7.9							
7/16/2024	XX	LFXXXX1E5	UF	0.005 U	39		0.16	9.7	0.05 U	2.2	8.6							
10/8/2024	XX	LFXXXX1JE		F6	F6		F6	F6	F6	F6	F6							
LF-UD-6																		
4/28/2015	XX	LFUD6X7A0		0.026	76.5		0.05 U	21.5	0.05 U	4	66.4							
7/14/2015	XX	LFUD6X7DC		0.021	87.3		0.05 U	22	0.05 U	4.1	67.6							
10/27/2015	XX	LFUD6X7IJ		0.017	84.2		0.05 U	23.7	0.05 U	4.4	66.6							
4/5/2016	XX	LFUD6X87B		0.023	79.1		0.05 U	21.8	0.05 U	4.3	64.1							
7/26/2016	XX	LFUD6X8C1		D	D		D	D	D	D	D							
10/25/2016	XX	LFUD6X8JJ		I	I		I	I	I	I	I							
4/18/2017	XX	LFUD6X986		0.005	58		0.23	15	0.05 U	4.8	14							
7/25/2017	XX	LFUD6X9E3		I	I		I	I	I	I	I							
10/25/2017	XX	LFUD6X9HI		0.005	80		0.05	6.8	0.05 U	2.6	1							
4/3/2018	XX	LFUD6XA3I	UF	0.005	48		0.05 U	6.7	0.05 U	2.2	4.6							
7/17/2018	XX	LFUD6XACI	UF	0.005	53		0.05 U	7.1	0.05 U	1.9	1.1							
10/2/2018	XX	LFUD6XB1G	UF	0.005 U	47		0.05 U	6.6	0.05 U	1.9	1.4							

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-6)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/23/2019	XX	LFUD6XB6E	UF	0.005	59		0.05 U	7.4	0.05 U	2.4	2							
7/16/2019	XX	LFUD6XBD5	UF	0.005 U	24		0.05 U	3.3	0.05 U	1.7	0.9							
10/29/2019	XX	LFUD6XBIH	UF	0.005 U	24		0.1	2.9	0.68	5.3	0.5							
4/28/2020	XX	LFUD6XCE5	UF	0.005 U	52		0.05 U	6	3.3	5.7	1.9							
7/21/2020	XX	LFUD6XCII		D	D		D	D	D	D	D							
10/27/2020	XX	LFUD6XD41		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFUD6XDD4	UF	0.006	160		0.08	14	5.5	20	16							
7/13/2021	XX	LFUD6XE0G		I	I		I	I	I	I	I							
10/5/2021	XX	LFUD6XE72	UF	0.011	38		0.15	5	1.9	5	5.1							
4/26/2022	XX	LFUD6XF1E		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFUD6XF9E		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD6XFJD		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD6XGJ4		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD6XH98		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD6X06D		F6	F6		F6	F6	F6	F6	F6							
7/16/2024	XX	LFUD6X1E7		D	D		D	D	D	D	D							
10/8/2024	XX	LFUD6X1JF		D	D		D	D	D	D	D							
LF-UD-7																		
4/28/2015	XX	LFUD7X7A1		F6	F6		F6	F6	F6	F6	F6							
7/14/2015	XX	LFUD7X7DD		F6	F6		F6	F6	F6	F6	F6							
10/27/2015	XX	LFUD7X7J0		F6	F6		F6	F6	F6	F6	F6							
4/5/2016	XX	LFUD7X87C		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LFUD7X8C2		F6	F6		F6	F6	F6	F6	F6							
10/25/2016	XX	LFUD7X900		F6	F6		F6	F6	F6	F6	F6							
4/18/2017	XX	LFUD7X987		F6	F6		F6	F6	F6	F6	F6							
7/25/2017	XX	LFUD7X9E4		F6	F6		F6	F6	F6	F6	F6							
10/25/2017	XX	LFUD7X9HJ		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFUD7XA3J		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LFUD7XACJ		F6	F6		F6	F6	F6	F6	F6							
10/2/2018	XX	LFUD7XB1H		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFUD7XB6F		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFUD7XBD6		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LFUD7XBII		F6	F6		F6	F6	F6	F6	F6							
4/28/2020	XX	LFUD7XCE6		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFUD7XCIJ		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFUD7XD42		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFUD7XDD5		H8	H8		H8	H8	H8	H8	H8							
7/13/2021	XX	LFUD7XE0H		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LFUD7XE73		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFUD7XF1F		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFUD7XF9F		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD7XFJE		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD7XGJ5		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD7XH99		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD7X06E		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFUD7X133		D	D		D	D	D	D	D							
7/16/2024	XX	LFUD7X1E8		D	D		D	D	D	D	D							
10/8/2024	XX	LFUD7X1JG		F6	F6		F6	F6	F6	F6	F6							

SEVEE & MAHER ENGINEERS, INC.
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(LF-UD-8)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
LF-UD-8																		
4/28/2015	XX	LFUD8X7A2		0.005 U	11		0.75	1.1	0.05 U	1.5	2.9							
7/14/2015	XX	LFUD8X7DE		I	I		I	I	I	I	I							
10/27/2015	XX	LFUD8X7J1		F6	F6		F6	F6	F6	F6	F6							
4/5/2016	XX	LFUD8X87D		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LFUD8X8C3		F6	F6		F6	F6	F6	F6	F6							
10/25/2016	XX	LFUD8X901		F6	F6		F6	F6	F6	F6	F6							
4/18/2017	XX	LFUD8X988		0.005 U	5.3		0.61	0.8	0.11	1.1	3.7							
7/25/2017	XX	LFUD8X9E5		D	D		D	D	D	D	D							
10/25/2017	XX	LFUD8X9I0		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFUD8XA40	UF	0.005 U	8.3		0.48	1.1	0.15	0.8	2.2							
7/17/2018	XX	LFUD8XAD0		D	D		D	D	D	D	D							
10/2/2018	XX	LFUD8XB1I		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFUD8XB6G	UF	0.005 U	8.7		1.1	1.3	0.1	1.6	3.5							
7/16/2019	XX	LFUD8XBD7	UF	0.005 U	6.4		1.5	1	0.05 U	1.4	2.6							
10/29/2019	XX	LFUD8XBIJ	UF	0.005 U	4.8		0.35	0.8	0.05 U	0.9	1.3							
4/28/2020	XX	LFUD8XCE7		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFUD8XCJ0		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFUD8XD43		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFUD8XDD6		F6	F6		F6	F6	F6	F6	F6							
7/13/2021	XX	LFUD8XE0I		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LFUD8XE74		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFUD8XF1G		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFUD8XF9G		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD8XFJF		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD8XGJ6		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD8XH9A		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD8X06F		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFUD8X134		D	D		D	D	D	D	D							
7/16/2024	XX	LFUD8X1E9		D	D		D	D	D	D	D							
10/8/2024	XX	LFUD8X1JH		D	D		D	D	D	D	D							
LF-UD-9																		
4/5/2016	XX	LFUD9X881		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LFUD9X8CA		F6	F6		F6	F6	F6	F6	F6							
10/25/2016	XX	LFUD9X905		F6	F6		F6	F6	F6	F6	F6							
4/18/2017	XX	LFUD9X98F		0.007	55		1.4	6.8	0.06	4.3	6.5							
10/25/2017	XX	LFUD9X9I4		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFUD9XA47		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LFUD9XAD4		D	D		D	D	D	D	D							
10/2/2018	XX	LFUD9XB22		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFUD9XB73		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFUD9XBDD		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LFUD9XBJ3		F6	F6		F6	F6	F6	F6	F6							
4/28/2020	XX	LFUD9XCED		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFUD9XCJ6		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFUD9XD47		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFUD9XDDA		F6	F6		F6	F6	F6	F6	F6							
7/13/2021	XX	LFUD9XE11		F6	F6		F6	F6	F6	F6	F6							

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(LF-UD-9)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/5/2021	XX	LFUD9XE78		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFUD9XF1J		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFUD9XF9J		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFUD9XFJI		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFUD9XGJ9		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFUD9XH9D		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFUD9X06H		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFUD9X136		D	D		D	D	D	D	D							
7/16/2024	XX	LFUD9X1EB		D	D		D	D	D	D	D							
10/8/2024	XX	LFUD9X1JJ		D	D		D	D	D	D	D							
LF-UD-10																		
10/25/2017	XX	LFXXXX9ID		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LFXXXXA48		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LFU10XAD6		D	D		D	D	D	D	D							
10/3/2018	XX	LFXXXXB27		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LFXXXXB74		F6	F6		F6	F6	F6	F6	F6							
7/16/2019	XX	LFXXXXBDE		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LFXXXXBJ7		F6	F6		F6	F6	F6	F6	F6							
4/28/2020	XX	LFXXXXCEE		F6	F6		F6	F6	F6	F6	F6							
7/21/2020	XX	LFXXXXCJ7		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LFXXXXD4B		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LFXXXXDDB		F6	F6		F6	F6	F6	F6	F6							
7/13/2021	XX	LFXXXXE12		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LFXXXXE7C		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LFXXXXF23		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LFXXXXFA0		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LFXXXXG02		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LFXXXXGJD		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFXXXXH9E		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LFXXXX06I		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LFXXXX137		D	D		D	D	D	D	D							
7/16/2024	XX	LFXXXX1EC		D	D		D	D	D	D	D							
10/8/2024	XX	LFXXXX200		D	D		D	D	D	D	D							
LF-UD-12+13+14																		
4/6/2021	XX	LFX12XDFB		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LFXXXX01F	UF	0.005 U	16	0.003 U	1.1	5.1	0.071	1.4	5.4	0.05 U						
10/3/2023	XX	LFXXXX0A2		F6	F6		F6	F6	F6	F6	F6							
7/16/2024	XX	LFXXXX1GD		D	D	D	D	D	D	D	D	D						
LP-UD-1																		
4/28/2015	XX	LPUD1X794		F6	F6		F6	F6	F6	F6	F6							
7/14/2015	XX	LPUD1X7CG		F6	F6		F6	F6	F6	F6	F6							
10/26/2015	XX	LPUD1X7I5		F6	F6		F6	F6	F6	F6	F6							
4/5/2016	XX	LPUD1X86F		F6	F6		F6	F6	F6	F6	F6							
7/26/2016	XX	LPUD1X8B5		F6	F6		F6	F6	F6	F6	F6							
10/25/2016	XX	LPUD1X8J4		F6	F6		F6	F6	F6	F6	F6							
4/18/2017	XX	LPUD1X97A		F6	F6		F6	F6	F6	F6	F6							
7/25/2017	XX	LPUD1X9D8		F6	F6		F6	F6	F6	F6	F6							

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(LP-UD-1)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/25/2017	XX	LPUD1X9H3		F6	F6		F6	F6	F6	F6	F6							
4/3/2018	XX	LPUD1XA32		F6	F6		F6	F6	F6	F6	F6							
7/17/2018	XX	LPUD1XAC3		F6	F6		F6	F6	F6	F6	F6							
10/2/2018	XX	LPUD1XB11		F6	F6		F6	F6	F6	F6	F6							
4/23/2019	XX	LPUD1XB5I	UF	0.005 U	32		0.05	8.7	0.05 U	1.7	5.5							
7/16/2019	XX	LPUD1XBCA		F6	F6		F6	F6	F6	F6	F6							
10/29/2019	XX	LPUD1XBI3		F6	F6		F6	F6	F6	F6	F6							
4/28/2020	XX	LPUD1XCDA		F6	F6		F6	F6	F6	F6	F6							
7/22/2020	XX	LPUD1XCI3		F6	F6		F6	F6	F6	F6	F6							
10/27/2020	XX	LPUD1XD37		F6	F6		F6	F6	F6	F6	F6							
4/6/2021	XX	LPUD1XDC9		F6	F6		F6	F6	F6	F6	F6							
7/13/2021	XX	LPUD1XE01		F6	F6		F6	F6	F6	F6	F6							
10/5/2021	XX	LPUD1XE69		F6	F6		F6	F6	F6	F6	F6							
4/26/2022	XX	LPUD1XF11		F6	F6		F6	F6	F6	F6	F6							
7/19/2022	XX	LPUD1XF8J		F6	F6		F6	F6	F6	F6	F6							
10/4/2022	XX	LPUD1XFJ0		F6	F6		F6	F6	F6	F6	F6							
4/18/2023	XX	LPUD1XGIB		F6	F6		F6	F6	F6	F6	F6							
7/11/2023	XX	LPUD1XH8D		F6	F6		F6	F6	F6	F6	F6							
10/3/2023	XX	LPUD1X061		F6	F6		F6	F6	F6	F6	F6							
4/2/2024	XX	LPUD1X12B		F6	F6		F6	F6	F6	F6	F6							
7/16/2024	XX	LPUD1X1DD		F6	F6		F6	F6	F6	F6	F6							
10/8/2024	XX	LPUD1X1J4		F6	F6		F6	F6	F6	F6	F6							
LP-UD-2																		
4/28/2015	XX	LPUD2X795		0.013	34.4		0.05 U	10	0.05 U	1.8	7							
7/14/2015	XX	LPUD2X7CH		0.01	39.3		0.05 U	9.8	0.05 U	2.4	7.6							
10/27/2015	XX	LPUD2X7I6		0.01	33.4		0.05 U	10.3	0.05 U	2.1	7							
4/5/2016	XX	LPUD2X86G		0.013	33.8		0.05 U	9.3	0.05 U	1.7	6.4							
7/26/2016	XX	LPUD2X8B6		0.024	45.8		0.11	11.3	0.19	3.4	8.2							
10/25/2016	XX	LPUD2X8J5		0.005 U	68.2		2.36	15.9	0.8	3.3	10.4							
4/18/2017	XX	LPUD2X97B		0.005	49		0.05 U	16	0.05 U	2.1	11							
7/25/2017	XX	LPUD2X9D9		0.005 U	37		0.05 U	11	0.05 U	2.4	7.5							
10/25/2017	XX	LPUD2X9H4		0.005 U	38		0.1	10	0.05 U	2.2	7							
4/3/2018	XX	LPUD2XA33	UF	0.005 U	34		0.05 U	11	0.05 U	2	7							
7/17/2018	XX	LPUD2XAC4	UF	0.007	38		0.05 U	9.5	0.05 U	2.1	6.5							
10/2/2018	XX	LPUD2XB12	UF	0.005 U	41		0.05 U	11	0.05 U	2.1	7.3							
4/23/2019	XX	LPUD2XB5J	UF	0.005 U	33		0.05 U	8.8	0.05 U	1.8	5.6							
7/16/2019	XX	LPUD2XBCB	UF	0.005 U	32		0.05 U	9.9	0.05 U	2.3	7.3							
10/29/2019	XX	LPUD2XBI4	UF	0.005 U	34		0.05 U	9.2	0.05 U	2.1	6.3							
4/28/2020	XX	LPUD2XCDB	UF	0.005 U	36		0.05 U	10	0.05 U	1.7	6.1							
7/21/2020	XX	LPUD2XCI4	UF	0.005 U	38		0.17	12	0.05 U	2.8	7.9							
10/27/2020	XX	LPUD2XD38	UF	0.005 U	40		0.61	12	0.05 U	2.1	7.4							
4/6/2021	XX	LPUD2XDCA	UF	0.005 U	38		0.05 U	10	0.05 U	1.7	5.5							
7/13/2021	XX	LPUD2XE02	UF	0.005 U	42		0.1	11	0.05 U	2.2	7							
10/5/2021	XX	LPUD2XE6A	UF	0.005 U	40		0.05 U	10	0.05 U	2.1	6.7							
4/26/2022	XX	LPUD2XF12	UF	0.005 U	40		0.05 U	10	0.05 U	2.3	5.9							
7/19/2022	XX	LPUD2XF90	UF	0.005 U	46		0.18	13	0.05 U	2.4	7.5							
10/4/2022	XX	LPUD2XFJ1	UF	0.005 U	43		0.081	10	0.05 U	2	6.5							
4/18/2023	XX	LPUD2XGIC	UF	0.005 U	43		1.5	11	0.14	1.9	6.5							
7/11/2023	XX	LPUD2XH8E	UF	0.005 U	45		1.5	12	0.12	2.5	7.5							

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(LP-UD-2)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/3/2023	XX	LPUD2X062	UF	0.005 U	37		0.05 U	9.8	0.05 U	2	6.7							
4/2/2024	XX	LPUD2X12C	UF	0.005 U	32		0.99	8.8	0.05 U	1.6	5							
7/16/2024	XX	LPUD2X1DE	UF	0.005 U	38		3.4	10	0.1	2.3	6.3							
10/8/2024	XX	LPUD2X1J5	UF	0.005 U	39		0.46	9.9	0.05 U	1.7	5.5							
MW-04-09A																		
2/26/2020	XX	GWX09AC56	UF	0.007	19	0.004	1.4	7	0.18	3.2	20							
2/26/2020	XX	GWX09AIOA		0.007	19	0.003 U	0.22	6.7	0.14	2.8	19							
4/30/2020	XX	GWX09ACC1	UF	0.008	22	0.003 U	1.1	7.3	0.32	2.8	26							
6/23/2020	XX	GWX09ACGC	UF	0.005	21	0.003 U	0.48	7.5	0.29	3.6	43							
8/20/2020	XX	GWX09AD1J	UF	0.006	22	0.003 U	0.46	7.5	0.29	3.6	53							
7/15/2021	XX	GWXXXXE20	UF	0.005 U	21	0.003	0.25	6.6	0.3	2.9	45	0.05 U						
10/7/2021	XX	GWX09AE86	UF	0.005 U	23	0.003 U	0.72	6.7	0.33	2.6	37	0.05 U						
4/27/2022	XX	GWX09AF2C	UF	0.005 U	24	0.0054	0.2	7	0.2	3	37	0.05 U						
7/20/2022	XX	GWXXXXFAF	UF	0.005 U	24	0.0039	0.07	7.3	0.2	3.3	32	0.05 U						
10/5/2022	XX	GWX09AG0B	UF	0.005 U	23	0.003 U	0.11	6.5	0.26	2.1	30	0.05 U						
4/19/2023	XX	GWX09AH02	UF	0.0072	26	0.003 U	0.71	7.8	0.25	2.4	34	0.05 U						
7/12/2023	XX	GWXXXX00B	UF	0.005 U	22	0.0039	0.3	6.8	0.26	2.1	31	0.05 U						
10/4/2023	XX	GWX09A077	UF	0.005 U	22	0.0033	0.24	6.1	0.24	1.9	26	0.05 U						
4/10/2024	XX	GWX09A13G	UF	0.005 U	20	0.01	0.18	5.6	0.2	1.8	28	0.05 U						
7/17/2024	XX	GWXXXX1FA	UF	0.005 U	22	0.0036	0.14	6.1	0.21	1.9	28	0.05 U						
10/9/2024	XX	GWX09A209	UF	0.005 U	20	0.003 U	0.19	5.9	0.27	1.8	30	0.05 U						
MW-04-09B																		
2/26/2020	XX	GWX09BC57	UF	0.005 U	11	0.003 U	0.16	4.1	0.05 U	0.9	5							
4/30/2020	XX	GWX09BCC2	UF	0.005 U	8.1	0.003 U	0.28	3.1	0.05 U	0.7	5.6							
6/23/2020	XX	GWX09BCGD	UF	0.005 U	8.1	0.003 U	0.22	3.6	0.05 U	0.9	5.4							
8/20/2020	XX	GWX09BD20	UF	0.005	8.4	0.003 U	0.14	3.6	0.05 U	1	5.3							
7/15/2021	XX	GWXXXXE21	UF	0.005 U	9	0.003 U	0.25	3.6	0.05 U	0.7	4	0.05 U						
10/7/2021	XD	GWDP5XE8E	UF	0.005 U	10	0.003 U	0.09	3.8	0.05 U	0.7	4	0.05 U						
10/7/2021	XX	GWX09BE87	UF	0.005 U	10	0.003 U	0.32	3.7	0.05 U	0.7	4.2	0.05 U						
4/27/2022	XD	GWDP5XF30	UF	0.005 U	9.5	0.003 U	0.09	3.7	0.05 U	1.7	5.1	0.05 U						
4/27/2022	XX	GWX09BF2D	UF	0.005 U	9.3	0.003 U	0.07	3.7	0.05 U	1.5	5.1	0.05 U						
7/20/2022	XX	GWXXXXFAG	UF	0.005 U	9.5	0.003 U	0.13	3.6	0.05 U	1.3	5	0.05 U						
10/5/2022	XD	GWDP5XG0J	UF	0.005 U	9.2	0.0061	0.12	3.7	0.05 U	0.63	4.5	0.05 U						
10/5/2022	XX	GWX09BG0C	UF	0.005 U	9.7	0.003 U	0.24	3.8	0.05 U	0.71	4.6	0.05 U						
4/19/2023	XX	GWX09BH03	UF	0.005 U	9	0.003 U	0.2	3.8	0.05 U	0.62	4.4	0.05 U						
7/12/2023	XX	GWXXXX00C	UF	0.005 U	8.9	0.003 U	0.23	3.8	0.05 U	0.63	4.3	0.05 U						
10/4/2023	XX	GWX09B078	UF	0.005 U	10	0.003 U	0.084	4.1	0.05 U	0.65	4.3	0.05 U						
4/10/2024	XX	GWX09B13H	UF	0.005 U	6.7	0.012	0.12	2.6	0.05 U	0.45	3.8	0.05 U						
7/17/2024	XX	GWXXXX1FB	UF	0.005 U	8.1	0.0061	0.13	3.1	0.05 U	0.54	3.9	0.05 U						
10/9/2024	XX	GWX09B20A	UF	0.005 U	9.1	0.003 U	0.08	3.7	0.05 U	0.6	4.1	0.05 U						
MW04-102																		
4/29/2015	XX	GW102X79C		0.015	26.6		0.05 U	7	0.05 U	1.5	7.2							
7/14/2015	XX	GW102X7D4		0.009	26.5		0.05 U	6.3	0.05 U	1.5	7							
10/28/2015	XX	GW102X7ID		0.006	24.3		0.05 U	6.6	0.05 U	1.7	7							
4/5/2016	XX	GW102X873		0.008	26		0.05 U	6.5	0.05 U	1.4	6.8							
7/26/2016	XX	GW102X8BD		0.013	28.2		0.06	7	0.05 U	1.7	7.3							
10/25/2016	XX	GW102X8JC		0.005	30		0.19	7.2	0.05 U	2.4	8.7							

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(MW04-102)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/19/2017	XX	GW102X97I		0.006	25		0.05 U	7.1	0.05 U	1.6	6.9							
7/26/2017	XX	GW102X9DG		0.005 U	24		0.05 U	6.4	0.05 U	1.6	7.3							
10/25/2017	XX	GW102X9HB		0.005 U	28		0.12	7.1	0.05 U	1.9	8.4							
4/4/2018	XX	GW102XA3A	UF	0.005 U	25		0.11	7.1	0.05 U	1.4	7.5							
7/18/2018	XX	GW102XACB	UF	0.005 U	28		0.09	7	0.05 U	1.7	7.9							
10/3/2018	XX	GW102XB19	UF	0.005 U	27		0.05 U	6.9	0.05 U	1.7	7							
4/24/2019	XX	GW102XB66	UF	0.005	26		0.14	7.1	0.05 U	1.5	7.1							
7/17/2019	XX	GW102XBCH	UF	0.005 U	24		0.05 U	7.1	0.05 U	1.7	7.9							
10/28/2019	XX	GW102XBIA	UF	0.005	24		0.05 U	6.6	0.05 U	1.6	6.9							
4/27/2020	XX	GW102XCDH	UF	0.005 U	28		0.05 U	7.5	0.05 U	1.5	7.2							
7/20/2020	XX	GW102XCIA	UF	0.005 U	25		0.06	6.9	0.05 U	2	8							
10/26/2020	XX	GW102XD3E	UF	0.005 U	26		0.05 U	6.9	0.05 U	1.4	8							
4/5/2021	XX	GW102XDCG	UF	0.005 U	27		0.05 U	7.3	0.05 U	1.4	7.2							
7/12/2021	XX	GW102XE08	UF	0.005	26		0.05 U	6.4	0.05 U	1.4	6.3							
10/4/2021	XX	GW102XE6G	UF	0.005	27		0.05 U	6.8	0.05 U	1.6	6.7							
4/25/2022	XX	GW102XF18	UF	0.005 U	30		0.05 U	7.6	0.05 U	2.4	8.4							
7/18/2022	XX	GW102XF96	UF	0.005 U	27		0.06	7.2	0.05 U	1.6	7.2							
10/3/2022	XX	GW102XFJ7	UF	0.005 U	29		0.059	7.1	0.05 U	1.7	6.9							
4/17/2023	XX	GW102XGII	UF	0.0078	30		0.05 U	7.9	0.05 U	1.6	7.5							
7/10/2023	XX	GW102XH90	UF	0.005 U	30		0.073	7.5	0.05 U	1.5	6.9							
10/2/2023	XX	GW102X067	UF	0.005 U	27		0.05 U	7.1	0.05 U	1.6	7							
4/1/2024	XX	GW102X12H	UF	0.005 U	28		0.11	7	0.05 U	1.5	7.4							
7/15/2024	XX	GW102X1DJ	UF	0.005 U	30		0.05 U	7.2	0.05 U	1.6	7.3							
10/7/2024	XX	GW102X1JA	UF	0.027	26		0.054	7	0.05 U	1.6	6.5							
MW04-109 & MW04-109R																		
4/28/2015	XX	GW109X79D		0.019	63.4		0.05 U	10.4	0.33	1.8	6.9							
7/14/2015	XX	GW109X7D5		0.015	57.3		0.05 U	9.4	0.5	1.7	6.5							
10/27/2015	XX	GW109X7IE		0.017	54		0.05 U	10.8	0.64	2	7.3							
4/5/2016	XX	GW109X874		0.024	61.2		0.05 U	9.5	0.58	1.7	6.1							
7/26/2016	XX	GW109X8BE		0.031	62.9		0.05 U	11.1	0.85	1.9	7.3							
10/25/2016	XX	GW109X8JD		0.005	65.9		0.05 U	11.1	0.98	2.3	7.8							
4/18/2017	XX	GW109X97J		0.005 U	62		0.05 U	12	0.78	2	6.9							
7/25/2017	XX	GW109X9DH		0.005 U	68		0.05 U	12	1.4	2.1	6.9							
10/24/2017	XX	GW109X9HC		0.006	69		0.05 U	12	1.4	2	7.1							
4/3/2018	XX	GW109XA3B	UF	0.005 U	67		0.05 U	13	0.48	2.2	7.8							
7/17/2018	XX	GW109XACC	UF	0.005	67		0.05 U	12	1.1	1.8	6.4							
10/2/2018	XX	GW109XB1A	UF	0.005 U	67		0.05 U	12	1.3	2.1	7.5							
4/23/2019	XX	GW109XB67	UF	0.005 U	64		0.05 U	13	0.53	1.9	6.8							
7/16/2019	XX	GW109XBCI	UF	0.005 U	65		0.05 U	13	1.2	1.9	7.4							
10/29/2019	XX	GW109XBIB	UF	0.005 U	60		0.05 U	12	1.3	2.3	7.5							
4/28/2020	XX	GW109XCDI	UF	0.005 U	59		0.05 U	12	0.37	1.8	6.5							
7/21/2020	XX	GW109XCIB	UF	0.005 U	58		0.05 U	13	0.96	2.3	7.6							
10/27/2020	XX	GW109XD3F	UF	0.005 U	53		0.05 U	11	1.3	1.7	7							
4/6/2021	XX	GW109XDCH	UF	0.005 U	57		0.05 U	12	0.26	1.8	6.1							
7/13/2021	XX	GW109XE09	UF	0.005 U	57		0.05 U	12	0.97	2.4	8							
10/5/2021	XX	GW109XE6H	UF	0.007	59		0.05 U	12	1.4	1.8	6.7							
4/26/2022	XX	GW109XF19	UF	0.005 U	57		0.05 U	11	0.17	2.6	6.6							
7/19/2022	XD	GWDP7XFBI	UF	0.005 U	54		0.05 U	12	0.95	1.6	6							
7/19/2022	XX	GW109XF97	UF	0.005 U	56		0.05	13	0.83	1.8	6.4							

SEVEE & MAHER ENGINEERS, INC.
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(MW04-109 & MW04-109R)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
Date	Type	Sample ID	-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
10/4/2022	XX	GW109XFJ8	UF	0.005 U	58		0.05 U	11	1.1	1.9	6.6							
4/18/2023	XX	GW109XGIJ	UF	0.005 U	60		0.05 U	12	0.27	2.2	6.9							
7/11/2023	XD	GWDP8X01C	UF	0.005 U	54		0.12	12	6.6	1.7	5.9							
7/11/2023	XX	GW109XH91	UF	0.005 U	57		0.11	12	6	2.2	7.1							
10/2/2023	XX	GW109X068	UF	0.005 U	49		0.05 U	11	3.6	1.7	6.3							
4/2/2024	XX	GW109X12I	UF	0.005 U	51		0.05 U	11	0.39	1.9	6							
7/16/2024	XD	GWDP8X1GB	UF	0.005 U	54		0.14	11	5.2	1.6	5.7							
7/16/2024	XX	GW109X1E0	UF	0.005 U	52		0.13	9.9	5.6	1.6	5.5							
10/8/2024	XX	GW109X1JB	UF	0.005 U	41		0.058	9.4	4.1	2.3	7.2							
MW06-01																		
4/10/2018	XD	GWDP1XA68	UF	0.005 U	8.7	0.003 U	0.05 U	2.5	0.05 U	0.4	2.7							
4/10/2018	XX	GWXXXXA70	UF	0.005 U	8.6	0.003 U	0.05 U	2.4	0.05 U	0.4	2.7							
6/4/2018	XX	GWXXXXA7H	UF	0.005 U	11	0.003 U	0.05 U	3	0.05 U	0.4	2.9							
7/18/2018	XX	GWXXXXAEF	UF	0.005 U	10		0.05 U	2.6	0.05 U	0.4	2.8							
8/20/2018	XD	GWDP1XAF4	UF	0.005 U	9.2		0.05 U	2.4	0.05 U	0.4	2.6							
8/20/2018	XX	GWXXXXAFG	UF	0.005 U	9		0.05 U	2.5	0.05 U	0.4	2.5							
4/24/2019	XX	GWXXXXB7D	UF	0.005 U	8.4		0.66	2.6	0.05 U	0.6	2.7							
7/18/2019	XX	GWXXXXBE1	UF	0.005 U	9		0.05 U	3.2	0.05 U	0.6	3.4							
10/30/2019	XX	GWXXXXBJ8	UF	0.005 U	8.5		0.05 U	2.5	0.05 U	0.5	2.7							
4/29/2020	XX	GWXXXXCF1	UF	0.005 U	9.5		0.05 U	2.7	0.05 U	0.6	2.9							
7/22/2020	XX	GWXXXXCJE	UF	0.005 U	8.9		0.05 U	2.9	0.05 U	0.9	3.5							
10/28/2020	XX	GWXXXXD4C	UF	0.005 U	9.3		0.05 U	2.9	0.05 U	0.5	3.4							
4/7/2021	XX	GWXXXXDDI	UF	0.005 U	12		0.05 U	3.5	0.05 U	0.5	3.2	0.05 U						
7/14/2021	XX	GWXXXXE19	UF	0.005 U	12		0.05	3.3	0.05 U	0.4	2.9							
10/6/2021	XX	GWXXXXE7D	UF	0.005 U	13		0.05 U	3.6	0.05 U	0.5	3.3							
4/27/2022	XX	GWXXXXF24	UF	0.005 U	23		0.05 U	6.2	0.05 U	1.7	5.9							
7/20/2022	XX	GWXXXXFA7	UF	0.005 U	21	0.003 U	0.05 U	6.4	0.05 U	0.98	4.8	0.05 U						
10/5/2022	XX	GWXXXXG03	UF	0.005 U	21	0.003 U	0.05 U	5.6	0.05 U	0.61	4	0.05 U						
4/19/2023	XX	GWXXXXGJE	UF	0.005 U	26		0.05 U	7.6	0.05 U	0.79	4.7							
7/12/2023	XX	GWXXXX003	UF	0.005 U	26	0.003 U	0.05 U	7.6	0.05 U	0.71	4.8	0.05 U						
10/4/2023	XX	GWXXXX06J	UF	0.005 U	26	0.003 U	0.051	7.3	0.05 U	0.82	5.2	0.05 U						
4/10/2024	XX	GWXXXX138	UF	0.005 U	32	0.11	0.05 U	8.3	0.05 U	0.81	5	0.05 U						
7/17/2024	XX	GWXXXX1F2	UF	0.005 U	27	0.003 U	0.05 U	7.7	0.05 U	0.77	5	0.05 U						
10/9/2024	XX	GWXXXX201	UF	0.005 U	25	0.003 U	0.05 U	7.6	0.05 U	0.78	5.1	0.05 U						
MW-08-01																		
2/9/2021	XX	GWXXXXDA0	UF	0.005	11	0.003 U	0.32	2.9	0.05 U	1.1	31	0.05 U						
4/7/2021	XX	GWXXXXDAJ	UF	0.005 U	13	0.003 U	0.05 U	2.9	0.05 U	1.3	35	0.05 U						
6/9/2021	XX	GWXXXXDH2	UF	0.005	13	0.003 U	0.05	3.2	0.05 U	1.3	26	0.05 U						
8/19/2021	XX	GWXXXXE4G	UF	0.005 U	13	0.003 U	0.05 U	2.8	0.05 U	1.3	27	0.05 U						
10/4/2021	XX	GWXXXXE9B	UF	0.005 U	14	0.003 U	0.05 U	3.1	0.05 U	1.3	26	0.05 U						
4/27/2022	XX	GWXXXXF3G	UF	0.005 U	18	0.003 U	0.4	3.4	0.05 U	2.7	32	0.05 U						
7/21/2022	XX	GWXXXXFBD	UF	0.005 U	19	0.005	0.4	4.1	0.05 U	2.6	20	0.05 U						
10/5/2022	XX	GWXXXXG1F	UF	0.005 U	23	0.003 U	0.18	4.5	0.05 U	1.5	18	0.05 U						
4/17/2023	XX	GWXXXXH16	UF	0.0078	24	0.003 U	0.05 U	5.4	0.05 U	1.7	17	0.05 U						
7/13/2023	XX	GWXXXX019	UF	0.005 U	24	0.003 U	0.05 U	5.3	0.05 U	1.6	16	0.05 U						
10/5/2023	XX	GWXXXX08B	UF	0.005 U	23	0.003 U	0.069	4.9	0.05 U	1.6	15	0.05 U						
4/11/2024	XX	GWXXXX150	UF	0.005 U	23	0.045	0.05 U	5	0.05 U	1.5	14	0.05 U						
7/17/2024	XX	GWXXXX1G8	UF	0.005 U	23	0.0032	0.06	5.6	0.05 U	1.7	18	0.05 U						

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(MW-08-01)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
10/10/2024	XX	GWXXXX21D	UF	0.005 U	21	0.003 U	0.05 U	5.1	0.05 U	1.4	13	0.05 U					
MW09-901																	
4/28/2015	XX	GW901X78G		0.012	33.5		0.05 U	9.3	0.05 U	2.1	12.1						
7/14/2015	XX	GW901X7C8		0.011	33.2		0.05 U	9.1	0.05 U	2.2	10.6						
10/27/2015	XX	GW901X7HH		0.011	32.1		0.05 U	10.7	0.05 U	2.5	12.7						
4/5/2016	XD	GWDP1X85F		0.016	36.4		0.05 U	9.6	0.05 U	2.1	11						
4/5/2016	XX	GW901X867		0.015	36.6		0.05 U	10	0.05 U	2.1	11.3						
7/26/2016	XD	GWDP1X8A5		0.02	41		0.05 U	11.8	0.05 U	2.5	12.4						
7/26/2016	XX	GW901X8AH		0.019	41.5		0.05 U	11.6	0.05 U	2.5	11.9						
10/25/2016	XX	GW901X8IG		0.005	46.2		0.05 U	11.5	0.05 U	2.6	14.4						
4/18/2017	XD	GWDP1X96A		0.005 U	38		0.05 U	12	0.05 U	2.2	10						
4/18/2017	XX	GW901X972		0.006	39		0.05 U	13	0.05 U	2.6	12						
7/25/2017	XD	GWDP1X9C8		0.005 U	50		0.05 U	14	0.05 U	2.6	11						
7/25/2017	XX	GW901X9D0		0.005 U	50		0.05 U	14	0.05 U	2.6	11						
10/24/2017	XX	GW901X9GF		0.005 U	53		0.05 U	14	0.05 U	2.3	11						
4/3/2018	XD	GWDP1XA21	UF	0.005 U	51		0.05 U	16	0.05 U	2.5	12						
4/3/2018	XX	GW901XA2E	UF	0.005 U	50		0.05	13	0.05 U	2.3	10						
7/17/2018	XD	GWDP1XAB3	UF	0.005 U	51		0.05 U	12	0.05 U	2	8.2						
7/17/2018	XX	GW901XABF	UF	0.005 U	56		0.05 U	13	0.05 U	2.2	8.7						
10/2/2018	XX	GW901XB0D	UF	0.005 U	58		0.05 U	14	0.05 U	2.3	11						
4/23/2019	XD	GWDP1XB4H	UF	0.005 U	49		0.05 U	12	0.05 U	1.8	9.8						
4/23/2019	XX	GW901XB5A	UF	0.005 U	49		0.05 U	12	0.05 U	1.8	9.8						
7/16/2019	XD	GWDP1XBBA	UF	0.005 U	49		0.05 U	13	0.05 U	1.9	11						
7/16/2019	XX	GW901XBC2	UF	0.005 U	51		0.05 U	13	0.05 U	1.8	11						
10/29/2019	XX	GW901XBHF	UF	0.005 U	44		0.05 U	11	0.05 U	1.9	10						
4/28/2020	XD	GWDP1XCCA	UF	0.005 U	46		0.05 U	12	0.05 U	1.7	8.8						
4/28/2020	XX	GW901XCD2	UF	0.005 U	46		0.05 U	12	0.05 U	1.7	8.9						
7/21/2020	XD	GWDP1XCH3	UF	0.005 U	42		0.05 U	12	0.05 U	2.9	9.9						
7/21/2020	XX	GW901XCHF	UF	0.005 U	45		0.05 U	13	0.05 U	2	9.9						
10/27/2020	XX	GW901XD2J	UF	0.005 U	43		0.05 U	12	0.12	1.6	10						
4/6/2021	XD	GWDP1XDB9	UF	0.005 U	48		0.05 U	14	0.05 U	1.8	8.7						
4/6/2021	XX	GW901XDC1	UF	0.005 U	47		0.05 U	13	0.05 U	1.6	8.3						
7/13/2021	XD	GWDP1XDJ1	UF	0.005	41		0.05 U	12	0.05 U	1.5	8.3						
7/13/2021	XX	GW901XDJD	UF	0.005 U	42		0.05 U	12	0.05 U	1.6	8.6						
10/5/2021	XX	GW901XE61	UF	0.005 U	43		0.05 U	12	0.07	1.5	8.4						
4/26/2022	XX	GW901XF0D	UF	0.005 U	53		0.05 U	16	0.05 U	2.1	8.9						
7/19/2022	XD	GWDP1XF7J	UF	0.005 U	47		0.05 U	14	0.05	1.6	8.6						
7/19/2022	XX	GW901XF8B	UF	0.005 U	47		0.05 U	14	0.06	1.6	8.7						
10/4/2022	XX	GW901XFIC	UF	0.005 U	39		0.05 U	11	0.05 U	1.4	7.8						
4/18/2023	XX	GW901XGI3	UF	0.005 U	51		0.05 U	17	0.05 U	2	12						
7/11/2023	XD	GWDP1XH7D	UF	0.005 U	48		0.05 U	14	0.08	1.6	9.2						
7/11/2023	XX	GW901XH85	UF	0.005 U	51		0.05 U	15	0.075	1.8	9.6						
10/2/2023	XX	GW901X05D	UF	0.005 U	29		0.05 U	9.4	0.14	1	6.7						
4/2/2024	XX	GW901X123	UF	0.005 U	42		0.05 U	12	0.05 U	1.5	8.2						
7/16/2024	XD	GWDP1X1CD	UF	0.005 U	45		0.05 U	12	0.05 U	1.4	8.5						
7/16/2024	XX	GW901X1D5	UF	0.005 U	45		0.05 U	12	0.05 U	1.4	8.3						
10/8/2024	XX	GW901X1IG	UF	0.17	34		0.05 U	9.9	0.05 U	1.4	7.4						
MW-206																	

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-206)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/27/2015	XX	GW206X77J		0.01	16.2		0.19	4.6	0.05 U	0.7	4.4							
7/13/2015	XX	GW206X7BB		0.012	17.5		0.05 U	4.8	0.05 U	0.7	4.7							
7/13/2015	XD	GWDP3X7C7		0.016	15.7		0.05 U	4.3	0.05 U	0.6	4.2							
10/26/2015	XX	GW206X7H0		0.016	14.9		0.05 U	4.7	0.05 U	0.7	4.7							
4/4/2016	XX	GW206X85A		0.005	15.9		0.05 U	4.5	0.05 U	0.7	4.2							
7/25/2016	XD	GWDP4X8B2		0.021	17.3		0.05 U	4.8	0.05 U	0.7	4.3							
7/25/2016	XX	GW206X8A0		0.022	16.9		0.05 U	4.7	0.05 U	0.7	4.3							
10/24/2016	XX	GW206X8HJ		0.008	17.5		0.05 U	5	0.05 U	0.9	4.8							
4/17/2017	XX	GW206X965		0.01	17		0.05	5.2	0.05 U	0.8	5							
7/24/2017	XD	GWDP4X9D5		0.008	16		0.05 U	4.8	0.05 U	0.5	4.3							
7/24/2017	XX	GW206X9C3		0.005 U	16		0.05 U	4.8	0.05 U	0.6	4.4							
10/23/2017	XX	GW206X9FI		0.007	17		0.05	5.1	0.05 U	0.8	4.8							
4/2/2018	XX	GW206XA1G	UF	0.008	19		0.3	5.9	0.05 U	0.9	5.5							
7/16/2018	XD	GWDP4XAC0	UF	0.008	17		0.05 U	4.9	0.05 U	0.8	4.5							
7/16/2018	XX	GW206XAAI	UF	0.007	17		0.09	4.8	0.05 U	0.7	4.5							
10/1/2018	XX	GW206XAJG	UF	0.007	18		0.05	5.3	0.05 U	0.7	4.8							
4/22/2019	XX	GW206XB4C	UF	0.005	18		0.25	5.3	0.05 U	0.7	4.6							
7/17/2019	XX	GW206XBB5	UF	0.006	16		0.05 U	5.4	0.05 U	0.8	5.2							
10/28/2019	XX	GW206XBGJ	UF	0.006	16		0.05	4.8	0.05 U	0.8	4.5							
4/27/2020	XX	GW206XCC5	UF	0.006	18		0.09	5.2	0.05 U	0.7	4.6							
7/20/2020	XX	GW206XCGI	UF	0.005	16		0.05 U	4.9	0.05 U	0.8	4.7							
10/26/2020	XX	GW206XD23	UF	0.005	16		0.2	4.8	0.05 U	0.4	4.3							
4/5/2021	XX	GW206XDB4	UF	0.006	18		0.05 U	5.3	0.05 U	0.7	4.6							
7/14/2021	XX	GW206XDIG	UF	0.005 U	16	0.003 U	0.05 U	4.6	0.05 U	0.5	4	0.05 U						
10/4/2021	XX	GWXXXXE8D	UF	0.009	18	0.003 U	0.05 U	4.9	0.05 U	0.8	4.5	0.05 U						
4/25/2022	XX	GWXXXXF2J	UF	0.005 U	20	0.003 U	0.05 U	5.6	0.05 U	2.3	5.9	0.05 U						
7/18/2022	XX	GW206XF7E	UF	0.0055	18	0.003 U	0.05 U	5.3	0.05 U	0.81	4.5	0.05 U						
10/3/2022	XX	GWXXXXG0I	UF	0.005 U	18	0.0063	0.05 U	5	0.05 U	0.78	4.6	0.05 U						
4/17/2023	XX	GWXXXXH09	UF	0.009	18	0.003 U	0.05 U	5.4	0.05 U	0.73	4.6	0.05 U						
7/10/2023	XX	GW206XH78	UF	0.005 U	19	0.011	0.61	5.1	0.05 U	0.7	4.4	0.05 U						
10/2/2023	XX	GWXXXX07E	UF	0.005 U	17	0.003 U	0.05 U	4.6	0.05 U	0.81	4.6	0.05 U						
4/1/2024	XX	GWXXXX143	UF	0.005 U	18	0.03	0.05 U	4.9	0.05 U	0.73	4.7	0.05 U						
7/15/2024	XX	GW206X1C8	UF	0.005 U	18	0.003 U	0.28	4.9	0.05 U	0.71	4.5	0.05 U						
10/7/2024	XX	GWXXXX20G	UF	0.005 U	15	0.003 U	0.05 U	4.5	0.05 U	0.63	3.8	0.05 U						
MW-223A																		
4/28/2015	XX	GW223A781		0.012	75.4		0.05 U	8.2	0.05 U	0.8	4.6							
4/28/2015	XD	GWDP1X784		0.013	75.4		0.05 U	8.1	0.05 U	0.8	4.6							
7/14/2015	XX	GW223A7BD		0.015	76		0.05 U	7.5	0.05 U	0.8	4.3							
10/27/2015	XX	GW223A7H2		0.01	71.3		0.05 U	8.3	0.05 U	0.8	4.7							
4/27/2016	XX	GW223A85C		0.034	85.6		0.05 U	8.9	0.05 U	0.8	4.8							
7/26/2016	XX	GW223A8A2		0.021	83.9		0.05 U	9.1	0.05 U	0.9	4.9							
10/25/2016	XX	GW223A8I1		0.006	89.3		0.05 U	9	0.05 U	0.9	5.1							
4/18/2017	XX	GW223A967		0.005	78		0.05 U	9.6	0.05 U	0.9	5.1							
7/25/2017	XX	GW223A9C5		0.005 U	93		0.05 U	10	0.05 U	0.9	5.6							
10/24/2017	XX	GW223A9G0		0.005	93		0.05 U	10	0.05 U	0.9	5.5							
4/3/2018	XX	GW223AA1I	UF	0.005 U	86		0.05 U	11	0.05 U	1	5.9							
7/17/2018	XX	GW223AAB0	UF	0.006	91		0.05 U	8.9	0.05 U	0.7	4.3							
10/2/2018	XX	GW223AAJI	UF	0.005 U	98		0.05 U	11	0.05 U	0.9	6							
4/23/2019	XX	GW223AB4E	UF	0.005 U	91		0.05 U	10	0.05 U	0.9	5.4							

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(MW-223A)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
7/16/2019	XX	GW223ABB7	UF	0.005 U	89		0.05 U	10	0.05 U	1	6							
10/29/2019	XX	GW223ABH0	UF	0.005 U	92		0.05 U	10	0.05 U	1	5.4							
4/28/2020	XX	GW223ACC7	UF	0.005 U	100		0.05 U	11	0.05	1	5.6							
7/21/2020	XX	GW223ACH0	UF	0.005 U	94		0.05 U	11	0.05 U	1.2	6.2							
10/27/2020	XX	GW223AD24	UF	0.005 U	100		0.05 U	11	0.05 U	0.9	6.2							
4/6/2021	XX	GW223ADB6	UF	0.005 U	100		0.05 U	11	0.05 U	0.9	5.5							
7/13/2021	XX	GW223ADII	UF	0.005 U	99		0.05 U	11	0.05 U	1	5.7							
10/5/2021	XX	GW223AE56	UF	0.005 U	110		0.05 U	11	0.05 U	1	6.2							
4/26/2022	XX	GW223AEJI	UF	0.005 U	110		0.05 U	12	0.05 U	1.9	6.6							
7/19/2022	XX	GW223AF7G	UF	0.005 U	110		0.05 U	12	0.05 U	0.94	5.8							
10/4/2022	XX	GW223AFHH	UF	0.005 U	120		0.05 U	12	0.05 U	0.99	5.9							
4/18/2023	XX	GW223AGH8	UF	0.005 U	110		0.05 U	12	0.05 U	1.1	6.2							
7/11/2023	XX	GW223AH7A	UF	0.005 U	110		0.05 U	12	0.05 U	1.1	6.4							
10/2/2023	XX	GW223A04H	UF	0.005 U	76		0.05 U	8.5	0.05 U	0.73	4.6							
4/2/2024	XX	GW223A118	UF	0.005 U	110		0.05 U	11	0.05 U	1	6.5							
7/15/2024	XX	GW223A1CA	UF	0.005 U	110		0.05 U	12	0.05 U	0.95	6.2							
10/8/2024	XX	GW223A1I1	UF	0.033	91		0.05 U	9.7	0.05 U	0.9	5.3							
MW-223B																		
4/28/2015	XX	GW223B798		0.012	49.9		0.05	12	0.05 U	0.7	5							
7/14/2015	XX	GW223B7D0		0.012	50		0.05	11.7	0.05 U	0.8	4.9							
10/27/2015	XX	GW223B7I9		0.009	46.1		0.05 U	12.2	0.05 U	0.8	4.9							
4/5/2016	XX	GW223B86J		0.014	52.5		0.51	11.7	0.05 U	0.7	4.8							
7/26/2016	XX	GW223B8B9		0.017	57.2		0.08	13.5	0.05 U	0.8	5.1							
10/25/2016	XX	GW223B8J8		0.005 U	61.7		0.05 U	13.5	0.05 U	0.9	5.3							
4/18/2017	XX	GW223B97E		0.005 U	52		0.05	14	0.05 U	0.8	5.3							
7/25/2017	XX	GW223B9DC		0.005 U	60		0.05 U	15	0.05 U	0.8	5.6							
10/24/2017	XX	GW223B9H7		0.005 U	66		0.05 U	15	0.05 U	0.8	5.6							
4/3/2018	XX	GW223BA36	UF	0.007	56		0.05 U	15	0.05 U	0.8	5.4							
7/17/2018	XX	GW223BAC7	UF	0.005	65		0.05 U	14	0.05 U	0.7	4.7							
10/2/2018	XX	GW223BB15	UF	0.005 U	68		0.05 U	16	0.05 U	0.9	6							
4/23/2019	XX	GW223BB62	UF	0.005 U	66		0.05	17	0.05 U	0.8	5.8							
7/16/2019	XX	GW223BBCD	UF	0.005 U	68		0.05 U	17	0.05 U	1.1	6.4							
10/29/2019	XX	GW223BBI6	UF	0.005 U	64		0.05 U	16	0.05 U	0.9	5.5							
4/28/2020	XX	GW223BCDD	UF	0.005 U	65		0.05	15	0.05 U	0.8	5							
7/21/2020	XX	GW223BCI6	UF	0.005 U	64		0.06	17	0.05 U	0.9	6.1							
10/27/2020	XX	GW223BD3A	UF	0.005 U	67		0.15	17	0.05 U	0.9	6.1							
4/6/2021	XX	GW223BDCC	UF	0.005 U	67		0.05	16	0.05 U	0.8	5.2							
7/13/2021	XX	GW223BE04	UF	0.005	71		0.09	16	0.05 U	0.9	5.7							
10/5/2021	XX	GW223BE6C	UF	0.005 U	71		0.19	16	0.05 U	1	5.7							
4/26/2022	XX	GW223BF14	UF	0.005 U	75		0.11	17	0.05 U	1.6	6.3							
7/19/2022	XX	GW223BF92	UF	0.005 U	72		0.13	18	0.05 U	0.83	5.4							
10/4/2022	XX	GW223BFJ3	UF	0.005 U	80		0.05 U	18	0.05 U	0.98	5.8							
4/18/2023	XX	GW223BGIE	UF	0.005 U	80		0.05 U	19	0.05 U	1.1	6.3							
7/11/2023	XX	GW223BH8G	UF	0.005 U	79		0.05 U	19	0.05 U	0.93	5.9							
10/2/2023	XX	GW223B063	UF	0.005 U	76		0.35	18	0.05 U	1.2	7.9							
4/2/2024	XX	GW223B12D	UF	0.005 U	70		0.23	17	0.05 U	1	6.6							
7/16/2024	XX	GW223B1DF	UF	0.005 U	72		0.095	17	0.05 U	0.98	6.1							
10/8/2024	XX	GW223B1J6	UF	0.005 U	51		0.05 U	12	0.05 U	0.73	4.3							

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
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(MW-227)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
MW-227																		
4/28/2015	XX	GW227X782		0.021	23.2		0.05 U	5.4	0.05 U	1	5.4							
4/28/2015	XD	GWDP3X78F		0.018	22.5		0.05 U	5.4	0.05 U	1	5.2							
7/14/2015	XX	GW227X7BE		0.015	23.4		0.05 U	5.1	0.05 U	1	5.1							
7/14/2015	XD	GWDP1X7BG		0.016	20.9		0.05 U	4.8	0.05 U	1	5							
10/27/2015	XX	GW227X7H3		0.015	19.8		0.05 U	5.1	0.05 U	1	5.1							
10/27/2015	XD	GWDP1X7H5		0.017	18		0.05 U	5.1	0.05 U	1	5							
4/5/2016	XD	GWDP3X866		0.013	22.1		0.05 U	4.8	0.05 U	0.9	4.8							
4/5/2016	XX	GW227X85D		0.016	21.8		0.05 U	4.9	0.05 U	0.9	4.9							
7/26/2016	XD	GWDP3X8AG		0.023	22.9		0.08	5.6	0.05 U	1.1	5.4							
7/26/2016	XX	GW227X8A3		0.024	23		0.09	5.5	0.05 U	1.1	5.2							
10/25/2016	XD	GWDP3X8IF		0.012	26.4		0.1	5.5	0.05 U	1.2	5.3							
10/25/2016	XX	GW227X8I2		0.012	26		0.1	5.4	0.05 U	1.2	5.4							
4/18/2017	XD	GWDP3X971		0.016	22		0.11	6	0.05 U	1.2	5.8							
4/18/2017	XX	GW227X968		0.017	20		0.11	5.8	0.05 U	1.1	5.3							
7/25/2017	XD	GWDP3X9CJ		0.014	22		0.05 U	5.5	0.05 U	1	5.1							
7/25/2017	XX	GW227X9C6		0.011	23		0.08	5.7	0.05 U	1	5.3							
10/24/2017	XD	GWDP3X9GE		0.02	25		0.05 U	5.7	0.05 U	1	5.4							
10/24/2017	XX	GW227X9G1		0.019	24		0.05 U	5.5	0.05 U	1	5.2							
4/3/2018	XD	GWDP3XA2D	UF	0.013	21		0.05	5.6	0.05 U	1.1	5.5							
4/3/2018	XX	GW227XA1J	UF	0.013	21		0.05 U	5.7	0.05 U	1.1	5.7							
7/17/2018	XD	GWDP3XABE	UF	0.016	24		0.05 U	5.1	0.05 U	0.9	4.5							
7/17/2018	XX	GW227XAB1	UF	0.014	24		0.05 U	5	0.05 U	0.9	4.7							
10/2/2018	XD	GWDP3XB0C	UF	0.013	26		0.05 U	6.2	0.16	1.1	5.8							
10/2/2018	XX	GW227XAJJ	UF	0.014	26		0.05 U	6	0.15	1.1	5.9							
4/23/2019	XD	GWDP3XB59	UF	0.013	25		0.05	6.1	0.05 U	1.1	5.4							
4/23/2019	XX	GW227XB4F	UF	0.015	26		0.08	6	0.05 U	1.1	5.4							
7/16/2019	XD	GWDP3XBC1	UF	0.015	22		0.08	5.7	0.05 U	1.1	5.5							
7/16/2019	XX	GW227XBB8	UF	0.015	21		0.05	5.3	0.05 U	1	5.4							
10/29/2019	XD	GWDP3XBHE	UF	0.012	21		0.13	5.3	0.05 U	1.2	5.1							
10/29/2019	XX	GW227XBH1	UF	0.013	22		0.05 U	5.4	0.05 U	1.2	5.4							
4/28/2020	XD	GWDP3XCD1	UF	0.011	24		0.06	5.9	0.05 U	1.1	5.3							
4/28/2020	XX	GW227XCC8	UF	0.016	23		0.05	5.4	0.05 U	1	4.8							
7/21/2020	XD	GWDP3XCHE	UF	0.011	23		0.05	5.8	0.05 U	2.1	5.7							
7/21/2020	XX	GW227XCH1	UF	0.013	21		0.05 U	5.8	0.05 U	1.5	5.9							
10/27/2020	XD	GWDP3XD2I	UF	0.012	23		0.05 U	5.7	0.05 U	1.1	5.5							
10/27/2020	XX	GW227XD25	UF	0.012	22		0.05 U	5.7	0.05 U	1	5.6							
4/6/2021	XD	GWDP3XDC0	UF	0.012	23		0.07	5.4	0.05 U	1	4.7							
4/6/2021	XX	GW227XDB7	UF	0.013	24		0.07	5.5	0.05 U	1	4.8							
7/13/2021	XD	GWDP3XDJC	UF	0.013	22		0.24	5	0.05 U	1	4.7							
7/13/2021	XX	GW227XDIJ	UF	0.012	23		0.19	5.3	0.05 U	1.1	5.1							
10/5/2021	XD	GWDP3XE60	UF	0.019	24		0.38	5.6	0.05 U	1.2	5.4							
10/5/2021	XX	GW227XE57	UF	0.015	24		0.13	5.4	0.05 U	1.1	5.3							
4/26/2022	XD	GWDP3XF0C	UF	0.011	25		0.05 U	5.6	0.05 U	2.2	6							
4/26/2022	XX	GW227XEJJ	UF	0.0097	26		0.05 U	5.9	0.05 U	1.9	5.9							
7/19/2022	XD	GWDP3XF8A	UF	0.011	24		0.1	5.8	0.05 U	1	5.1							
7/19/2022	XX	GW227XF7H	UF	0.011	24		0.11	6	0.05 U	1	5.1							
10/4/2022	XD	GWDP3XFIB	UF	0.0084	24		0.14	5.1	0.05 U	1.1	4.8							
10/4/2022	XX	GW227XFHI	UF	0.0091	26		0.1	5.6	0.05 U	1.2	5.2							

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(MW-227)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/18/2023	XD	GWDP3XGI2	UF	0.011	27		0.05 U	6.3	0.05 U	1.8	6.8							
4/18/2023	XX	GW227XGH9	UF	0.0086	26		0.05 U	5.7	0.05 U	1.2	5.5							
7/11/2023	XD	GWDP3XH84	UF	0.011	25		0.051	5.8	0.05 U	1.1	5.3							
7/11/2023	XX	GW227XH7B	UF	0.011	26		0.13	5.9	0.05 U	1.1	5.4							
10/2/2023	XD	GWDP3X05C	UF	0.0071	23		0.05 U	5.2	0.05 U	1	5.7							
10/2/2023	XX	GW227X04I	UF	0.005 U	24		0.05 U	5.7	0.05 U	1.2	5.8							
4/2/2024	XD	GWDP3X122	UF	0.0065	22		0.05 U	5	0.05 U	1	5.2							
4/2/2024	XX	GW227X119	UF	0.005	21		0.074	5	0.05 U	1.1	5.1							
7/16/2024	XD	GWDP3X1D4	UF	0.005 U	24		0.05 U	5.3	0.05 U	1	5							
7/16/2024	XX	GW227X1CB	UF	0.005 U	23		0.05 U	5.4	0.05 U	1	5.1							
10/8/2024	XD	GWDP3X1IF	UF	0.005 U	19		0.084	4.5	0.05 U	0.9	3.9							
10/8/2024	XX	GW227X1I2	UF	0.005 U	19		0.056	4.4	0.05 U	0.91	4.1							
MW-301																		
4/29/2015	XX	GW301X783		0.012	19.9		0.05 U	4.9	0.05 U	0.7	12							
7/15/2015	XX	GW301X7BF		0.006	19.3		0.06	4.6	0.05 U	0.7	11.7							
10/27/2015	XX	GW301X7H4		0.005	17.5		0.05 U	5	0.05 U	0.7	10.7							
10/27/2015	XD	GWDP4X7I2		0.007	16.6		0.05 U	5	0.05 U	0.7	10.9							
4/27/2016	XX	GW301X85E		0.018	21.9		0.05 U	5.2	0.05 U	0.7	12.2							
7/27/2016	XX	GW301X8A4		0.011	21.6		0.56	5.2	0.18	0.7	11.1							
10/26/2016	XD	GWDP4X8J1		0.01	20.5		0.12	5.4	0.05 U	0.8	12.5							
10/26/2016	XX	GW301X8I3		0.01	20.4		0.1	5.6	0.05 U	0.8	13							
4/19/2017	XX	GW301X969		0.006	20		0.07	5.4	0.05 U	0.7	11							
7/26/2017	XX	GW301X9C7		0.006	21		0.05 U	5.4	0.05 U	0.8	11							
10/25/2017	XD	GWDP4X9H0		0.007	24		0.05	5.9	0.05 U	0.7	12							
10/25/2017	XX	GW301X9G2		0.005	24		0.06	5.8	0.05 U	0.8	12							
4/4/2018	XX	GW301XA20	UF	0.006	25		0.11	6.2	0.06	0.8	13							
7/18/2018	XX	GW301XAB2	UF	0.005 U	25		0.18	6	0.06	0.8	12							
10/1/2018	XD	GWDP4XB0I	UF	0.005	25		0.05	6.3	0.05 U	0.7	13							
10/1/2018	XX	GW301XB00	UF	0.005 U	25		0.1	6.3	0.05	0.7	13							
4/24/2019	XX	GW301XB4G	UF	0.005	24		0.07	6.2	0.05 U	0.8	12							
7/17/2019	XX	GW301XBB9	UF	0.005 U	25		0.05 U	6.6	0.05 U	0.9	14							
10/28/2019	XD	GWDP4XBI0	UF	0.006	25		0.05 U	6.5	0.05 U	1	12							
10/28/2019	XX	GW301XBH2	UF	0.005 U	22		0.1	5.7	0.05 U	0.8	12							
4/27/2020	XX	GW301XCC9	UF	0.006	26		0.06	6.6	0.05 U	0.8	14							
7/20/2020	XX	GW301XCH2	UF	0.005 U	24		0.18	6.2	0.16	0.8	13							
10/26/2020	XD	GWDP4XD34	UF	0.005 U	23		0.14	6.1	0.12	0.4	12							
10/26/2020	XX	GW301XD26	UF	0.005 U	22		0.06	5.8	0.06	0.4	12							
4/5/2021	XX	GW301XDB8	UF	0.005 U	28		0.14	7.1	0.11	0.8	13							
7/12/2021	XX	GW301XDJ0	UF	0.005 U	24		0.06	6	0.07	0.9	13							
10/4/2021	XD	GWDP4XE66	UF	0.005 U	26		0.25	6	0.07	0.9	13							
10/4/2021	XX	GW301XE58	UF	0.005 U	24		0.05 U	6.1	0.07	0.8	13							
4/25/2022	XD	GWDP4XF0I	UF	0.005 U	27		0.05 U	6.6	0.05	1.8	14							
4/25/2022	XX	GW301XF00	UF	0.005 U	28		0.05 U	6.6	0.05	1.7	15							
7/18/2022	XX	GW301XF7I	UF	0.005 U	26		0.05 U	6.5	0.1	0.86	14							
10/3/2022	XD	GWDP4XFIH	UF	0.005 U	26		0.14	6.3	0.14	0.79	14							
10/3/2022	XX	GW301XFHJ	UF	0.005 U	24		0.13	5.9	0.13	0.73	12							
4/17/2023	XD	GWDP4XGI8	UF	0.005 U	28		0.064	7	0.071	0.97	15							
4/17/2023	XX	GW301XGHA	UF	0.0067	27		0.074	6.5	0.064	0.79	14							
7/10/2023	XX	GW301XH7C	UF	0.005 U	26		0.1	6.2	0.094	0.77	13							

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(MW-301)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/2/2023	XD	GWDP4X05I	UF	0.005 U	25		0.074	5.8	0.069	0.79	14							
10/2/2023	XX	GW301X04J	UF	0.005 U	25		0.073	6.2	0.069	0.82	15							
4/1/2024	XD	GWDP4X128	UF	0.005 U	26		0.11	6.3	0.063	0.79	14							
4/1/2024	XX	GW301X11A	UF	0.005 U	26		0.084	6.1	0.062	0.79	14							
7/15/2024	XX	GW301X1CC	UF	0.005 U	27		0.35	6	0.1	0.84	14							
10/7/2024	XD	GWDP4X1J1	UF	0.005 U	23		0.14	5.8	0.074	0.65	12							
10/7/2024	XX	GW301X1I3	UF	0.005 U	21		0.68	5.4	0.076	0.64	11							
MW-303 & MW12-303R																		
4/27/2015	XX	GW303X799		0.013	64.2		0.05 U	7.2	1.07	3.1	82.8							
6/18/2015	XX	42173-1		0.005 U	45.5	0.003 U	0.09	7.1	0.21	2.3	55.2							
7/13/2015	XX	GW303X7D1		0.016	40.6		0.05 U	8.5	0.09	1.7	22.3							
10/26/2015	XX	GW303X7IA		0.009	31.8		0.19	7.9	0.31	1.8	29							
4/4/2016	XX	GW303X870		0.012	28.8		0.06	2.5	0.05 U	1.4	37.7							
7/25/2016	XX	GW303X8BA		0.036	55		0.05 U	9.2	0.05 U	2.3	28.7							
10/24/2016	XX	GW303X8J9		0.005 U	61		2.29	5.7	3.13	2.6	60.8							
4/17/2017	XX	GW303X97F		0.005 U	46		0.05	4.7	0.05	4.3	39							
7/24/2017	XX	GW303X9DD		0.005 U	47		0.05 U	7.4	0.05	4.2	22							
10/23/2017	XX	GW303X9H8	FILT	0.006	45		0.05 U	8.2	0.21	3.1	21							
4/2/2018	XX	GW303XA37	UF	0.005 U	160		0.08	22	0.16	5.6	110							
7/16/2018	XX	GW303XAC8	UF	0.007	56		0.05 U	15	0.05 U	2.2	15							
10/1/2018	XX	GW303XB16	UF	0.005 U	46		0.62	14	0.62	2	13							
4/22/2019	XX	GW303XB63	UF	0.005 U	60		0.35	8.3	0.76	5.7	25							
7/17/2019	XX	GW303XBCE	UF	0.005 U	50		0.05 U	9	0.14	4.3	29							
10/28/2019	XX	GW303XBI7	UF	0.005 U	43		0.05 U	5.6	0.1	3.8	20							
4/27/2020	XX	GW303XCDE	UF	0.005 U	52		0.13	7.4	0.2	3.2	18							
7/20/2020	XX	GW303XCI7	UF	0.005 U	30		0.05 U	6.1	0.06	2.5	11							
10/26/2020	XX	GW303XD3B	UF	0.005 U	57		0.05 U	9.5	0.07	3.1	24							
4/5/2021	XX	GW303XDCD	UF	0.005 U	46		0.05 U	6.4	0.06	2.4	22							
7/12/2021	XX	GW303XE05	UF	0.005 U	55		0.06	7.2	0.07	3.3	28							
10/4/2021	XX	GW303XE6D	UF	0.005 U	65		0.05 U	8.3	0.1	3.3	37							
4/25/2022	XX	GW303XF15	UF	0.005 U	33		0.35	4.8	0.27	2.7	22							
7/18/2022	XX	GW303XF93	UF	0.005 U	41		0.21	16	0.24	1.6	16							
10/3/2022	XX	GW303XFJ4	UF	0.005 U	43		0.13	12	0.11	2	22							
4/17/2023	XX	GW303XGIF	UF	0.005 U	42		0.68	20	0.49	1.6	13							
7/10/2023	XX	GW303XH8H	UF	0.005 U	34		0.14	8.3	0.061	1.6	16							
10/2/2023	XX	GW303X064	UF	0.005 U	32		0.16	7.8	0.072	1.6	14							
4/1/2024	XX	GW303X12E	UF	0.005 U	15		1.4	4	0.22	1.4	5.4							
7/15/2024	XX	GW303X1DG	UF	0.005 U	31		1.1	7.1	0.28	1.8	9.4							
10/7/2024	XX	GW303X1J7	UF	0.005	36		0.99	11	0.36	1.4	7.8							
MW-401A																		
4/27/2015	XX	GW401A78H		0.009	15.7		0.06	4.2	0.05 U	0.7	3.9							
7/13/2015	XX	GW401A7C9		0.013	15.2		0.05 U	4	0.05 U	0.7	3.9							
10/26/2015	XX	GW401A7HI		0.009	15.1		0.05 U	4.1	0.05 U	0.6	3.8							
4/27/2016	XX	GW401A868		0.017	16.4		0.05 U	4.3	0.05 U	0.7	3.9							
7/25/2016	XX	GW401A8AI		0.018	15.7		0.05 U	4.2	0.05 U	0.7	3.6							
10/24/2016	XX	GW401A8IH		0.006	16.5		0.06	4.5	0.05 U	0.8	3.9							
4/17/2017	XX	GW401A973		0.007	15		0.05 U	4.4	0.05 U	0.8	3.7							
7/24/2017	XX	GW401A9D1		0.005	15		0.05 U	4.2	0.05 U	0.6	3.8							

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(MW-401A)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/25/2017	XX	GW401A9GG		0.008	16		0.05 U	4.3	0.05 U	0.7	3.8							
4/2/2018	XX	GW401AA2F	UF	0.005	16		0.05 U	4.7	0.05 U	0.8	4.5							
7/16/2018	XX	GW401AABG	UF	0.006	17		0.05 U	4.3	0.05 U	0.7	3.9							
10/1/2018	XX	GW401AB0E	UF	0.006	17		0.05 U	4.6	0.05 U	0.6	4.1							
4/22/2019	XX	GW401AB5B	UF	0.005 U	17		0.05 U	4.8	0.05 U	0.8	4.2							
7/15/2019	XX	GW401ABC3	UF	0.007	15		0.05 U	4.3	0.05 U	0.6	3.8							
10/28/2019	XX	GW401ABHG	UF	0.007	15		0.05 U	4.1	0.05 U	0.7	3.6							
4/27/2020	XX	GW401ACD3	UF	0.007	18		0.05 U	4.8	0.05 U	0.7	4							
7/20/2020	XX	GW401ACHG	UF	0.005 U	16		0.05 U	4.6	0.05 U	0.8	4.1							
10/26/2020	XX	GW401AD30	UF	0.007	17		0.05 U	4.7	0.05 U	0.6	3.7							
4/5/2021	XX	GW401ADC2	UF	0.005	17		0.05 U	4.9	0.05 U	0.8	4.1							
7/12/2021	XX	GW401ADJE	UF	0.007	17		0.05 U	4.5	0.05 U	0.7	3.6							
10/4/2021	XX	GW401AE62	UF	0.005 U	18		0.05 U	4.8	0.05 U	0.8	4.1							
4/25/2022	XX	GW401AF0E	UF	0.005 U	21		0.05 U	5.4	0.05 U	1.8	5.2							
7/18/2022	XX	GW401AF8C	UF	0.005 U	19		0.05 U	5.2	0.05 U	0.81	4.1							
10/3/2022	XX	GW401AFID	UF	0.005 U	19		0.05 U	5	0.05 U	0.77	4							
4/17/2023	XX	GW401AGI4	UF	0.005 U	21		0.05 U	5.5	0.05 U	0.81	4.3							
7/10/2023	XX	GW401AH86	UF	0.005 U	21		0.05 U	5.2	0.05 U	0.76	4.1							
10/2/2023	XX	GW401A05E	UF	0.005 U	20		0.05 U	5.1	0.05 U	0.84	4.7							
4/1/2024	XX	GW401A124	UF	0.005 U	20		0.05 U	5.5	0.05 U	0.81	4.5							
7/15/2024	XX	GW401A1D6	UF	0.005 U	21		0.05 U	5.3	0.05 U	0.85	4.6							
10/7/2024	XX	GW401A1IH	UF	0.005 U	17		0.05 U	4.6	0.05 U	0.62	3.4							
MW-401B																		
4/27/2015	XX	GW401B78I		0.026	29.8		1.37	8.4	0.28	1	10.4							
4/27/2015	XD	GWDP4X791		0.027	28.4		1.28	8.4	0.26	1	10.4							
7/13/2015	XX	GW401B7CA		0.026	37		1.57	9.8	0.22	1.1	12.6							
7/13/2015	XD	GWDP4X7CD		0.029	36.4		1.52	9.6	0.21	1.1	12.6							
10/26/2015	XX	GW401B7HJ		0.027	35.4		2.13	10.6	0.22	1.3	13.6							
10/26/2015	XD	GWDP3X7HG		0.028	37.2		2.17	10.7	0.22	1.3	13.5							
4/6/2016	XD	GWDP4X86C		0.028	30.6		0.92	8.4	0.18	1	10.7							
4/6/2016	XX	GW401B869		0.025	33.3		0.9	8.8	0.18	1	10.6							
7/25/2016	XX	GW401B8AJ		0.058	43.3		2.79	12.1	0.19	1.4	13.9							
10/24/2016	XD	GWDP1X8I4		0.015	43.1		2.02	12.3	0.13	1.5	15.7							
10/24/2016	XX	GW401B8II		0.013	44.8		2.07	12.9	0.13	1.6	15.9							
4/17/2017	XD	GWDP4X977		0.045	30		3	10	0.4	1.2	13							
4/17/2017	XX	GW401B974		0.044	31		3	10	0.43	1.2	13							
7/24/2017	XX	GW401B9D2		0.02	37		1.3	10	0.17	1	12							
10/25/2017	XD	GWDP1X9G3		0.033	43		3.5	12	0.35	1.3	13							
10/25/2017	XX	GW401B9GH		0.015	43		1.7	12	0.2	1.3	14							
4/2/2018	XD	GWDP4XA2J	UF	0.013	40		0.55	11	0.08	1.3	14							
4/2/2018	XX	GW401BA2G	UF	0.013	37		0.47	10	0.07	1.1	13							
7/16/2018	XX	GW401BABH	UF	0.028	43		1.9	11	0.24	1.2	12							
10/1/2018	XD	GWDP1XB01	UF	0.01	41		1.6	11	0.15	1.3	14							
10/1/2018	XX	GW401BB0F	UF	0.01	42		1.9	12	0.17	1.4	13							
4/22/2019	XD	GWDP4XB5F	UF	0.02	27		0.64	8	0.13	0.9	9.8							
4/22/2019	XX	GW401BB5C	UF	0.021	26		0.63	8.1	0.13	0.9	9.7							
7/15/2019	XD	GWDP4XBC7	UF	0.02	33		1.3	9.7	0.15	0.9	10							
7/15/2019	XX	GW401BBC4	UF	0.02	34		1.4	10	0.16	1.1	11							
10/28/2019	XD	GWDP1XBH3	UF	0.017	39		1.9	11	0.15	1.4	11							

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(MW-401B)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/28/2019	XX	GW401BBHH	UF	0.013	38		1.6	10	0.13	1.2	10							
4/27/2020	XD	GWDP4XCD7	UF	0.019	31		0.68	8.9	0.1	1	9.8							
4/27/2020	XX	GW401BCD4	UF	0.023	30		0.67	8.5	0.09	0.9	9.7							
7/20/2020	XD	GWDP4XCI0	UF	0.025	36		2.6	11	0.2	1.8	11							
7/20/2020	XX	GW401BCHH	UF	0.028	39		2.5	11	0.21	1.5	11							
10/26/2020	XD	GWDP1XD27	UF	0.013	38		2	11	0.21	1	11							
10/26/2020	XX	GW401BD31	UF	0.016	42		2.1	12	0.22	1.2	12							
4/5/2021	XD	GWDP4XDC6	UF	0.008	37		1.3	10	0.1	1.1	10							
4/5/2021	XX	GW401BDC3	UF	0.009	39		1.3	11	0.11	1.2	11							
7/12/2021	XD	GWDP5XE1B	UF	0.005	40		1.3	11	0.1	1.2	10							
7/12/2021	XX	GW401BDJF	UF	0.005 U	37		1.3	10	0.1	1.2	10							
10/4/2021	XD	GWDP1XE59	UF	0.017	41		1.5	11	0.11	1.4	12							
10/4/2021	XX	GW401BE63	UF	0.008	41		1.4	11	0.1	1.4	12							
4/25/2022	XD	GWDP1XF01	UF	0.005 U	42		1.2	11	0.1	3.3	12							
4/25/2022	XX	GW401BF0F	UF	0.005 U	42		1.3	11	0.11	2.2	11							
7/18/2022	XD	GWDP5XFA8	UF	0.0051	41		1.4	11	0.11	1.4	11							
7/18/2022	XX	GW401BF8D	UF	0.005 U	40		1.2	11	0.1	1.4	11							
10/3/2022	XD	GWDP1XFI0	UF	0.005 U	43		1.3	11	0.12	1.4	11							
10/3/2022	XX	GW401BFIE	UF	0.005 U	45		1.3	11	0.11	1.4	11							
4/17/2023	XD	GWDP1XGHB	UF	0.013	41		1.3	11	0.12	1.7	11							
4/17/2023	XX	GW401BGI5	UF	0.011	42		1.2	12	0.12	1.3	11							
7/10/2023	XD	GWDP5X004	UF	0.005 U	41		1.2	11	0.13	1.2	9.5							
7/10/2023	XX	GW401BH87	UF	0.005 U	42		1.2	11	0.13	1.2	9.8							
10/2/2023	XD	GWDP1X050	UF	0.005 U	42		1.2	11	0.12	1.4	11							
10/2/2023	XX	GW401B05F	UF	0.005 U	38		1.2	11	0.12	1.4	11							
4/1/2024	XD	GWDP1X11B	UF	0.005 U	38		1.2	11	0.12	1.2	11							
4/1/2024	XX	GW401B125	UF	0.005 U	38		1.1	10	0.12	1.2	10							
7/15/2024	XD	GWDP5X1F3	UF	0.005 U	45		2.4	11	0.17	1.3	10							
7/15/2024	XX	GW401B1D7	UF	0.005 U	41		2.5	11	0.17	1.3	10							
10/7/2024	XD	GWDP1X1I4	UF	0.005 U	38		1.2	11	0.13	1.3	9.5							
10/7/2024	XX	GW401B1II	UF	0.005 U	35		1.1	9.5	0.12	1.1	8.1							
MW-402A																		
4/29/2015	XX	GW402A78J		0.023	11.6		0.05 U	3	0.05 U	0.6	8.8							
7/15/2015	XX	GW402A7CB		0.025	11.4		0.05 U	2.8	0.05 U	0.6	8.4							
10/28/2015	XX	GW402A7I0		0.021	10.5		0.05 U	2.8	0.05 U	0.5	7.4							
4/27/2016	XX	GW402A86A		0.025	12.3		0.05 U	3.1	0.05 U	0.6	8.6							
7/27/2016	XX	GW402A8B0		0.026	12.4		0.05 U	3.1	0.05 U	0.7	8.8							
10/26/2016	XX	GW402A8IJ		0.017	11.7		0.05 U	3.2	0.05 U	0.6	8.9							
4/19/2017	XX	GW402A975		0.019	11		0.05 U	3.3	0.05 U	0.6	8.8							
7/26/2017	XX	GW402A9D3		0.016	11		0.05 U	2.9	0.05 U	0.6	7.9							
10/26/2017	XX	GW402A9GI		0.019	13		0.05 U	3.2	0.05 U	0.5	7.7							
4/4/2018	XX	GW402AA2H	UF	0.024	13		0.05 U	3.4	0.05 U	0.7	10							
7/18/2018	XX	GW402AABI	UF	0.015	14		0.26	3	0.05 U	0.7	8.2							
10/3/2018	XX	GW402AB0G	UF	0.024	12		0.05 U	3	0.05 U	0.6	8.5							
4/24/2019	XX	GW402AB5D	UF	0.017	12		0.05 U	3.1	0.05 U	0.6	8.5							
7/17/2019	XX	GW402ABC5	UF	0.02	12		0.05 U	3.4	0.05 U	0.7	10							
10/30/2019	XX	GW402ABHI	UF	0.019	11		0.05 U	3.1	0.05 U	0.7	8.5							
4/29/2020	XX	GW402ACD5	UF	0.02	12		0.05 U	3.2	0.05 U	0.8	8.5							
7/22/2020	XX	GW402ACHI	UF	0.018	12		0.05 U	3.3	0.05 U	1	9.5							

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(MW-402A)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/28/2020	XX	GW402AD32	UF	0.015	12		0.05 U	3.4	0.05 U	0.6	10							
4/7/2021	XX	GW402ADC4	UF	0.017	14		0.05 U	3.6	0.05 U	0.7	9.1							
7/14/2021	XX	GW402ADJG	UF	0.015	11		0.05 U	2.9	0.05 U	0.4	7.7							
10/4/2021	XX	GW402AE64	UF	0.019	13		0.05 U	3.2	0.05 U	0.7	9.1							
4/25/2022	XX	GW402AF0G	UF	0.017	14		0.05 U	3.4	0.05 U	1.3	9.4							
7/20/2022	XX	GW402AF8E	UF	0.013	14		0.05 U	3.6	0.05 U	1.3	9.6							
10/3/2022	XX	GW402AFIF	UF	0.014	13		0.05 U	3.1	0.05 U	0.65	8.8							
4/17/2023	XX	GW402AGI6	UF	0.018	13		0.05 U	3.4	0.05 U	0.68	9.1							
7/10/2023	XX	GW402AH88	UF	0.015	14		0.05 U	3.3	0.05 U	0.62	8.8							
10/2/2023	XX	GW402A05G	UF	0.011	13		0.05 U	3.2	0.05 U	0.69	9.6							
4/1/2024	XX	GW402A126	UF	0.005	13		0.05 U	3.2	0.05 U	0.66	9.2							
7/15/2024	XX	GW402A1D8	UF	0.0076	13		0.05 U	3.1	0.05 U	0.67	9.6							
10/7/2024	XX	GW402A1IJ	UF	0.005 U	9.9		0.05 U	2.7	0.05 U	0.49	7.1							
MW-402B																		
4/29/2015	XX	GW402B790		0.021	14.8		0.05 U	4.7	0.05 U	0.6	8							
7/15/2015	XX	GW402B7CC		0.024	14.7		0.05 U	4.5	0.05 U	0.6	7.8							
10/28/2015	XX	GW402B7I1		0.022	13.5		0.05 U	4.6	0.05 U	0.6	7.7							
4/27/2016	XX	GW402B86B		0.031	15.6		0.05 U	5	0.05 U	0.6	8.2							
7/27/2016	XX	GW402B8B1		0.023	15.3		0.05 U	4.8	0.05 U	0.6	8.3							
10/26/2016	XX	GW402B8J0		0.022	14.8		0.18	5.2	0.05	0.7	9.4							
4/19/2017	XX	GW402B976		0.021	13		0.05 U	4.9	0.05 U	0.7	8.3							
7/26/2017	XX	GW402B9D4		0.021	14		0.05 U	4.6	0.05 U	0.6	8.1							
10/26/2017	XX	GW402B9GJ		0.021	17		0.05 U	5.1	0.05 U	0.6	7.9							
4/4/2018	XX	GW402BA2I	UF	0.019	16		0.06	5.3	0.05 U	0.7	9.1							
7/18/2018	XX	GW402BABJ	UF	0.016	15		0.06	4.8	0.05 U	0.6	8.5							
10/3/2018	XX	GW402BB0H	UF	0.019	16		0.05 U	4.8	0.05 U	0.6	8.8							
4/24/2019	XX	GW402BB5E	UF	0.02	15		0.05 U	4.8	0.05 U	0.6	8.2							
7/17/2019	XX	GW402BBC6	UF	0.017	13		0.05 U	5.2	0.05 U	0.7	9.8							
10/30/2019	XX	GW402BBHJ	UF	0.02	14		0.05 U	4.8	0.05 U	0.7	8.1							
4/29/2020	XX	GW402BCD6	UF	0.017	15		0.05 U	4.9	0.05 U	0.7	8.2							
7/22/2020	XX	GW402BCHJ	UF	0.018	14		0.06	5.1	0.05 U	0.7	9.2							
10/28/2020	XX	GW402BD33	UF	0.016	15		0.05 U	5.3	0.05 U	0.6	9.4							
4/7/2021	XX	GW402BDC5	UF	0.018	18		0.05 U	5.9	0.05 U	0.7	9.2							
7/14/2021	XX	GW402BDJH	UF	0.019	15		0.05 U	4.6	0.05 U	0.4	7.8							
10/4/2021	XX	GW402BE65	UF	0.021	16		0.22	5.2	0.05 U	0.7	9							
4/25/2022	XX	GW402BF0H	UF	0.017	16		0.05 U	5.1	0.05 U	1.3	8.8							
7/20/2022	XX	GW402BF8F	UF	0.0099	22		0.05 U	7.4	0.05 U	1.4	9.7							
10/3/2022	XX	GW402BFIG	UF	0.016	16		0.05 U	4.6	0.05 U	0.61	8							
4/17/2023	XX	GW402BGI7	UF	0.02	17		0.3	5.4	0.05 U	0.7	8.9							
7/10/2023	XX	GW402BH89	UF	0.016	17		0.05 U	5.2	0.05 U	0.64	8.4							
10/2/2023	XX	GW402B05H	UF	0.015	15		0.05 U	4.8	0.05 U	0.68	8.8							
4/1/2024	XX	GW402B127	UF	0.0075	15		0.08	4.7	0.05 U	0.66	8.4							
7/15/2024	XX	GW402B1D9	UF	0.0079	16		0.25	4.7	0.05 U	0.67	9							
10/7/2024	XX	GW402B1J0	UF	0.0063	13		0.1	4.5	0.05 U	0.57	7.8							
MW-501																		
4/5/2018	XX	GW501XA6I	UF	0.008	30	0.003 U	0.05 U	4.9	0.05 U	0.8	4.6							
6/4/2018	XX	GW501XA7F	UF	0.009	30	0.003 U	0.05 U	5.5	0.05	0.7	4.1							
7/19/2018	XX	GW501XAED	UF	0.005 U	30		0.05	5.4	0.06	0.7	3.9							

DATA SUMMARY TABLE

Metals Parameters

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(MW-501)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
8/20/2018	XX	GW501XAFE	UF	0.006	33		0.05 U	5.7	0.08	0.7	3.9							
4/24/2019	XX	GW501XB7C	UF	0.005 U	47		0.17	6.8	0.21	0.8	5.1							
7/17/2019	XX	GW501XBE0	UF	0.009	21		0.05 U	5.1	0.05 U	0.8	4.3							
10/30/2019	XX	GW501XBJ9	UF	0.005 U	60		0.05 U	7.8	0.05 U	1	5.4							
4/29/2020	XX	GW501XCF0	UF	0.005 U	21		0.05 U	4.7	0.05 U	0.7	3.5							
7/22/2020	XX	GW501XCJD	UF	0.005 U	44		0.05	9.2	0.05 U	1.1	6.4							
10/28/2020	XX	GW501XD4D	UF	0.005 U	50		0.05 U	8.2	0.05 U	0.9	6.1							
4/7/2021	XX	GW501XDDH	UF	0.005 U	38		0.05 U	7	0.05 U	0.8	4.9	0.05 U						
7/14/2021	XX	GW501XE18	UF	0.005 U	30	0.003 U	0.06	5.8	0.05 U	0.6	4	0.05 U						
10/6/2021	XX	GW501XE8A	UF	0.005	31	0.003 U	0.05 U	6.2	0.05 U	0.8	4.3	0.05 U						
4/27/2022	XX	GW501XF2G	UF	0.005 U	37	0.003 U	0.05 U	7.5	0.05	2.4	6.7	0.05 U						
7/20/2022	XX	GW501XFA6	UF	0.005 U	35	0.003 U	0.05 U	7.9	0.05 U	1.3	5.3	0.05 U						
10/5/2022	XX	GW501XG0F	UF	0.005 U	34	0.003 U	0.051	6.7	0.05	0.73	4.3	0.05 U						
4/19/2023	XX	GW501XH06	UF	0.005 U	42	0.003 U	0.071	8.9	0.19	0.94	5.6	0.05 U						
7/12/2023	XX	GW501X002	UF	0.005 U	41	0.003 U	0.05 U	8.2	0.069	0.87	5.7	0.05 U						
10/4/2023	XX	GW501X07B	UF	0.005 U	42	0.003 U	0.063	8.2	0.085	0.95	6	0.05 U						
4/10/2024	XX	GW501X140	UF	0.005 U	39	0.03	0.05 U	6.9	0.3	0.82	5.5	0.05 U						
7/17/2024	XX	GW501X1EJ	UF	0.005 U	40	0.003 U	0.05 U	7.4	0.14	0.88	5.9	0.05 U						
10/9/2024	XX	GW501X20D	UF	0.005 U	37	0.0052	0.82	7.4	1.2	0.85	6	0.05 U						
MW-502																		
2/26/2020	XD	GWDP1XC52	UF	0.005 U	34	0.003 U	0.05 U	6.2	0.05 U	0.9	4.6							
2/26/2020	XX	GW502XC55	UF	0.005 U	34	0.003 U	0.05 U	6.3	0.05 U	0.9	4.8							
4/30/2020	XX	GW502XCBJ	UF	0.005 U	39	0.003 U	0.05	6.9	0.05 U	1	5.1							
6/23/2020	XX	GW502XCGB	UF	0.005 U	38	0.003 U	0.05 U	7.6	0.05 U	1.1	5.6							
8/20/2020	XX	GW502XD1I	UF	0.005 U	36	0.003 U	0.05 U	7	0.05 U	1.3	5.4							
7/14/2021	XX	GW502XE23	UF	0.005 U	59	0.003 U	0.13	9.8	0.2	1.4	6.1	0.05 U						
10/7/2021	XX	GW502XE8B	UF	0.005 U	64	0.003 U	0.05 U	9.8	0.05 U	1.2	5	0.05 U						
4/27/2022	XX	GW502XF2H	UF	0.005 U	45	0.003 U	0.05 U	7.8	0.05 U	2	6.3	0.05 U						
7/20/2022	XX	GW502XFAI	UF	0.005 U	61	0.003 U	0.05 U	10	0.05 U	1.7	5.9	0.05 U						
10/5/2022	XX	GW502XG0G	UF	0.005 U	69	0.003 U	0.05 U	9.7	0.17	1.3	6.3	0.05 U						
4/19/2023	XX	GW502XH07	UF	0.005 U	50	0.003 U	0.056	8.6	0.05 U	1.2	5.7	0.05 U						
7/12/2023	XX	GW502X00E	UF	0.005 U	49	0.003 U	0.05 U	7.9	0.05 U	1	5.3	0.05 U						
10/4/2023	XX	GW502X07C	UF	0.005 U	53	0.003 U	0.05 U	8.4	0.05 U	1.1	5.5	0.05 U						
4/10/2024	XX	GW502X141	UF	0.005 U	50	0.025	0.21	7.1	0.05 U	1.1	4.9	0.05 U						
7/18/2024	XX	GW502X1FD	UF	0.005 U	49	0.003 U	0.2	8	0.05 U	1.3	9.5	0.05 U						
10/9/2024	XX	GW502X20E	UF	0.005 U	49	0.003 U	0.14	7.5	0.05 U	1.2	5.4	0.05 U						
MW-503																		
2/9/2021	XX	GW503XD9A	UF	0.005	25	0.003 U	0.05 U	7.1	0.05 U	0.8	5.3	0.05 U						
4/8/2021	XX	GW503XDA9	UF	0.005 U	29	0.003 U	0.05 U	7.2	0.05 U	0.9	4.9	0.05 U						
6/8/2021	XX	GW503XDGC	UF	0.005 U	31	0.003 U	0.05 U	7.4	0.05 U	1	5.6	0.05 U						
8/19/2021	XX	GW503XE46	UF	0.005 U	30	0.003 U	0.05 U	7.1	0.05 U	1	5.3	0.05 U						
10/7/2021	XX	GW503XE96	UF	0.005 U	28	0.003 U	0.05 U	6.5	0.05 U	0.9	5	0.05 U						
4/27/2022	XX	GW503XF3B	UF	0.005 U	31	0.003 U	0.05 U	7.6	0.05 U	2	7.3	0.05 U						
7/20/2022	XX	GW503XFB5	UF	0.005 U	37	0.003 U	0.05 U	9.4	0.05 U	1.6	7	0.05 U						
10/5/2022	XX	GW503XG1A	UF	0.005 U	32	0.0041	0.05 U	7.7	0.05 U	0.96	5.6	0.05 U						
4/20/2023	XX	GW503XH11	UF	0.0052	34	0.003 U	0.05 U	8.5	0.05 U	1.1	6.2	0.05 U						
7/13/2023	XX	GW503X011	UF	0.005 U	31	0.003 U	0.05 U	7.6	0.05 U	0.95	6	0.05 U						
10/4/2023	XX	GW503X086	UF	0.005 U	33	0.003 U	0.05 U	8	0.05 U	1	6.8	0.05 U						

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(MW-503)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
4/10/2024	XX	GW503X14F	UF	0.005 U	28	0.019	0.05 U	6.5	0.05 U	0.89	5.5	0.05 U					
7/18/2024	XX	GW503X1G0	UF	0.005 U	29	0.0038	0.05 U	7.1	0.05 U	1.5	9.9	0.05 U					
10/9/2024	XX	GW503X218	UF	0.005 U	24	0.003 U	0.05 U	5.9	0.05 U	0.77	4.9	0.05 U					
MW-504																	
2/9/2021	XD	GWDP1XD94	UF	0.006	12	0.003 U	0.12	3.5	0.1	1.2	11	0.05 U					
2/9/2021	XX	GW504XD9B	UF	0.006	12	0.003 U	0.17	3.6	0.1	1.4	12	0.05 U					
4/7/2021	XX	GW504XDAA	UF	0.005	14	0.003 U	0.05 U	4.1	0.05	1.2	10	0.05 U					
6/9/2021	XD	GWDP1XDG9	UF	0.006	14	0.003 U	0.07	4.2	0.1	1.1	6.9	0.05 U					
6/9/2021	XX	GW504XDGD	UF	0.005	14	0.003 U	0.06	4.2	0.05 U	1.1	6.8	0.05 U					
8/19/2021	XX	GW504XE47	UF	0.006	15	0.003 U	0.1	4.2	0.13	1	6.2	0.05 U					
10/7/2021	XD	GWDP6XE9A	UF	0.005 U	15	0.003 U	0.28	4.1	0.17	1	6.1	0.05 U					
10/7/2021	XX	GW504XE97	UF	0.005 U	16	0.003 U	0.06	4.6	0.05 U	0.9	6.4	0.05 U					
4/27/2022	XD	GWDP6XF3F	UF	0.005 U	13	0.003 U	0.06	4	0.05 U	1.4	6.2	0.05 U					
4/27/2022	XX	GW504XF3C	UF	0.005 U	14	0.003 U	0.12	4	0.06	1.8	7.5	0.05 U					
7/21/2022	XX	GW504XFB6		!	!	!	!	!	!	!	!	!					
10/5/2022	XD	GWDP6XG1E	UF	0.005 U	14	0.0038	0.25	4.2	0.12	0.76	5.5	0.05 U					
10/5/2022	XX	GW504XG1B	UF	0.005 U	15	0.015	6	5.8	0.89	2	6.1	0.05 U					
4/20/2023	XD	GWDP6XH15	UF	0.0078	13	0.003 U	0.05 U	4.4	0.05 U	0.84	6.4	0.05 U					
4/20/2023	XX	GW504XH12	UF	0.01	16	0.003 U	0.11	5.2	0.051	1	7	0.05 U					
7/13/2023	XX	GW504X012	UF	0.005 U	14	0.003 U	0.05 U	4.4	0.05 U	0.78	6	0.05 U					
10/5/2023	XD	GWDP6X08A	UF	0.005 U	16	0.003 U	0.086	4.6	0.05 U	0.85	6	0.05 U					
10/5/2023	XX	GW504X087	UF	0.005 U	15	0.003 U	0.05 U	4.5	0.05 U	0.81	5.7	0.05 U					
4/11/2024	XD	GWDP6X14J	UF	0.005 U	14	0.0096	0.05 U	4.3	0.05 U	0.78	5.5	0.05 U					
4/11/2024	XX	GW504X14G	UF	0.005 U	14	0.011	0.05 U	4.1	0.05 U	0.75	5.5	0.05 U					
7/18/2024	XX	GW504X1G1	UF	0.005 U	13	0.0043	0.13	4.3	0.05 U	0.95	9.2	0.05 U					
10/10/2024	XD	GWDP6X21C	UF	0.005 U	13	0.003 U	0.055	4	0.05 U	0.7	5.4	0.05 U					
10/10/2024	XX	GW504X219	UF	0.005 U	13	0.003 U	0.05 U	4.2	0.05 U	0.73	5.8	0.05 U					
MW-505																	
2/10/2021	XX	GW505XD9C	UF	0.005 U	17	0.003 U	0.35	5.9	0.73	1.2	55	0.05 U					
4/8/2021	XX	GW505XDAB	UF	0.005 U	20	0.003 U	0.16	6.5	0.62	1.2	33	0.05 U					
6/9/2021	XX	GW505XDGE	UF	0.005	21	0.003 U	0.13	7	0.58	1.3	27	0.05 U					
8/18/2021	XX	GW505XE48	UF	0.005	19	0.003 U	0.1	6.3	0.43	1.2	34	0.05 U					
10/7/2021	XX	GW505XE98	UF	0.006	19	0.003 U	0.13	6.2	0.39	1	34	0.05 U					
4/27/2022	XX	GW505XF3D	UF	0.0052	20	0.003 U	0.9	7	0.29	1.4	33	0.05 U					
7/21/2022	XX	GW505XFB7	UF	0.005 U	20	0.0032	0.32	6.9	0.26	1.9	22	0.05 U					
10/5/2022	XX	GW505XG1C	UF	0.005 U	22	0.003 U	0.24	6.8	0.25	1.1	21	0.05 U					
4/20/2023	XX	GW505XH13	UF	0.011	21	0.003 U	0.45	7.5	0.18	1.3	20	0.05 U					
7/13/2023	XX	GW505X013	UF	0.0067	21	0.003 U	0.21	7.4	0.17	1.1	18	0.05 U					
10/4/2023	XX	GW505X088	UF	0.0083	20	0.003 U	0.13	7.3	0.16	1.1	18	0.05 U					
4/11/2024	XX	GW505X14H	UF	0.005 U	19	0.093	0.27	6.2	0.14	1.1	15	0.05 U					
7/18/2024	XX	GW505X1G2	UF	0.005 U	20	0.003 U	0.17	7	0.18	1.3	25	0.05 U					
10/9/2024	XX	GW505X21A	UF	0.005 U	17	0.003 U	0.19	6	0.15	0.97	15	0.05 U					
MW-506																	
2/18/2021	XX	GW506XD9D	UF	0.005 U	34	0.003 U	0.51	8.7	1.1	2.6	200	0.06					
4/8/2021	XX	GW506XDAC	UF	0.005 U	29	0.003 U	0.23	7	0.97	1.8	130	0.05					
6/8/2021	XX	GW506XDGF		F16	F16	F16	F16	F16	F16	F16	F16	F16					
7/14/2021	XX	GW506XE38	UF	0.005	23	0.003 U	0.23	7.8	0.87	1.2	110	0.05 U					

SEVEE & MAHER ENGINEERS, INC.
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(MW-506)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
9/1/2021	XX	GW506XE49	UF	0.009	24	0.003 U	0.11	7.7	0.72	1.2	110	0.05					
10/7/2021	XX	GW506XE99	UF	0.008	30	0.003 U	0.24	8	0.67	1.6	120	0.05 U					
4/27/2022	XX	GW506XF3E	UF	0.0075	24	0.003 U	0.38	7.9	0.49	2	100	0.05 U					
7/18/2022	XX	GW506XFB8	UF	0.0094	20	0.0052	0.8	7.4	0.39	1.3	83	0.05 U					
10/5/2022	XX	GW506XG1D	UF	0.0068	19	0.0051	0.71	7.1	0.32	1.1	79	0.069					
4/18/2023	XX	GW506XH14	UF	0.01	17	0.015	2.1	7.7	0.31	1.4	59	0.05 U					
7/11/2023	XX	GW506X014	UF	0.0061	16	0.003 U	0.29	7.4	0.2	0.96	49	0.05 U					
10/4/2023	XX	GW506X089	UF	0.0059	15	0.0046	0.12	7	0.16	0.86	46	0.05 U					
4/10/2024	XX	GW506X14I		!	!	!	!	!	!	!	!	!					
7/17/2024	XX	GW506X1G3		!	!	!	!	!	!	!	!	!					
10/9/2024	XX	GW506X21B		!	!	!	!	!	!	!	!	!					
MW-507																	
4/5/2018	XX	GW507XA6J	UF	0.005 U	22	0.003 U	0.13	2.7	0.05 U	0.5	2.5						
6/5/2018	XX	GW507XA7G	UF	0.007	33	0.003 U	0.05 U	4	0.05 U	0.5	3.3						
7/18/2018	XX	GW507XAEE	UF	0.005 U	33		0.05	4.2	0.05 U	0.6	3.7						
8/20/2018	XX	GW507XAFF	UF	0.005 U	38		0.18	4.7	0.05 U	0.6	4						
7/14/2021	XX	GW507XE24	UF	0.005 U	38	0.003 U	0.6	5.2	0.05 U	0.5	4.3	0.05 U					
10/7/2021	XX	GW507XE8C	UF	0.005 U	33	0.003 U	0.68	3.8	0.05 U	0.5	3.6	0.05 U					
4/27/2022	XX	GW507XF2I	UF	0.005 U	16	0.003 U	0.86	2.2	0.05 U	1	2.7	0.05 U					
7/20/2022	XX	GW507XFAJ	UF	0.005 U	44	0.003 U	0.3	6.1	0.05 U	1.1	4.9	0.05 U					
10/5/2022	XX	GW507XG0H	UF	0.005 U	52	0.003 U	0.074	6.6	0.05 U	0.75	6.4	0.05 U					
4/19/2023	XX	GW507XH08	UF	0.005 U	17	0.003 U	0.2	2.4	0.05 U	0.48	2	0.05 U					
7/13/2023	XX	GW507X00F	UF	0.005 U	22	0.003 U	0.97	2.6	0.05 U	0.46	2.4	0.05 U					
10/5/2023	XX	GW507X07D	UF	0.005 U	31	0.003 U	0.31	4	0.05 U	0.59	3.3	0.05 U					
4/10/2024	XX	GW507X142	UF	0.005 U	26	0.0091	0.33	3.2	0.05 U	0.45	2.6	0.05 U					
7/17/2024	XX	GW507X1FE	UF	0.005 U	42	0.003 U	1.2	5.7	0.05 U	0.67	5	0.05 U					
10/8/2024	XX	GW507X20F	UF	0.005 U	41	0.003 U	0.37	5.6	0.05 U	0.65	4.9	0.05 U					
MW-508																	
10/5/2022	XX	GW508XG2E	UF	0.005 U	54	0.003 U	0.21	5.6	0.05	1.1	7.3	0.05 U					
1/24/2023	XX	GW508XGBF		F	F	F	F	F	F	F	F	F					
3/30/2023	XX	GW508XGH2	UF	0.005 U	51	0.003 U	0.18	5.6	0.082	0.95	7.6	0.05 U					
4/19/2023	XX	GW508XH1H	UF	0.0059	51	0.003 U	0.076	5.8	0.05 U	1	7.3	0.05 U					
6/19/2023	XX	GW508XH5H	UF	0.005 U	50	0.003 U	0.05 U	5.5	0.05 U	0.83	7.2	0.05 U					
7/13/2023	XX	GW508X01I	UF	0.005 U	44	0.003 U	0.06	5.2	0.05 U	0.79	6.5	0.05 U					
10/4/2023	XD	GWDP5X07F	UF	0.005 U	47	0.003 U	0.05 U	5	0.05 U	0.86	6.9	0.05 U					
10/4/2023	XX	GW508X090	UF	0.005 U	46	0.003 U	0.05 U	5.3	0.05 U	0.87	7.3	0.05 U					
4/10/2024	XD	GWDP5X144	UF	0.005 U	43	0.015	0.05 U	4.6	0.05 U	0.77	6.4	0.05 U					
4/10/2024	XX	GW508X157	UF	0.005 U	42	0.0089	0.05 U	4.5	0.05 U	0.74	6.3	0.05 U					
7/17/2024	XX	GW508X1GG	UF	0.005 U	44	0.003 U	0.075	5	0.05 U	0.93	6.8	0.13					
10/10/2024	XD	GWDP5X20H	UF	0.005 U	38	0.003 U	0.05 U	4.2	0.05 U	0.76	6.2	0.05 U					
10/10/2024	XX	GW508X220	UF	0.005 U	39	0.003 U	0.05 U	4.3	0.05 U	0.76	6.4	0.05 U					
OW-06-03																	
4/10/2018	XX	GWXXXXA73	UF	0.005 U	17	0.003 U	0.32	4.4	0.65	1.1	6.6						
6/5/2018	XX	GWXXXXA80		I	I	I	I	I	I	I	I						
7/19/2018	XX	GWXXXXAEI		I	I		I	I	I	I	I						
8/21/2018	XX	GWXXXXAFH		I	I		I	I	I	I	I						
7/18/2019	XX	GWXXXXBDJ		I	I		I	I	I	I	I						

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(OW-06-03)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
7/20/2020	XX	GWXXXXCJC		I	I		I	I	I	I	I						
7/14/2021	XX	GWXXXXE17	UF	0.01	78	0.003 U	23	6.5	8.7	3.7	4.7	0.05 U					
7/20/2022	XX	GWXXXXFA5		I	I	I	I	I	I	I	I	I					
7/12/2023	XX	GWXXXX001		D	D	D	D	D	D	D	D	D					
7/18/2024	XX	GWXXXX1EI		I	I	I	I	I	I	I	I	I					
OW-601A																	
4/11/2018	XX	GW601AA69	UF	0.005 U	39	0.003 U	0.97	10	0.2	1.9	7.2						
4/11/2018	XX	GW601AHHA	FILT	0.005 U	36	0.003 U	0.18	8.8	0.19	1.8	6.6						
6/6/2018	XX	GWXXXXHG4	FILT	0.005 U	41	0.003 U	0.06	11	0.23	1.8	7.9						
7/19/2018	XX	GW601AAE4	UF	0.005 U	43		0.4	11	0.29	2.1	10						
8/22/2018	XX	GW601AAF5	UF	0.005 U	43		0.05 U	10	0.19	2.3	13						
7/18/2019	XX	GW601ABB6	UF	0.005 U	42		0.05 U	12	0.07	2.5	16						
7/22/2020	XX	GW601ACGJ	UF	0.005 U	37		0.87	10	0.05	2.4	25						
7/12/2021	XX	GW601ADIH	UF	0.005	47	0.003 U	0.05 U	12	0.05 U	2	12	0.05 U					
7/21/2022	XX	GW601AF7F	UF	0.005 U	52	0.004	0.05 U	13	0.05 U	2.8	21	0.05 U					
7/12/2023	XX	GW601AH79	UF	0.005 U	55	0.003 U	0.05 U	15	0.05 U	1.8	14	0.05 U					
7/18/2024	XX	GW601A1C9	UF	0.005 U	38	0.0096	0.12	5.7	0.05 U	1.9	15	0.05 U					
OW-601B																	
4/11/2018	XX	GW601BA6A	UF	0.005 U	40	0.003 U	0.05 U	12	0.09	1.9	8						
6/6/2018	XX	GW601BA77	UF	0.007	39	0.003 U	0.28	12	1	1.9	8.2						
7/19/2018	XX	GW601BAE5	UF	0.005 U	36		0.19	11	0.11	1.5	7						
8/22/2018	XX	GW601BAF6	UF	0.005 U	40		0.19	13	0.05 U	1.4	6.8						
7/18/2019	XX	GW601BBDF	UF	0.005 U	34		0.74	13	0.64	1.8	8.7						
7/22/2020	XX	GW601BCJ8	UF	0.005 U	35		0.31	13	0.05 U	1.4	8.3						
7/12/2021	XD	GWDP4XDJI	UF	0.005 U	38	0.003	0.05 U	12	0.05 U	1.3	7.1	0.05 U					
7/12/2021	XX	GW601BE13	UF	0.006	38	0.003 U	0.05	13	0.05 U	1.2	7.3	0.05 U					
7/21/2022	XD	GWDP4XF8G	UF	0.005 U	42	0.0098	0.1	14	0.05 U	4.1	9.9	0.05 U					
7/21/2022	XX	GW601BFA1	UF	0.005 U	44	0.003 U	0.05 U	14	0.05 U	2	8.1	0.05 U					
7/12/2023	XD	GWDP4XH8A	UF	0.005 U	40	0.0038	0.05 U	14	0.05 U	1.2	7.8	0.05 U					
7/12/2023	XX	GW601BH9F	UF	0.005 U	42	0.003 U	0.05 U	13	0.05 U	1.2	7.5	0.05 U					
7/18/2024	XD	GWDP4X1DA	UF	0.005 U	40	0.011	0.05 U	13	0.05 U	1.4	13	0.05 U					
7/18/2024	XX	GW601B1ED	UF	0.005 U	38	0.0033	0.05 U	12	0.05 U	1.3	11	0.05 U					
OW-602A																	
4/11/2018	XX	GW602AA6B	UF	0.005 U	14	0.003 U	0.05 U	2.8	0.05 U	0.6	2.5						
6/6/2018	XD	GWDP1XA75	UF	0.005 U	19	0.003 U	0.05 U	4.1	0.05 U	0.4	3.4						
6/6/2018	XX	GW602AA78	UF	0.008	18	0.003 U	0.05 U	4.1	0.05 U	0.5	3						
7/19/2018	XD	GWDP1XAE3	UF	0.005 U	17		0.05 U	3.5	0.05 U	0.4	2.6						
7/19/2018	XX	GW602AAE6	UF	0.005 U	17		0.05 U	3.6	0.05 U	0.4	2.7						
8/21/2018	XX	GW602AAF7	UF	0.005 U	18		0.1	3.5	0.05 U	0.4	2.5						
7/18/2019	XX	GW602ABDG	UF	0.005 U	13		0.05 U	3	0.05 U	0.4	2.8						
7/22/2020	XX	GW602ACJ9	UF	0.005 U	17		0.05 U	4.1	0.05 U	0.5	3.3						
7/12/2021	XX	GW602AE14	UF	0.005 U	36	0.003 U	0.05 U	7.7	0.05 U	0.6	4.1	0.05 U					
7/21/2022	XX	GW602AFA2	UF	0.005 U	50	0.003 U	0.05 U	11	0.05 U	1.3	5.8	0.05 U					
7/12/2023	XX	GW602AH9G	UF	0.005 U	52	0.003 U	0.05 U	12	0.05 U	0.73	5.3	0.05 U					
7/18/2024	XX	GW602A1EE	UF	0.005 U	56	0.0036	0.05 U	13	0.05 U	0.93	9.7	0.05 U					
OW-603B																	
4/12/2018	XX	GW603BA6C	UF	0.005 U	34	0.003 U	0.11	11	0.16	1.4	8.5						

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(OW-603B)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
6/5/2018	XX	GW603BA79	UF	0.005 U	27	0.003 U	0.05	8.1	0.11	1	5.9							
7/19/2018	XX	GW603BAE7	UF	0.017	21		19	8.5	0.93	3.7	4.9							
7/19/2018	XX	GWXXXXHG5	FILT	0.005 U	13		1.3	4.5	0.37	1.2	4.2							
8/21/2018	XX	GW603BAF8	UF	0.005 U	13		0.54	4.6	0.77	1.5	3.9							
7/18/2019	XX	GW603BBDH	UF	0.008	12		0.08	4.7	0.2	1.6	5.4							
7/22/2020	XX	GW603BCJA		I	I		I	I	I	I	I							
7/13/2021	XX	GW603BE15		D	D	D	D	D	D	D	D	D						
10/6/2021	XX	GW603BE7J		D	D	D	D	D	D	D	D	D						
7/21/2022	XX	GW603BFA3		D	D	D	D	D	D	D	D	D						
7/12/2023	XX	GW603BH9H		I	I	I	I	I	I	I	I	I						
4/2/2024	XX	GW603B13D	D	D	D	D	D	D	D	D	D	D						
7/18/2024	XX	GW603B1EF		D	D	D	D	D	D	D	D	D						
OW-604A																		
4/12/2018	XX	GW604AA6D	UF	0.005 U	10	0.003 U	0.05 U	2.6	0.05 U	0.6	3.5							
6/4/2018	XX	GW604AA7A	UF	0.007	8.9	0.003 U	0.05 U	2.3	0.05 U	0.5	3.1							
7/19/2018	XX	GW604AAE8	UF	0.005 U	9.2		0.05 U	2.4	0.05 U	0.5	2.7							
8/21/2018	XX	GW604AAF9	UF	0.005 U	15		0.05 U	3.4	0.05 U	0.6	3.1							
7/18/2019	XX	GW604ABDI	UF	0.005 U	13		0.05 U	4.2	0.05 U	0.6	4.4							
7/21/2020	XX	GW604ACJB	UF	0.005 U	18		0.05 U	5	0.05 U	0.7	4.7							
7/14/2021	XX	GW604AE16	UF	0.005 U	23	0.003 U	0.05 U	5.9	0.05 U	0.5	4.4	0.05 U						
7/21/2022	XX	GW604AFA4	UF	0.005 U	38	0.003 U	0.05	9	0.05 U	3.1	9.8	0.05 U						
7/12/2023	XX	GW604AH9I	UF	0.005 U	48	0.003 U	0.05 U	9	0.05 U	1.1	6	0.05 U						
7/18/2024	XX	GW604A1EG	UF	0.005 U	49	0.0042	0.076	12	0.05 U	1.1	10	0.05 U						
OW-605A																		
4/10/2018	XX	GW605AA6E	UF	0.005 U	17	0.003 U	1.4	4.6	0.05 U	0.5	4.1							
6/5/2018	XX	GW605AA7B	UF	0.005	18	0.003 U	0.2	4.2	0.05 U	0.5	3.8							
7/19/2018	XX	GW605AAE9	UF	0.005 U	17		0.2	3.9	0.05 U	0.4	3.4							
8/21/2018	XX	GW605AAFA	UF	0.005 U	17		0.1	3.8	0.05 U	0.4	3.4							
7/14/2021	XD	GWDP6XE1J	UF	0.005 U	26	0.003 U	0.15	6.2	0.05 U	0.6	5	0.05 U						
7/14/2021	XX	GW605AE25	UF	0.005 U	28	0.003 U	0.18	6.6	0.05 U	0.6	5.6	0.05 U						
10/7/2021	XX	GW605AE8G	UF	0.005 U	33	0.003 U	0.29	7.4	0.05 U	0.5	5.6	0.05 U						
7/21/2022	XD	GWDP6XFAE	UF	0.005 U	41	0.0068	0.8	9.1	0.05 U	2.5	7.7	0.05 U						
7/21/2022	XX	GW605AFB0	UF	0.005 U	39	0.015	0.8	9.1	0.05 U	0.89	6.3	0.05 U						
7/12/2023	XD	GWDP7X00A	UF	0.005 U	39	0.003 U	14	8.8	0.05 U	0.72	6.1	0.05 U						
7/12/2023	XX	GW605A00G	UF	0.005 U	38	0.003 U	8.9	9	0.05 U	0.72	6	0.05 U						
7/18/2024	XD	GWDP7X1F9	UF	0.005 U	36	0.003 U	5.8	7.9	0.05 U	0.83	9.2	0.05 U						
7/18/2024	XX	GW605A1FF	UF	0.005 U	36	0.003 U	7.6	7.9	0.05 U	0.81	9.2	0.05 U						
OW-606A																		
4/3/2018	XX	GW606AA6F	UF	0.005 U	42	0.003 U	0.05 U	9.7	0.05 U	1.1	9.4							
6/4/2018	XX	GW606AA7C	UF	0.005	43	0.003 U	0.05 U	9.7	0.05 U	1.2	10							
7/19/2018	XX	GW606AAEA	UF	0.005 U	41		0.05 U	8.5	0.05 U	1.1	8.8							
8/21/2018	XX	GW606AAFB	UF	0.005 U	38		0.05 U	8.4	0.05 U	1	8.4							
7/14/2021	XX	GW606AE06	UF	0.005 U	39	0.003 U	0.5	8.6	0.05 U	1.1	8.4	0.05 U						
10/7/2021	XX	GW606AE8H	UF	0.005 U	44	0.003 U	3.5	9.1	0.11	1	8.3	0.05 U						
7/20/2022	XX	GW606AF94	UF	0.005 U	47	0.003 U	0.06	11	0.07	1.6	9.6	0.05 U						
7/12/2023	XX	GW606AH8I	UF	0.005 U	47	0.003 U	0.24	11	0.05 U	1.2	9.5	0.05 U						
7/17/2024	XX	GW606A1DH	UF	0.005 U	48	0.0071	0.05 U	11	0.05 U	1.3	9.7	0.05 U						

DATA SUMMARY TABLE

Metals Parameters

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(OW-606B)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
OW-606B																	
2/9/2021	XX	GW606BD9E		F	F	F	F	F	F	F	F	F					
4/8/2021	XX	GW606BDAD	UF	0.005 U	28	0.003 U	1.4	5.7	0.58	1.6	21	0.05 U					
6/8/2021	XX	GW606BDGG	UF	0.005 U	24	0.003 U	0.26	5.2	0.05	1.5	6.7	0.05 U					
7/14/2021	XX	GW606BE37	UF	0.005 U	19	0.003 U	0.09	4.2	0.05 U	1.5	5.1	0.05 U					
8/18/2021	XX	GW606BE4A	UF	0.005 U	22	0.003 U	0.11	4.7	0.05 U	1.7	5.7	0.05 U					
10/7/2021	XX	GW606BE8I	UF	0.005 U	23	0.003 U	0.41	4.6	0.05 U	1.6	5.7	0.05 U					
7/20/2022	XX	GW606BFB9	UF	0.005 U	23	0.003 U	0.72	5.3	0.05	2.1	7.1	0.05 U					
7/12/2023	XX	GW606B015	UF	0.005 U	22	0.003 U	0.15	4.8	0.05 U	1.2	4.7	0.05 U					
7/17/2024	XX	GW606B1G4	UF	0.005 U	21	0.003 U	0.15	4.4	0.05 U	1.1	4.3	0.05 U					
OW-607B																	
2/9/2021	XX	GW607BD9F	UF	0.008	15	0.003 U	0.05 U	5.2	0.05 U	0.9	4.2	0.05 U					
4/7/2021	XX	GW607BDAE	UF	0.007	18	0.003 U	0.05 U	5.3	0.05 U	1	4.5	0.05 U					
6/9/2021	XX	GW607BDGH	UF	0.007	19	0.003 U	0.08	5.8	0.05 U	1.2	5.2	0.05 U					
8/19/2021	XX	GW607BE4B	UF	0.009	18	0.003 U	0.05 U	5.2	0.05 U	1	4.2	0.05 U					
10/7/2021	XX	GW607BE8J	UF	0.007	18	0.003 U	0.05 U	5.3	0.05 U	0.9	4.3	0.05 U					
7/20/2022	XX	GW607BFBA	UF	0.005 U	19	0.003 U	0.18	6	0.09	1.5	5.3	0.05 U					
7/13/2023	XX	GW607B016	UF	0.0066	19	0.003 U	0.05 U	6	0.05	1.2	5	0.05 U					
7/18/2024	XX	GW607B1G5	UF	0.005 U	18	0.0034	0.05 U	6.2	0.051	1.4	10	0.05 U					
OW-608A																	
4/4/2018	XX	GW608AA6G	UF	0.005	19	0.003 U	3.7	6.3	0.05 U	0.9	15						
6/4/2018	XX	GW608AA7D	UF	0.008	21	0.003 U	7.4	6.4	0.05	1	15						
7/18/2018	XX	GW608AAEB	UF	0.006	18		5	5.9	0.05 U	0.9	13						
8/20/2018	XX	GW608AAFC	UF	0.005 U	12		6	5.1	0.16	1.1	13						
7/15/2021	XX	GW608AE26	UF	0.005 U	17	0.003 U	0.53	5.8	0.05 U	0.9	13	0.05 U					
10/6/2021	XX	GW608AE90	UF	0.005 U	10	0.003 U	2.5	4.7	0.08	1	12	0.05 U					
7/20/2022	XX	GW608AFB1	UF	0.005 U	19	0.003 U	3.6	6.7	0.05	1.4	14	0.05 U					
8/2/2023	XX	GW608A00H	UF	0.005 U	20	0.003 U	5.1	6.4	0.05 U	0.93	14	0.05 U					
7/17/2024	XX	GW608A1FG	UF	0.005 U	5.1	0.003 U	0.92	3.2	0.05 U	1.1	12	0.05 U					
OW-608B																	
2/10/2021	XX	GW608BD9G	UF	0.009	16	0.003 U	0.88	8.9	0.13	1.1	26	0.05 U					
4/8/2021	XD	GWDP1XDA6	UF	0.007	16	0.003 U	0.27	8.7	0.11	1	26	0.05 U					
4/8/2021	XX	GW608BDAF	UF	0.009	17	0.003 U	0.39	8.6	0.12	1	22	0.05 U					
6/8/2021	XX	GW608BDGI	UF	0.009	17	0.003 U	0.05 U	8.9	0.24	1.1	33	0.05 U					
8/17/2021	XD	GWDP1XE43	UF	0.006	16	0.003 U	0.05 U	8	0.18	1	29	0.05 U					
8/17/2021	XX	GW608BE4C	UF	0.008	15	0.007	0.06	7.7	0.18	1	29	0.05 U					
10/6/2021	XX	GW608BE91	UF	0.008	15	0.003 U	0.08	7.7	0.12	0.9	29	0.05 U					
7/20/2022	XX	GW608BFBB	UF	0.0067	16	0.003 U	0.05 U	8.9	0.05 U	1.4	28	0.05 U					
7/13/2023	XX	GW608B017	UF	0.0093	16	0.003 U	0.05 U	8.8	0.055	0.91	19	0.05 U					
7/17/2024	XX	GW608B1G6	UF	0.005 U	26	0.0056	2	5.9	0.16	3	8.6	0.05 U					
OW-609B																	
2/10/2021	XX	GW609BD9H	UF	0.005 U	19	0.003 U	0.31	3	0.36	1.1	52	0.05 U					
4/8/2021	XX	GW609BDAG	UF	0.005 U	24	0.003 U	0.71	2	0.51	1.5	23	0.05 U					
4/8/2021	XX	GWXXXXI6B		0.005 U	25	0.003 U	0.28	1.9	0.48	1.5	28	0.05 U					
6/8/2021	XX	GW609BDGJ	UF	0.005	21	0.003 U	0.4	7.3	0.37	1.5	81	0.05 U					
8/17/2021	XX	GW609BE4D	UF	0.007	19	0.004	0.37	7.9	0.29	1.4	68	0.05 U					

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(OW-609B) Date	Type	Sample ID	Filtration -	Arsenic mg/L	Calcium mg/L	Copper mg/L	Iron mg/L	Magnesium mg/L	Manganese mg/L	Potassium mg/L	Sodium mg/L	Boron mg/L					
10/7/2021	XX	GW609BE92	UF	0.008	24	0.003 U	0.55	7.2	0.25	1.4	58	0.05 U					
7/18/2022	XX	GW609BFBC	UF	0.0077	17	0.003 U	0.49	7.9	0.09	1.3	42	0.05 U					
7/11/2023	XX	GW609B018	UF	0.005 U	17	0.003 U	0.25	7	0.17	1.3	32	0.05 U					
7/17/2024	XX	GW609B1G7	UF	0.005 U	21	0.006	0.39	6.5	0.05 U	1.4	40	0.05 U					
OW-610A																	
10/5/2022	XX	GW610AG2F	UF	0.005 U	74	0.003 U	0.05 U	5.9	2.7	0.98	6.3	0.05 U					
1/24/2023	XX	GW610AGBG	UF	0.005 U	74	0.003 U	0.063	6.7	1.9	1	5.8	0.05 U					
4/19/2023	XX	GW610AH1I	UF	0.0051	77	0.003 U	0.05 U	7.4	1.5	1.2	6.2	0.05 U					
6/19/2023	XX	GW610AH61	UF	0.005 U	67	0.003 U	0.05 U	5	1.6	0.77	4.8	0.05 U					
7/13/2023	XX	GW610A01H	UF	0.005 U	67	0.003 U	0.05 U	5.1	1.6	0.84	5	0.05 U					
7/17/2024	XX	GW610A1GF	UF	0.005 U	72	0.0045	0.079	5.1	1.7	0.87	5.7	0.05 U					
OW-611A																	
4/4/2018	XX	GW611AA6H	UF	0.005 U	56	0.003 U	0.05 U	5.8	0.05 U	1	15						
6/5/2018	XX	GW611AA7E	UF	0.007	54	0.003 U	0.17	5.5	0.05 U	0.9	12						
7/18/2018	XX	GW611AAEC	UF	0.005 U	55		0.3	5.3	0.05 U	1	13						
8/20/2018	XX	GW611AAFD	UF	0.005 U	52		0.65	5	0.05 U	0.9	12						
7/14/2021	XX	GW611AE27	UF	0.005 U	61	0.003 U	0.1	6.2	0.05 U	1.1	16	0.05 U					
10/7/2021	XX	GW611AE93	UF	0.005 U	61	0.003 U	0.11	6.3	0.05 U	0.8	15	0.05 U					
7/20/2022	XX	GW611AFB2	UF	0.005 U	66	0.003 U	0.18	7.3	0.05 U	1.5	18	0.05 U					
7/13/2023	XX	GW611A00I	UF	0.005 U	67	0.003 U	1.6	7.2	0.05 U	1.1	20	0.05 U					
7/17/2024	XX	GW611A1FH	UF	0.005 U	64	0.003 U	2.3	6.7	0.05 U	1.3	20	0.05 U					
P-04-02 & P-04-02R																	
7/15/2015	XX	GWXXXX7DJ		0.007	17.5		1.52	4.3	0.08	1.7	32.7						
10/28/2015	XX	GWXXXX7J4		0.009	29.8		0.22	7.8	0.21	2	92						
4/6/2016	XX	GWXXXX87I		0.015	29.3		0.05 U	7.9	0.05 U	1.6	61.8						
7/27/2016	XX	GWXXXX8C7		0.016	37		0.05 U	9.4	0.05 U	2.4	112						
10/26/2016	XX	GWXXXX904		0.008	35		0.05 U	10.2	0.05 U	2.5	98.9						
4/19/2017	XX	GWXXXX98C		0.009	30		0.15	9.5	0.05 U	2.4	96						
4/19/2017	XX	GWXXXX98H	FILT	0.007	29		0.05 U	9.3	0.05 U	2.3	87						
7/26/2017	XX	GWXXXX9E8		0.008	30		0.05 U	8.4	0.05 U	2.3	78						
7/26/2017	XX	GWXXXX9EA	FILT	0.005 U	29		0.05 U	7.8	0.05 U	1.8	65						
10/25/2017	XX	GWXXXX9I3		0.007	32		0.07	8.6	0.05 U	2.1	73						
4/4/2018	XX	GWXXXXA29	FILT	0.008	27		0.05 U	7.8	0.05 U	1.9	69						
4/4/2018	XX	GWXXXXA44	UF	0.009	29		0.05 U	8.3	0.05 U	1.9	64						
7/18/2018	XX	GWXXXXAD3	UF	0.006	28		0.05 U	7	0.05 U	1.8	56						
7/18/2018	XX	GWXXXXAD5	FILT	0.005 U	27		0.05 U	7	0.05 U	1.6	45						
10/3/2018	XX	GWXXXXB21	UF	0.005	28		0.05 U	7.9	0.05 U	1.8	51						
4/22/2019	XX	GWXXXXB70	UF	0.007	27		0.05 U	7.5	0.05 U	1.9	50						
7/17/2019	XX	GWXXXXBDA	UF	0.008	22		0.05 U	7.3	0.05 U	2	61						
10/30/2019	XX	GWXXXXBJ2	UF	0.006	22		0.09	6.6	0.05 U	1.8	49						
4/29/2020	XX	GWXXXXCEA	UF	0.006	22		0.05 U	6	0.05 U	1.6	49						
7/22/2020	XX	GWXXXXCJ3	UF	0.006	22		0.05 U	6.8	0.05 U	1.7	47						
10/28/2020	XX	GWXXXXD46	UF	0.008	23		0.05 U	7.2	0.05 U	1.6	43						
4/7/2021	XX	GWXXXXDD9	UF	0.006	26		0.05 U	7.3	0.05 U	1.6	35						
7/12/2021	XX	GWXXXXE10	UF	0.005 U	23		0.05 U	6.3	0.05 U	1.6	34						
10/6/2021	XX	GWXXXXE77	UF	0.005	24		0.05 U	6.5	0.05 U	1.5	29						
4/26/2022	XX	GWXXXXF1I	UF	0.005 U	20		0.44	5.4	0.05 U	2.2	42						

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(P-04-02 & P-04-02R)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
7/19/2022	XX	GWXXXXF9I	UF	0.005 U	22		0.08	6.3	0.05 U	1.6	39							
10/4/2022	XX	GWXXXXFJH	UF	0.005 U	28		0.21	7.2	0.05 U	1.7	27							
4/17/2023	XX	GWXXXXGJ8	UF	0.0059	19		0.16	3.7	0.05 U	1.3	17							
7/10/2023	XX	GWXXXXH9C	UF	0.005 U	23		1	4.9	0.08	1.6	19							
10/2/2023	XX	GWXXXX06G	UF	0.005 U	23		0.16	5.2	0.05 U	1.5	23							
4/1/2024	XX	GWXXXX135	UF	0.005 U	23		0.25	3.6	0.05 U	1.4	13							
7/15/2024	XX	GWXXXX1EA	UF	0.005 U	25		0.058	5.3	0.05 U	1.5	17							
10/7/2024	XX	GWXXXX1JI	UF	0.005 U	23		0.064	6.2	0.05 U	1.3	13							
P-04-04																		
4/29/2015	XX	GWXXXX79B		0.012	21.9		0.05 U	5.2	0.05 U	1.3	4.3							
7/15/2015	XX	GWXXXX7D3		0.014	20.4		0.05 U	4.9	0.05 U	1.3	3.9							
10/28/2015	XX	GWXXXX7IC		0.011	21.6		0.05 U	4.9	0.05 U	1.2	3.7							
4/6/2016	XX	GWXXXX872		0.009	21.5		0.05 U	4.9	0.05 U	1.3	3.8							
7/27/2016	XX	GWXXXX8BC		0.012	23.3		0.05 U	5.4	0.05 U	1.4	4.1							
10/26/2016	XX	GWXXXX8JB		0.009	21.7		0.05 U	5.7	0.05 U	1.4	4.4							
4/19/2017	XX	GWXXXX97H		0.01	20		0.05 U	5.5	0.05 U	1.4	4.2							
7/26/2017	XX	GWXXXX9DF		0.005	22		0.05 U	5.1	0.05 U	1.2	3.9							
10/25/2017	XX	GWXXXX9HA		0.011	23		0.05 U	5.5	0.05 U	1.2	4.3							
4/4/2018	XX	GWXXXXA39	UF	0.007	24		0.05 U	5.7	0.05 U	1.4	4.6							
7/18/2018	XX	GWXXXXACA	UF	0.005	24		0.05 U	5.2	0.05 U	1.3	4							
10/3/2018	XX	GWXXXXB18	UF	0.007	24		0.05 U	5.4	0.05 U	1.3	4.3							
4/22/2019	XX	GWXXXXB65	UF	0.005 U	24		0.05 U	5.8	0.05 U	1.4	4.4							
7/17/2019	XX	GWXXXXBCG	UF	0.007	21		0.05 U	5.9	0.05 U	1.5	4.9							
10/30/2019	XX	GWXXXXBI9	UF	0.007	22		0.05 U	5.8	0.05 U	1.4	4.4							
4/29/2020	XX	GWXXXXCDG	UF	0.008	23		0.05 U	5.6	0.05 U	1.4	4.5							
7/22/2020	XX	GWXXXXCI9	UF	0.005	21		0.05 U	6	0.05 U	1.3	4.6							
10/28/2020	XX	GWXXXXD3D	UF	0.007	24		0.05 U	6	0.05 U	1.3	4.6							
4/7/2021	XX	GWXXXXDCF	UF	0.005 U	26		0.05 U	6.5	0.05 U	1.4	4.6							
7/12/2021	XX	GWXXXXE07	UF	0.005 U	24		0.05 U	6	0.05 U	1.3	4.2							
10/6/2021	XX	GWXXXXE6F	UF	0.007	24		0.05 U	5.7	0.05 U	1.3	4.3							
4/26/2022	XX	GWXXXXF17	UF	0.005	26		0.05 U	6.1	0.05 U	2.1	5							
7/19/2022	XX	GWXXXXF95	UF	0.005	28		0.05 U	6.9	0.05 U	1.4	4.8							
10/4/2022	XX	GWXXXXFJ6	UF	0.005 U	27		0.05 U	6	0.05 U	1.3	4.3							
4/17/2023	XX	GWXXXXGIH	UF	0.0059	28		0.05 U	6.8	0.05 U	1.4	4.7							
7/10/2023	XX	GWXXXXH8J	UF	0.005 U	28		0.052	6.2	0.05 U	1.3	4.5							
10/2/2023	XX	GWXXXX066	UF	0.005 U	26		0.05 U	6.4	0.05 U	1.5	5.4							
4/1/2024	XX	GWXXXX12G	UF	0.005 U	26		0.05 U	6.1	0.05 U	1.4	5							
7/15/2024	XX	GWXXXX1DI	UF	0.005 U	27		0.05 U	6.1	0.05 U	1.3	4.7							
10/7/2024	XX	GWXXXX1J9	UF	0.005 U	23		0.05 U	5.9	0.05 U	1.1	4							
P-04-07A																		
10/3/2022	XX	GWXXXXG2G	UF	0.005 U	42	0.003 U	0.05 U	5.2	0.05 U	0.79	7.5	0.05 U						
1/24/2023	XX	GWX07AGBD		F	F	F	F	F	F	F	F	F						
3/30/2023	XD	GWDP1XGGJ	UF	0.005 U	58	0.003 U	0.05 U	7.3	0.05 U	1.3	40	0.05 U						
3/30/2023	XX	GWX07AGH0	UF	0.005 U	42	0.003 U	0.05 U	5.5	0.05 U	0.81	8.7	0.05 U						
4/19/2023	XD	GWDP5XH0A	UF	0.005 U	40	0.003 U	0.05 U	5.8	0.05 U	0.92	8.1	0.05 U						
4/19/2023	XX	GWXXXXH1J	UF	0.006	41	0.003 U	0.05 U	5.7	0.05 U	0.85	8	0.05 U						
6/19/2023	XD	GWDP1XH5E	UF	0.005 U	40	0.003 U	0.05 U	5.2	0.05 U	0.7	7.8	0.05 U						
6/19/2023	XX	GWX07AH5F	UF	0.005 U	38	0.003 U	0.05 U	4.9	0.05 U	0.69	7.5	0.05 U						

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(P-04-07A)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
7/13/2023	XD	GWDP6X021	UF	0.005 U	37	0.003 U	0.05 U	5	0.05 U	0.72	7.6	0.05 U					
7/13/2023	XX	GWX07A01J	UF	0.005 U	37	0.003 U	0.16	5	0.05 U	0.72	7.5	0.05 U					
7/17/2024	XD	GWDP6X1GJ	UF	0.005 U	35	0.003 U	0.075	4.5	0.05 U	0.79	7.5	0.05 U					
7/17/2024	XX	GWX07A1GH	UF	0.005 U	35	0.003 U	0.1	4.8	0.05 U	1.2	7.9	0.05 U					
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	UF	0.005 U	63	0.003 U	0.05	6.8	0.05 U	1.1	27	0.05 U					
1/24/2023	XX	GWX07BGBE		F	F	F	F	F	F	F	F	F					
3/30/2023	XX	GWX07BGH1	UF	0.005 U	63	0.003 U	0.05 U	7.2	0.05 U	1.3	38	0.05 U					
4/19/2023	XX	GWXXXXH20	UF	0.005 U	71	0.003 U	0.05 U	8.2	0.05 U	1.2	24	0.05 U					
6/19/2023	XX	GWX07BH5G	UF	0.005 U	74	0.003 U	0.05 U	7.9	0.05 U	1.1	21	0.05 U					
7/13/2023	XX	GWX07B020	UF	0.005 U	71	0.003 U	0.05 U	7.8	0.05 U	1.1	20	0.05 U					
7/17/2024	XX	GWX07B1GI	UF	0.005 U	31	0.003 U	0.05 U	4.5	0.05 U	1.8	98	0.05 U					
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	UF	0.015	12	0.003 U	0.62	2.9	0.05 U	0.8	12	0.05 U					
4/8/2021	XX	GWXXXXDAH	UF	0.013	13	0.003 U	0.05 U	2.9	0.05 U	0.7	9.4	0.05 U					
6/9/2021	XX	GWXXXXDH0	UF	0.012	13	0.003 U	0.05	2.9	0.05 U	0.9	12	0.05 U					
8/18/2021	XX	GWXXXXE4E	UF	0.011	10	0.003 U	0.05 U	2.3	0.05 U	0.9	11	0.05 U					
10/6/2021	XX	GWX11AE94	UF	0.013	13	0.003 U	0.05 U	2.5	0.05 U	0.8	13	0.05 U					
4/27/2022	XX	GWX11AF39	UF	0.011	13	0.003 U	0.08	2.8	0.05 U	1.3	12	0.05 U					
7/21/2022	XX	GWXXXXFBE	UF	0.005 U	12	0.0075	1.2	2.8	0.06	1.3	11	0.05 U					
7/12/2023	XX	GWXXXX01A	UF	0.011	15	0.003 U	0.05 U	3.5	0.05 U	0.79	5.5	0.05 U					
7/18/2024	XX	GWXXXX1G9	UF	0.0053	14	0.0034	0.074	3.4	0.05 U	1.1	9	0.05 U					
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	UF	0.005 U	2.5	0.003 U	0.15	1	0.05 U	0.3	4.2	0.05 U					
4/8/2021	XX	GWXXXXDAI	UF	0.005 U	2.7	0.003 U	0.29	1.1	0.05 U	0.3	4	0.05 U					
6/9/2021	XX	GWXXXXDH1	UF	0.005 U	3	0.003 U	0.13	1.1	0.05 U	0.3	4.2	0.05 U					
8/18/2021	XX	GWXXXXE4F	UF	0.005 U	3.2	0.003 U	0.13	1.2	0.05 U	0.4	4	0.05 U					
10/6/2021	XX	GWX11BE95	UF	0.005 U	3.2	0.003 U	0.16	1.2	0.05 U	0.3	3.6	0.05 U					
4/27/2022	XX	GWX11BF3A	UF	0.005 U	3.2	0.003 U	0.17	1.2	0.05 U	0.87	5.8	0.05 U					
7/21/2022	XX	GWXXXXFBF		D	D	D	D	D	D	D	D	D					
7/12/2023	XX	GWXXXX01B	UF	0.005 U	3.3	0.003 U	1.4	1.5	0.05 U	0.57	4.1	0.05 U					
7/18/2024	XX	GWXXXX1GA	UF	0.005 U	3.2	0.0039	0.72	1.4	0.05 U	0.56	7.6	0.05 U					
P-206A																	
4/27/2015	XX	GW206A79A		0.009	11.8		1.44	3.1	0.1	1	7.3						
7/13/2015	XX	GW206A7D2		0.013	12.8		0.51	3.1	0.1	1	7.4						
10/26/2015	XX	GW206A7IB		0.013	13		5.84	3.8	0.17	1	7.8						
4/4/2016	XX	GW206A871		0.009	13.9		0.26	3.5	0.08	0.9	7.2						
7/25/2016	XX	GW206A8BB		0.022	16.4		2.47	4.2	0.12	1	8.3						
10/24/2016	XX	GW206A8JA		0.009	19.5		0.21	5	0.1	1.2	9.1						
4/17/2017	XX	GW206A97G		0.01	19		1.6	5.2	0.11	1.2	9.1						
7/24/2017	XX	GW206A9DE		0.006	20		0.31	5.1	0.08	0.9	9.3						
10/23/2017	XX	GW206A9H9		0.007	22		0.46	5.6	0.08	1	9.1						
4/2/2018	XX	GW206AA38	UF	0.007	22		0.44	6	0.09	1.2	11						
7/16/2018	XX	GW206AAC9	UF	0.007	23		0.28	5.7	0.09	1.2	10						
10/1/2018	XX	GW206AB17	UF	0.009	24		0.49	6.2	0.09	1.1	9.9						
4/22/2019	XX	GW206AB64	UF	0.007	23		0.72	6.2	0.09	1.2	9.2						
7/17/2019	XX	GW206ABCF	UF	0.006	19		0.22	6.1	0.07	1.3	9.7						

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(P-206A)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/28/2019	XX	GW206ABI8	UF	0.005	20		0.8	5.4	0.07	1.1	7.6							
4/27/2020	XX	GW206ACDF	UF	0.006	24		0.62	6.5	0.08	1.2	9.1							
7/20/2020	XX	GW206ACI8	UF	0.005 U	23		0.24	6.5	0.08	1.3	9.3							
10/26/2020	XX	GW206AD3C		A	A		A	A	A	A	A							
4/5/2021	XX	GW206ADCE	UF	0.005 U	23		1.5	7.2	0.15	1.2	8.5							
7/14/2021	XX	GW206AE22	UF	0.005 U	22	0.003	0.19	7.4	0.05 U	0.9	6.7	0.05 U						
10/4/2021	XX	GW206AE6E	UF	0.005 U	26		0.1	8.2	0.05 U	0.8	6.8							
4/25/2022	XX	GW206AF16	UF	0.005 U	25		0.07	8.1	0.05 U	1.4	7							
7/18/2022	XX	GW206AFAH	UF	0.005 U	26	0.003 U	0.1	8.6	0.05 U	1.1	7.7	0.05 U						
10/3/2022	XX	GW206AFJ5	UF	0.005 U	27		0.08	8	0.05 U	0.98	7.4							
4/17/2023	XX	GW206AGIG	UF	0.005 U	25		0.25	8.5	0.05 U	1	7.3							
7/10/2023	XX	GW206A00D	UF	0.005 U	25	0.0053	0.14	7.8	0.05 U	0.93	6.8	0.05 U						
10/2/2023	XX	GW206A065	UF	0.005 U	26	0.003 U	0.25	8	0.05 U	1	8.1	0.05 U						
4/1/2024	XX	GW206A12F	UF	0.005 U	24	0.029	0.18	7	0.05 U	0.98	7.3	0.05 U						
7/15/2024	XX	GW206A1FC	UF	0.005 U	24	0.003 U	0.25	7	0.05 U	0.9	7.2	0.05 U						
10/7/2024	XX	GW206A1J8	UF	0.005 U	19	0.003 U	0.071	6.1	0.05 U	0.82	6.3	0.05 U						
PWS10-1																		
4/27/2015	XX	GWPWS1788		0.019	30.8		1.33	8.4	0.06	1.2	8.5							
7/13/2015	XX	GWPWS17C0		0.011	20.2		7.27	5.8	0.31	1.8	6.3							
10/26/2015	XX	GWPWS17H9		0.01	8.7		1.18	2.7	0.07	0.5	4.7							
4/4/2016	XX	GWPWS185J		0.005 U	26.6		2.36	7.4	0.1	0.4	8.1							
7/25/2016	XX	GWPWS18A9		0.014	13.9		4.77	4.1	0.35	0.6	4.3							
10/24/2016	XX	GWPWS18I8		0.005	38.1		8.08	10.4	0.92	0.9	8.5							
4/17/2017	XX	GWPWS196E		0.007	10		0.34	3.1	0.06	0.7	6.6							
7/24/2017	XX	GWPWS19CC		0.005 U	35		1.7	9.3	0.5	0.8	8.9							
10/25/2017	XX	GWPWS19G7		0.011	20		5.8	6.3	0.31	0.8	7.2							
4/2/2018	XX	GWPWS1A25	UF	0.005 U	19		0.07	4.9	0.28	1.2	7.1							
7/16/2018	XX	GWPWS1AB7	UF	0.005	21		3.8	5.6	0.56	0.8	6.1							
10/1/2018	XX	GWPWS1B05	UF	0.005	15		1.3	4.1	0.1	0.6	5.7							
4/22/2019	XX	GWPWS1B51	UF	0.005 U	21		3.8	6.5	0.2	0.8	6.9							
7/15/2019	XX	GWPWS1BBE	UF	0.01	9.9		4.1	2.9	0.8	0.5	6.3							
10/28/2019	XX	GWPWS1BH7	UF	0.005 U	20		0.75	5.3	0.22	0.9	5.3							
4/27/2020	XX	GWPWS1CCE	UF	0.005 U	31		8.1	8.4	2.3	1.2	9.2							
7/20/2020	XX	GWPWS1CH7	UF	0.005	24		13	6.7	2.6	2.2	8							
10/26/2020	XX	GWPWS1D2B	UF	0.005 U	29		0.76	8.9	0.41	1.6	7.5							
4/5/2021	XX	GWPWS1DBD	UF	0.005 U	20		4.3	11	0.08	1.1	8.6							
7/12/2021	XX	GWPWS1DJ5	UF	0.005 U	10		1.4	2.7	0.42	1.2	2.8							
10/4/2021	XX	GWPWS1E5D	UF	0.005 U	33		5.3	9.5	1.3	2.1	8							
4/25/2022	XX	GWPWS1F05	UF	0.01 U	26		13	8.1	2	1.3	6.7							
7/18/2022	XX	GWPWS1F83	UF	0.005 U	9.8		2.2	3	0.35	1.5	7							
10/3/2022	XX	GWPWS1FI4	UF	0.005 U	25		3.2	7.3	1.3	1.6	7.5							
4/17/2023	XX	GWPWS1GHF	UF	0.005 U	26		1.8	7.2	0.39	1.4	5.9							
7/10/2023	XX	GWPWS1H7H	UF	0.0079	27		18	6.1	4.8	1.9	5.7							
10/2/2023	XX	GWPWS1055	UF	0.005 U	33		8.4	9	0.76	3.2	11							
4/1/2024	XX	GWPWS111F	UF	0.005 U	16		0.29	4.2	0.05 U	1.1	3.6							
7/15/2024	XX	PWPWS11CH	UF	0.005 U	0.3 U		0.05 U	0.3 U	0.05 U	0.3 U	0.3 U							
10/7/2024	XX	PWPWS11I8	UF	0.005 U	22		1	6.2	0.31	1.3	4.9							
PWS10-2																		

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(PWS10-2)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/27/2015	XX	GWPWS2789		0.005 U	10.4		1.28	3.5	0.05	0.5	7.8							
7/13/2015	XX	GWPWS27C1		0.01	12.3		13.8	4.7	0.4	1	4.4							
10/26/2015	XX	GWPWS27HA		0.012	9.3		0.08	1.3	0.05 U	1.3	1.6							
4/4/2016	XX	GWPWS2860		0.005	11.3		0.99	2.7	0.07	0.8	3.5							
7/25/2016	XX	GWPWS28AA		0.015	13.1		1.23	3.5	0.06	0.3 U	3.6							
10/24/2016	XX	GWPWS28I9		0.007	15.4		6.51	4.7	0.3	1.6	3.4							
4/17/2017	XX	GWPWS296F		0.006	10		1.7	2.8	0.08	1	3.2							
7/24/2017	XX	GWPWS29CD		0.005 U	16		0.93	4.1	0.14	0.3 U	5.1							
10/24/2017	XX	GWPWS29G8		D	D		D	D	D	D	D							
4/2/2018	XX	GWPWS2A26	UF	0.005 U	8.9		1.3	1.6	0.07	1.1	2.3							
7/16/2018	XX	GWPWS2AB8	UF	0.005	15		1.6	3.7	0.26	0.4	4.6							
10/1/2018	XX	GWPWS2B06	UF	0.005 U	14		0.61	3.1	0.06	0.4	4.2							
4/22/2019	XX	GWPWS2B52	UF	0.005 U	8.7		0.05 U	1.2	0.05 U	1.3	4.8							
7/15/2019	XX	GWPWS2BBF	UF	0.005	9.7		2.7	2.6	0.28	0.8	5.4							
10/28/2019	XX	GWPWS2BH8	UF	0.005 U	9		0.45	1.2	0.94	1.1	2.9							
4/27/2020	XX	GWPWS2CCF	UF	0.005	29		2	3.9	0.61	1.9	7.6							
7/20/2020	XX	GWPWS2CH8	UF	0.005 U	13		0.95	2.9	0.09	1.7	7.5							
10/26/2020	XX	GWPWS2D2C	UF	0.005 U	15		1.6	2.6	0.28	1.8	4.6							
4/5/2021	XX	GWPWS2DBE	UF	0.005 U	9.2		0.82	1.4	0.07	0.8	4.4							
7/12/2021	XX	GWPWS2DJ6	UF	0.005 U	7.1		2.8	1.5	0.21	1.1	2.5							
10/4/2021	XX	GWPWS2E5E	UF	0.005 U	7.1		2.4	1.9	0.21	1.1	4.5							
4/25/2022	XX	GWPWS2F06	UF	0.005 U	7.4		0.26	1.9	0.05 U	2.4	8.3							
7/18/2022	XX	GWPWS2F84	UF	0.005 U	5.3		2.3	1.7	0.05	1.9	5.7							
10/3/2022	XX	GWPWS2FI5	UF	0.005 U	9.4		2.1	2.1	0.32	1.5	3.4							
4/17/2023	XX	GWPWS2GHG	UF	0.005 U	7.2		0.59	1.9	0.32	0.59	5.6							
7/10/2023	XX	GWPWS2H7I	UF	0.005 U	12		3	3.3	0.42	1.3	4.7							
10/2/2023	XX	GWPWS2056	UF	0.005 U	7.2		1.9	1.9	0.29	2.5	4							
4/1/2024	XX	GWPWS211G	UF	0.005 U	3.3		0.92	1.2	0.05 U	0.83	3.7							
7/15/2024	XX	PWPWS21CI	UF	0.005 U	24		0.89	2.9	0.21	2.3	2.1							
10/7/2024	XX	PWPWS21I9	UF	0.005 U	14		1.5	3	0.35	1.1	3							
PWS10-3																		
4/27/2015	XX	GWPWS378A		0.005 U	4.8		1.78	1.7	0.08	0.6	2.6							
7/13/2015	XX	GWPWS37C2		0.007	8		2.44	2.2	0.11	0.3 U	3.8							
10/26/2015	XX	GWPWS37HB		0.01	8.1		1.57	2.6	0.15	0.3 U	4.2							
4/4/2016	XX	GWPWS3861		0.005 U	20.6		0.48	3.6	0.05 U	0.6	4.2							
7/25/2016	XX	GWPWS38AB		D	D		D	D	D	D	D							
10/24/2016	XX	GWPWS38IA		0.005 U	17.1		0.22	5	0.1	0.3 U	6							
4/17/2017	XX	GWPWS396G		0.005	6		1.5	2.1	0.34	0.9	3.5							
7/24/2017	XX	GWPWS39CE		0.006	15		5.2	4.2	0.39	2.6	6.4							
10/24/2017	XX	GWPWS39G9		D	D		D	D	D	D	D							
4/2/2018	XX	GWPWS3A27	UF	0.005	3.5		0.17	1.3	0.05 U	0.6	3.8							
7/16/2018	XX	GWPWS3AB9		D	D		D	D	D	D	D							
10/1/2018	XX	GWPWS3B07	UF	0.005 U	9.6		0.37	3	0.05 U	0.6	6							
4/22/2019	XX	GWPWS3B53	UF	0.005 U	4.3		0.34	1.6	0.05 U	1.1	8.6							
7/15/2019	XX	GWPWS3BBG	UF	0.01	6.6		5.9	2.3	0.34	0.3	5.8							
10/28/2019	XX	GWPWS3BH9	UF	0.005 U	3		0.7	0.7	0.21	0.6	0.5							
4/27/2020	XX	GWPWS3CCG	UF	0.005 U	6		0.3	1.7	0.05 U	0.7	1.9							
7/20/2020	XX	GWPWS3CH9	UF	0.007	13		13	3.5	2.8	0.4	3							
10/26/2020	XX	GWPWS3D2D	UF	0.005 U	9.3		2.8	3.1	1	0.7	4.1							

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(PWS10-3)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
4/5/2021	XX	GWPWS3DBF	UF	0.005 U	11		3.9	4.3	0.45	0.3 U	4.2							
7/12/2021	XX	GWPWS3DJ7	UF	0.009	8.7		2.3	2.5	0.48	0.9	2.3							
10/4/2021	XX	GWPWS3E5F	UF	0.005	9.1		2.3	2.7	0.57	0.5	4.9							
4/25/2022	XX	GWPWS3F07	UF	0.005 U	9.3		0.45	3.3	0.14	2.1	5.6							
7/18/2022	XX	GWPWS3F85	UF	0.005 U	11		11	4	0.58	1.1	3.1							
10/3/2022	XX	GWPWS3FI6	UF	0.005 U	9.6		4.9	2.8	0.2	0.67	2.8							
4/17/2023	XX	GWPWS3GHH	UF	0.005 U	7.6		1.5	2.4	0.05 U	0.84	7							
7/10/2023	XX	GWPWS3H7J	UF	0.005 U	14		9.4	3.7	1.5	1.1	6.6							
10/2/2023	XX	GWPWS3057	UF	0.005 U	6.9		1.2	2.1	0.05 U	0.3 U	5							
4/1/2024	XX	GWPWS311H	UF	0.005 U	5.4		1.8	1.2	0.05 U	1.3	2.1							
7/15/2024	XX	PWPWS31CJ	UF	0.005 U	36		29	11	2	5.8	8.6							
10/7/2024	XX	PWPWS31IA	UF	0.005 U	20		2.3	5.6	0.49	1.5	3.9							
PWS-4																		
1/24/2023	XX	PWXX4XGBI		A	A	A	A	A	A	A	A	A						
3/30/2023	XX	PWXX4XGH5	UF	0.005 U	10	0.003 U	2.8	3.5	0.83	0.3 U	5.8	0.05 U						
4/19/2023	XX	GWXXXXH22	UF	0.011	10	0.003 U	3.9	3.1	1	0.41	7.1	0.05 U						
6/19/2023	XX	PWXX4XH5J	UF	0.005 U	11	0.003 U	4.8	3.1	2.1	0.3 U	4.8	0.05 U						
7/13/2023	XX	PWXX4X023	UF	0.005 U	21	0.003 U	1.9	4.8	0.26	1.2	5.3	0.05 U						
10/4/2023	XX	GWXXXX094	UF	0.005 U	19	0.003 U	1.2	5	0.35	1.1	6.3	0.05 U						
4/2/2024	XX	GWXXXX15B	UF	0.005 U	4.4		6.3	2.3	0.29	1.9	3.1							
7/16/2024	XX	PWXX4X1H1	UF	0.005 U	12	0.003 U	2.4	2.9	0.49	1.3	2.4	0.18						
10/9/2024	XX	PWXXXX224	UF	0.005 U	9.6		1.8	2.6	0.88	1.2	3							
SW-1																		
4/28/2015	XX	SWXX1X785		0.006	6.5		0.15	2.1	0.05 U	0.7	8.6							
7/14/2015	XX	SWXX1X7BH		0.005 U	9.2		1.24	2.6	0.19	0.3	4.4							
10/27/2015	XX	SWXX1X7H6		0.005 U	6.8		0.37	2.4	0.05 U	0.3	4.5							
4/5/2016	XX	SWXX1X85G		0.005 U	5.7		0.08	1.9	0.05 U	0.4	6.6							
7/26/2016	XX	SWXX1X8A6		0.012	22.6		8.95	6.9	0.41	1.1	6							
10/25/2016	XX	SWXX1X8I5		0.005 U	9.5		0.71	2.9	0.05 U	0.7	4.9							
4/18/2017	XX	SWXX1X96B		0.005 U	3.6		0.26	1.5	0.05 U	0.5	5.2							
7/25/2017	XX	SWXX1X9C9		0.007	29		3.1	8.4	0.41	1.1	7.9							
10/25/2017	XX	SWXX1X9G4		0.005 U	13		1.5	4	0.11	2.7	5.1							
4/3/2018	XX	SWXX1XA22	UF	0.005 U	15		0.08	4.8	0.05 U	1	7.8							
7/17/2018	XX	SWXX1XAB4	UF	0.01	28		9.8	7.1	0.73	0.9	6							
10/2/2018	XX	SWXX1XB02	UF	0.005 U	16		0.89	4.2	0.09	0.6	6							
4/23/2019	XX	SWXX1XB4I	UF	0.005 U	15		0.14	4.2	0.05 U	0.9	5							
7/16/2019	XX	SWXX1XBBB	UF	0.006	10		4.8	3.3	1.1	0.5	6.5							
10/29/2019	XX	SWXX1XBH4	UF	0.005 U	27		0.21	7.2	0.12	1.5	8							
4/28/2020	XX	SWXX1XCCB	UF	0.005 U	24		0.07	6.5	0.05 U	1.4	7.1							
7/21/2020	XX	SWXX1XCH4	UF	0.005 U	14		4.3	4.8	1.1	2.8	8.1							
10/27/2020	XX	SWXX1XD28	UF	0.005 U	27		2.3	9.4	1.8	3.8	9.8							
4/6/2021	XX	SWXX1XDBA	UF	0.005 U	24		0.12	6.7	0.2	1.2	5.7							
7/13/2021	XX	SWXX1XDJ2	UF	0.005 U	9.5		2.1	2.6	0.37	0.9	2.9							
10/5/2021	XX	SWXX1XE5A	UF	0.005 U	45		1.2	11	0.82	2.2	9.1							
4/26/2022	XX	SWXX1XF02	UF	0.005 U	24		0.13	6.4	0.05	1.6	6.5							
7/19/2022	XX	SWXX1XF80	UF	0.005 U	13		5	3.6	0.9	1.8	6.9							
10/4/2022	XX	SWXX1XFI1	UF	0.005 U	26		2.5	7.3	1.2	1.7	7.3							
4/18/2023	XX	SWXX1XGHC	UF	0.005 U	14		0.69	4.1	0.32	2	5.9							

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(SW-1) Date	Type	Sample ID	Filtration -	Arsenic mg/L	Calcium mg/L	Copper mg/L	Iron mg/L	Magnesium mg/L	Manganese mg/L	Potassium mg/L	Sodium mg/L	Boron mg/L						
7/11/2023	XX	SWXX1XH7E	UF	0.0055	28		11	7.3	2.4	1.9	7.2							
10/3/2023	XX	SWXX1X052	UF	0.005 U	24		4.3	6.7	0.4	3.1	7.2							
4/2/2024	XX	SWXX1X11C	UF	0.0053	31		1.2	7.4	0.05 U	1.6	5.1							
7/16/2024	XX	SWXX1X1CE	UF	0.005 U	36		5.5	8.1	0.82	1.3	6							
10/8/2024	XX	SWXX1X1I5	UF	0.005 U	18		1	5.2	0.19	0.92	4.7							
SW-2																		
4/28/2015	XX	SWXX2X786		0.005 U	4.4		0.17	1.7	0.05 U	0.6	8.1							
4/28/2015	XD	SWDP2X78B		0.005 U	4.4		0.17	1.7	0.05 U	0.6	8.1							
7/14/2015	XX	SWXX2X7BI		0.005 U	7.1		0.89	2.2	0.19	0.4	4.1							
10/27/2015	XX	SWXX2X7H7		0.005 U	4.8		0.21	1.8	0.05 U	0.3 U	4.1							
10/27/2015	XD	SWDP2X7HC		0.005 U	4.8		0.21	1.9	0.05 U	0.3 U	4.6							
4/5/2016	XD	SWDP2X862		0.005 U	4.5		0.07	1.8	0.05 U	0.4	6.7							
4/5/2016	XX	SWXX2X85H		0.005 U	4.6		0.07	1.8	0.05 U	0.4	6.9							
7/26/2016	XX	SWXX2X8A7		0.011	9.1		1.41	2.8	0.12	0.3 U	3							
10/25/2016	XD	SWDP2X8IB		0.005 U	9		0.69	2.8	0.05 U	0.7	4.9							
10/25/2016	XX	SWXX2X8I6		0.005 U	8.6		0.65	2.7	0.05 U	0.7	4.7							
4/18/2017	XD	SWDP2X96H		0.007	3.4		0.25	1.4	0.05 U	0.5	5.5							
4/18/2017	XX	SWXX2X96C		0.005	3.3		0.26	1.4	0.05 U	0.5	5.3							
7/25/2017	XX	SWXX2X9CA		0.005 U	11		2.5	3.3	0.35	0.5	5.1							
10/25/2017	XD	SWDP2X9GA		0.005	7.9		1.1	2.6	0.11	1.8	6							
10/25/2017	XX	SWXX2X9G5		0.005 U	7.8		1.1	2.6	0.11	1.7	5.8							
4/3/2018	XD	SWDP2XA28	UF	0.005 U	2.5		0.25	1	0.05 U	0.4	3.5							
4/3/2018	XX	SWXX2XA23	UF	0.005 U	2.4		0.25	1	0.05 U	0.4	3.7							
7/17/2018	XX	SWXX2XAB5	UF	0.006	10		3.1	2.9	0.34	0.4	4							
10/2/2018	XD	SWDP2XB08	UF	0.005 U	9		0.65	3.3	0.05 U	0.6	6.3							
10/2/2018	XX	SWXX2XB03	UF	0.005 U	9.2		1	3.3	0.05 U	0.6	6.3							
4/23/2019	XD	SWDP2XB54	UF	0.005 U	4.5		0.5	1.8	0.05 U	1.4	8.7							
4/23/2019	XX	SWXX2XB4J	UF	0.005 U	4.8		0.48	1.8	0.05 U	1.4	8.4							
7/16/2019	XD	SWDP2XBBH	UF	0.005	6.1		1.7	2.4	0.29	0.3	7.9							
7/16/2019	XX	SWXX2XBBC	UF	0.005 U	5.9		1.7	2.3	0.33	0.3 U	7.5							
10/29/2019	XD	SWDP2XBHA	UF	0.005 U	4.8		0.28	1.9	0.05 U	0.3 U	4.5							
10/29/2019	XX	SWXX2XBH5	UF	0.005 U	4.9		0.29	1.9	0.05 U	0.3 U	4.6							
4/28/2020	XD	SWDP2XCCH	UF	0.005 U	4.7		0.14	2	0.05 U	0.3	5.4							
4/28/2020	XX	SWXX2XCCC	UF	0.005 U	4.7		0.11	1.9	0.05 U	0.3	5.2							
7/21/2020	XD	SWDP2XCHA	UF	0.005 U	6.8		1.1	2.6	0.05	0.5	5.5							
7/21/2020	XX	SWXX2XCH5	UF	0.005 U	7.3		1.2	2.7	0.08	0.5	5.4							
10/27/2020	XD	SWDP2XD2E	UF	0.005 U	6.5		0.56	2.5	0.05 U	0.5	5.3							
10/27/2020	XX	SWXX2XD29	UF	0.005 U	6.6		0.54	2.6	0.05 U	0.4	5.4							
4/6/2021	XD	SWDP2XDBG	UF	0.005 U	4.5		0.21	1.8	0.05 U	0.6	5.5							
4/6/2021	XX	SWXX2XDBB	UF	0.005 U	4.6		0.23	1.8	0.05 U	0.6	5.6							
7/13/2021	XD	SWDP2XDJ8	UF	0.005 U	6.9		1.7	2.2	0.18	0.8	3.5							
7/13/2021	XX	SWXX2XDJ3	UF	0.005	7.7		1.8	2.5	0.2	0.9	4							
10/5/2021	XD	SWDP2XE5G	UF	0.007	6.1		0.48	2	0.05 U	0.3 U	4.7							
10/5/2021	XX	SWXX2XE5B	UF	0.005 U	5.8		0.5	1.9	0.05 U	0.3 U	4.6							
4/26/2022	XD	SWDP2XF08	UF	0.005 U	5.1		0.21	2.1	0.05 U	1.4	6.6							
4/26/2022	XX	SWXX2XF03	UF	0.005 U	5.2		0.2	2.1	0.05 U	1.2	6.1							
7/19/2022	XD	SWDP2XF86	UF	0.005 U	6.2		0.57	2.2	0.05 U	0.3 U	4.9							
7/19/2022	XX	SWXX2XF81	UF	0.005 U	6.3		0.58	2.3	0.05 U	0.3 U	5.1							
10/4/2022	XD	SWDP2XFI7	UF	0.005 U	7.2		0.65	2.3	0.05 U	0.3 U	4.2							

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(SW-2)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/4/2022	XX	SWXX2XFI2	UF	0.005 U	6.8		0.62	2.2	0.05 U	0.3 U	4.2							
4/18/2023	XD	SWDP2XGHI	UF	0.005 U	5.3		0.27	2.1	0.05 U	0.63	6.6							
4/18/2023	XX	SWXX2XGHD	UF	0.005 U	5.6		0.25	2.1	0.05 U	0.64	6.6							
7/11/2023	XD	SWDP2XH80	UF	0.005 U	8.6		3.3	2.6	0.47	0.65	7.1							
7/11/2023	XX	SWXX2XH7F	UF	0.005 U	8.5		3.3	2.7	0.47	0.65	7.1							
10/3/2023	XD	SWDP2X058	UF	0.005 U	6.6		1	2.2	0.07	0.3 U	5.2							
10/3/2023	XX	SWXX2X053	UF	0.005 U	6.7		1.1	2.1	0.08	0.3 U	5.1							
4/2/2024	XD	SWDP2X11I	UF	0.005 U	4.7		0.49	1.7	0.1 U	0.64	4.9							
4/2/2024	XX	SWXX2X11D	UF	0.005 U	3.7		0.32	1.5	0.05 U	0.56	4.5							
7/16/2024	XD	SWDP2X1D0	UF	0.005 U	9.5		2	2.9	0.15	0.3 U	5.2							
7/16/2024	XX	SWXX2X1CF	UF	0.005 U	10		2.6	3.1	0.17	0.3 U	5.2							
10/8/2024	XD	SWDP2X1IB	UF	0.005 U	5.4		0.67	2.1	0.05 U	0.3	3.6							
10/8/2024	XX	SWXX2X1I6	UF	0.005 U	6.4		0.93	2.4	0.052	0.31	4.4							
SW-3																		
4/28/2015	XX	SWXX3X787		0.005	5		0.19	1.5	0.05 U	0.5	6.8							
7/14/2015	XX	SWXX3X7BJ		0.005 U	8.1		0.84	2.2	0.43	0.5	4.3							
7/14/2015	XD	SWDP2X7C3		0.005 U	8.2		0.91	2.2	0.45	0.4	4.3							
10/27/2015	XX	SWXX3X7H8		0.005 U	6.2		0.21	1.9	0.05 U	0.4	4							
4/5/2016	XX	SWXX3X85I		0.005 U	5.5		0.21	1.6	0.05 U	0.4	5.6							
7/26/2016	XD	SWDP2X8AC		0.005	11.2		1.05	2.7	0.44	0.3 U	4							
7/26/2016	XX	SWXX3X8A8		0.005 U	11.2		1.06	2.8	0.44	0.3 U	4.2							
10/25/2016	XX	SWXX3X8I7		0.005 U	10.4		0.6	2.3	0.09	1	4.1							
4/18/2017	XX	SWXX3X96D		0.006	3.4		0.2	1.1	0.05 U	0.4	4.2							
7/25/2017	XD	SWDP2X9CF		0.005 U	12		1.5	3.3	0.81	0.3 U	6.9							
7/25/2017	XX	SWXX3X9CB		0.005 U	12		1.2	3.1	0.63	0.3 U	6.7							
10/25/2017	XX	SWXX3X9G6		0.008	9.7		0.6	2.4	0.28	2.4	11							
4/3/2018	XX	SWXX3XA24	UF	0.005	3.8		0.19	1.4	0.05 U	0.4	7.2							
7/17/2018	XD	SWDP2XABA	UF	0.007	13		3.3	2.7	1.2	0.5	7.3							
7/17/2018	XX	SWXX3XAB6	UF	0.005	12		2.7	2.6	1	0.4	6.2							
10/2/2018	XX	SWXX3XB04	UF	0.005 U	11		0.28	2.3	0.05 U	0.6	4							
4/23/2019	XX	SWXX3XB50	UF	0.005 U	4.4		0.3	1.2	0.05 U	0.8	6.1							
7/16/2019	XX	SWXX3XBBD	UF	0.005 U	8.3		2.1	2.2	0.51	1.1	4.8							
10/29/2019	XX	SWXX3XBH6	UF	0.005 U	4.8		0.46	1.3	0.05 U	0.4	3.1							
4/28/2020	XX	SWXX3XCCD	UF	0.005 U	4.3		0.3	1.2	0.06	0.5	6.4							
7/21/2020	XX	SWXX3XCH6	UF	0.005 U	8.6		1.4	2.6	0.48	1	7.2							
10/27/2020	XX	SWXX3XD2A	UF	0.005 U	7.4		0.53	2.1	0.06	1.2	5							
4/6/2021	XX	SWXX3XDBC	UF	0.005 U	3.4		0.3	1	0.05 U	0.5	4.2							
7/13/2021	XX	SWXX3XDJ4	UF	0.005 U	7.2		1.4	1.8	0.08	1.1	3.7							
10/5/2021	XX	SWXX3XE5C	UF	0.005	6.8		1.5	1.7	0.09	0.9	3.6							
4/26/2022	XX	SWXX3XF04	UF	0.005 U	5		0.3	1.4	0.05 U	2.2	8.3							
7/19/2022	XX	SWXX3XF82	UF	0.005 U	9		1.8	2.2	0.28	0.83	12							
10/4/2022	XX	SWXX3XFI3	UF	0.005 U	9.4		0.52	2.3	0.05 U	1.5	4.5							
4/18/2023	XX	SWXX3XGHE	UF	0.005 U	5		0.55	1.3	0.14	0.51	7.8							
7/11/2023	XX	SWXX3XH7G	UF	0.005 U	9		2.2	2.4	0.23	0.89	4							
10/3/2023	XX	SWXX3X054	UF	0.005 U	8.4		1.5	2.2	0.57	1.1	5.3							
4/2/2024	XX	SWXX3X11E	UF	0.005 U	2.4		0.41	0.7	0.05 U	0.43	3.2							
7/16/2024	XX	SWXX3X1CG	UF	0.005 U	11		1.5	2.7	0.17	0.54	3.9							
10/8/2024	XX	SWXX3X1I7	UF	0.005 U	7.6		1.5	2.1	0.26	0.64	3.3							

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(SW23-4)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron					
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Date	Type	Sample ID															
SW23-4																	
1/24/2023	XX	SWXX4XGBH		A	A	A	A	A	A	A	A	A					
3/30/2023	XX	SWXX4XGH4	UF	0.005 U	7.6	0.0008	0.45	2	0.05 U	0.77	6.5	0.05 U					
4/19/2023	XX	GWXXXXH23	UF	0.005 U	11	0.003 U	0.82	2.9	0.05 U	1.1	7.7	0.05 U					
6/19/2023	XX	SWXX4XH5I	UF	0.005 U	10	0.0027	0.84	2.2	0.05 U	0.72	4.4	0.05 U					
7/13/2023	XX	SWXX4X022	UF	0.01	21	0.003 U	0.57	4.6	0.15	1.2	5.5	0.05 U					
10/4/2023	XX	GWXXXX095	UF	0.005 U	13	0.003 U	0.63	3.6	0.05 U	1.1	4.5	0.05 U					
4/2/2024	XX	GWXXXX15C	UF	0.005 U	3.5		0.98	0.97	0.05 U	0.79	2.5						
7/16/2024	XX	SWXX4X1H0	UF	0.005 U	13	0.0055	1.1	3.2	0.13	2	2.4	0.31					
10/9/2024	XX	SWXXXX225	UF	0.005 U	9.9		0.69	2.5	0.12	1.3	2.9						
SW-DP1																	
4/28/2015	XX	SWDP1X78D		0.008	13		0.23	1.4	0.08	1.1	3.2						
7/14/2015	XX	SWDP1X7C5		0.005	14.4		0.23	1.7	0.08	0.3 U	1.7						
10/27/2015	XX	SWDP1X7HE		0.005 U	8.4		0.12	1.1	0.05 U	1.3	1.6						
4/5/2016	XX	SWDP1X864		0.005 U	12		0.53	1.7	0.05	1.2	2.4						
7/26/2016	XX	SWDP1X8AE		0.013	17.1		0.29	2	0.08	1.4	2.1						
10/25/2016	XX	SWDP1X8ID		0.005 U	11.6		0.7	1.1	0.06	1.3	1.3						
4/18/2017	XX	SWDP1X96J		0.005	8.5		0.35	1.7	0.06	1	1.8						
7/25/2017	XX	SWDP1X9CH		0.005 U	19		1	3.7	0.17	0.8	3.4						
10/23/2017	XX	SWDP1X9GC		0.005	15		0.48	2.6	0.09	1.9	2.4						
4/3/2018	XX	SWDP1XA2B	UF	0.005 U	3.8		0.17	0.4	0.05 U	0.6	0.8						
7/17/2018	XX	SWDP1XABC	UF	0.007	13		0.9	1.6	0.08	0.3 U	0.8						
10/2/2018	XX	SWDP1XB0A	UF	0.005 U	10		0.41	1.1	0.05	1.6	1.1						
4/23/2019	XX	SWDP1XB57	UF	0.005 U	14		0.28	1.1	0.06	1.1	1.6						
7/16/2019	XX	SWDP1XBBJ	UF	0.005	12		0.29	1.1	0.05	0.4	1.2						
10/29/2019	XX	SWDP1XBHC	UF	0.005 U	15		1.4	1.7	0.14	2.1	1.6						
4/28/2020	XX	SWDP1XCCJ	UF	0.005 U	24		0.39	4	0.11	12	27						
7/21/2020	XX	SWDP1XCHC	UF	0.005 U	31		0.78	3.4	0.69	2.9	8.8						
10/27/2020	XX	SWDP1XD2G	UF	0.005 U	23		1.5	2.2	0.32	5.3	3.2						
4/6/2021	XX	SWDP1XDBI	UF	0.005	9.9		3.5	1.7	0.15	1.3	1.4						
7/13/2021	XX	SWDP1XDJA	UF	0.008	13		6.4	2.3	0.36	2.6	1.8						
10/5/2021	XX	SWDP1XE5I	UF	0.005 U	15		0.88	1.5	0.13	1.6	1.3						
4/26/2022	XX	SWDP1XF0A	UF	0.005 U	21		1.1	1.7	0.21	2	3.9						
7/19/2022	XX	SWDP1XF88	UF	0.005	31		1.8	2.7	0.48	3.6	4.5						
10/4/2022	XX	SWDP1XFI9	UF	0.005 U	27		0.88	2.5	0.1	2.6	2.5						
4/18/2023	XX	SWDP1XGI0	UF	0.005 U	7.7		0.98	1	0.061	1.2	1.1						
7/11/2023	XX	SWDP1XH82	UF	0.0096	12		8.5	4	0.38	2.3	1.6						
10/3/2023	XX	SWDP1X05A	UF	0.005 U	8.7		0.14	1.3	0.05 U	0.48	1.6						
4/2/2024	XX	SWDP1X120	UF	0.005 U	12		0.39	0.94	0.18	0.97	1.7						
7/16/2024	XX	SWDP1X1D2	UF	0.005 U	20		0.65	1.9	0.14	2.5	1.5						
10/8/2024	XX	SWDP1X1ID	UF	0.005 U	13		0.53	1.4	0.066	2.4	0.96						
SW-DP6																	
4/28/2015	XX	SWDP6X78E		0.006	11.1		0.7	1.1	0.05 U	1.5	2.8						
7/14/2015	XX	SWDP6X7C6		0.005 U	12.4		2.46	2.4	0.46	2.3	2.7						
10/27/2015	XX	SWDP6X7HF		0.005 U	8.4		0.19	1.4	0.05 U	1.3	1.5						
4/5/2016	XX	SWDP6X865		0.005 U	8.2		0.57	1	0.05 U	1.1	2.8						
7/26/2016	XX	SWDP6X8AF		0.009	18.5		0.6	1.7	0.08	1.6	2						

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(SW-DP6)			Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron						
			-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Date	Type	Sample ID																
10/25/2016	XX	SWDP6X8IE		0.005 U	14.6		1.85	1.5	0.09	1.9	1.6							
4/18/2017	XX	SWDP6X970		0.005 U	5.3		0.64	0.8	0.11	1	3.5							
7/25/2017	XX	SWDP6X9CI		0.005 U	8.5		1.4	1.5	0.05 U	0.7	5.1							
10/23/2017	XX	SWDP6X9GD		0.005 U	10		0.26	1.4	0.05 U	1.3	4.3							
4/3/2018	XX	SWDP6XA2C	UF	0.005 U	7.9		0.47	1.1	0.16	0.9	2.2							
7/17/2018	XX	SWDP6XABD	UF	0.005	15		0.5	1.5	0.1	1.3	4.3							
10/2/2018	XX	SWDP6XB0B	UF	0.005 U	16		0.23	1.7	0.05 U	1.5	3.5							
4/23/2019	XX	SWDP6XB58	UF	0.005	8.1		1.3	1.2	0.1	1.6	3.5							
7/16/2019	XX	SWDP6XBC0	UF	0.005	6.6		1.6	1.1	0.05 U	1.5	2.8							
10/29/2019	XX	SWDP6XBHD	UF	0.005 U	4.6		0.38	0.7	0.05 U	0.9	1.3							
4/28/2020	XX	SWDP6XCD0	UF	0.005 U	4.6		0.4	0.7	0.05 U	0.8	2.6							
7/21/2020	XX	SWDP6XCHD	UF	0.005 U	7.8		0.73	1.1	0.2	1.4	2.4							
10/27/2020	XX	SWDP6XD2H	UF	0.005 U	10		0.9	1.4	0.09	1.9	1.6							
4/6/2021	XX	SWDP6XDBJ	UF	0.005 U	3.9		0.89	0.7	0.05 U	1.1	1.3							
7/13/2021	XX	SWDP6XDJB	UF	0.005 U	4.5		1.6	0.9	0.19	1.7	1.1							
10/5/2021	XX	SWDP6XE5J	UF	0.005 U	7.1		0.55	1	0.05 U	2.2	3.3							
4/26/2022	XX	SWDP6XF0B	UF	0.005 U	3.8		0.49	0.7	0.05 U	1.7	2.3							
7/19/2022	XX	SWDP6XF89	UF	0.005 U	6.8		2.3	1.5	0.35	1.9	1.3							
10/4/2022	XX	SWDP6XFIA	UF	0.005 U	6.6		2.1	1.1	0.09	1.5	1.3							
4/18/2023	XX	SWDP6XGI1	UF	0.005 U	7.8		0.42	1.1	0.13	1.1	2							
7/11/2023	XX	SWDP6XH83	UF	0.005 U	74		0.26	8.6	0.05 U	1.3	9.4							
10/3/2023	XX	SWDP6X05B	UF	0.005 U	14		0.68	2.8	0.26	1.8	3.2							
4/2/2024	XX	SWDP6X121	UF	0.005 U	11		4.9	2.8	0.13	2.4	2.4							
7/16/2024	XX	SWDP6X1D3	UF	0.005 U	20		16	5.3	0.33	4.7	2.4							
10/9/2024	XX	SWDP6X1IE		D	D		D	D	D	D	D							

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(SW-DP6)	Filtration	Arsenic	Calcium	Copper	Iron	Magnesium	Manganese	Potassium	Sodium	Boron
	-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Date Type Sample ID										

Units Abbreviations:

- -
mg/L - MILLIGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

Sample collection notes:

FILT - One or more analytical parameters were field filtered.
UF - No analytical parameters were field filtered.

DATA SUMMARY TABLE

Methane

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-11)			Methane ug/L														
Date	Type	Sample ID															
LF-LD-11																	
7/13/2021	XX	LFXXXXE1C	59														
10/5/2021	XX	LFXXXXE88	25														
7/19/2022	XX	LFXXXXFA9	20 U														
7/11/2023	XX	LFXXXX005	20 U														
7/16/2024	XX	LFXXXX1F4	5.2 U														
LF-LD-12																	
7/13/2021	XX	LFXXXXE1D	170														
10/5/2021	XX	LFXXXXE89	48														
7/19/2022	XX	LFXXXXFAA	240														
7/11/2023	XX	LFXXXX006	240														
7/16/2024	XX	LFXXXX1F5	270														
LF-LD-13																	
7/19/2022	XX	LFXXXXFB4	53														
7/11/2023	XX	LFXXXX010	39														
7/17/2024	XX	LFXXXX1H7	300														
LF-LD-14																	
7/11/2023	XX	LFXXXX01G	79														
7/16/2024	XX	LFXXXX1GE															
7/16/2024	XX	LFXXXX1GED	600														
LF-LD-15																	
7/16/2024	XX	LFXXXX1H2															
7/16/2024	XX	LFXXXX1H2D	570														
10/8/2024	XX	LFXXXX227	1400														
LF-UD-12+13+14																	
7/11/2023	XX	LFXXXX01F	20 U														
7/16/2024	XX	LFXXXX1GD	D														
MW-04-09A																	
7/15/2021	XX	GWXXXXE20	20 U														
10/7/2021	XX	GWX09AE86	20 U														
4/27/2022	XX	GWX09AF2C	20 U														
7/20/2022	XX	GWXXXXFAF	20 U														
10/5/2022	XX	GWX09AG0B	20 U														
4/19/2023	XX	GWX09AH02	20 U														
7/12/2023	XX	GWXXXX00B	20 U														
10/4/2023	XX	GWX09A077	20 U														
4/10/2024	XX	GWX09A13G	6.6														
7/17/2024	XX	GWXXXX1FA	5.2 U														
10/9/2024	XX	GWX09A209	5.2 U														
MW-04-09B																	
7/15/2021	XX	GWXXXXE21	20 U														
10/7/2021	XD	GWDP5XE8E	20 U														
10/7/2021	XX	GWX09BE87	20 U														
4/27/2022	XD	GWDP5XF30	20 U														

SEVEE & MAHER ENGINEERS, INC.
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(MW-04-09B)			Methane ug/L														
Date	Type	Sample ID															
4/27/2022	XX	GWX09BF2D	20 U														
7/20/2022	XX	GWXXXXFAG	20 U														
10/5/2022	XD	GWDP5XG0J	20 U														
10/5/2022	XX	GWX09BG0C	20 U														
4/19/2023	XX	GWX09BH03	20 U														
7/12/2023	XX	GWXXXX00C	20 U														
10/4/2023	XX	GWX09B078	20 U														
4/10/2024	XX	GWX09B13H	5.2 U														
7/17/2024	XX	GWXXXX1FB	5.2 U														
10/9/2024	XX	GWX09B20A	5.2 U														
MW06-01																	
4/7/2021	XX	GWXXXXDDI	20 U														
7/20/2022	XX	GWXXXXFA7	62														
7/12/2023	XX	GWXXXX003	110														
10/4/2023	XX	GWXXXX06J	230														
4/10/2024	XX	GWXXXX138															
4/10/2024	XX	GWXXXX138D	2100														
7/17/2024	XX	GWXXXX1F2	340														
10/9/2024	XX	GWXXXX201	270														
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	20 U														
4/7/2021	XX	GWXXXXDAJ	20 U														
6/9/2021	XX	GWXXXXDH2	20 U														
8/19/2021	XX	GWXXXXE4G	20 U														
10/4/2021	XX	GWXXXXE9B	20 U														
4/27/2022	XX	GWXXXXF3G	20 U														
7/21/2022	XX	GWXXXXFBD	20 U														
10/5/2022	XX	GWXXXXG1F	20 U														
4/17/2023	XX	GWXXXXH16	20 U														
7/13/2023	XX	GWXXXX019	20 U														
10/5/2023	XX	GWXXXX08B	20 U														
4/11/2024	XX	GWXXXX150	5.2 U														
7/17/2024	XX	GWXXXX1G8	5.2 U														
10/10/2024	XX	GWXXXX21D	5.2 U														
MW-206																	
7/14/2021	XX	GW206XDIG	20 U														
10/4/2021	XX	GWXXXXE8D	20 U														
4/25/2022	XX	GWXXXXF2J	20 U														
7/18/2022	XX	GW206XF7E	20 U														
10/3/2022	XX	GWXXXXG0I	20 U														
4/17/2023	XX	GWXXXXH09	20 U														
7/10/2023	XX	GW206XH78	20 U														
10/2/2023	XX	GWXXXX07E	20 U														
4/1/2024	XX	GWXXXX143	5.2 U														
7/15/2024	XX	GW206X1C8	5.2 U														
10/7/2024	XX	GWXXXX20G	5.2 U														
MW-223B																	

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(MW-223B)			Methane
			ug/L
Date	Type	Sample ID	
4/28/2015	XX	GW223B798	20 U
7/14/2015	XX	GW223B7D0	20 U
10/27/2015	XX	GW223B7I9	20 U
4/5/2016	XX	GW223B86J	20 U
4/18/2017	XX	GW223B97E	20 U
4/3/2018	XX	GW223BA36	20 U
4/23/2019	XX	GW223BB62	20 U
7/16/2019	XX	GW223BBCD	20 U
10/29/2019	XX	GW223BBI6	20 U
4/28/2020	XX	GW223BCDD	20 U
7/21/2020	XX	GW223BCI6	20 U
10/27/2020	XX	GW223BD3A	20 U
4/6/2021	XX	GW223BDCC	20 U
7/13/2021	XX	GW223BE04	20 U
10/5/2021	XX	GW223BE6C	20 U
4/26/2022	XX	GW223BF14	20 U
7/19/2022	XX	GW223BF92	20 U
10/4/2022	XX	GW223BFJ3	20 U
4/18/2023	XX	GW223BGIE	20 U
4/2/2024	XX	GW223B12D	19
10/8/2024	XX	GW223B1J6	69
MW-501			
4/7/2021	XX	GW501XDDH	20 U
7/14/2021	XX	GW501XE18	20 U
10/6/2021	XX	GW501XE8A	20 U
4/27/2022	XX	GW501XF2G	20 U
7/20/2022	XX	GW501XFA6	20 U
10/5/2022	XX	GW501XG0F	20 U
4/19/2023	XX	GW501XH06	20 U
7/12/2023	XX	GW501X002	20 U
10/4/2023	XX	GW501X07B	20 U
4/10/2024	XX	GW501X140	5.4
7/17/2024	XX	GW501X1EJ	5.2 U
10/9/2024	XX	GW501X20D	5.2 U
MW-502			
7/14/2021	XX	GW502XE23	190
10/7/2021	XX	GW502XE8B	37
4/27/2022	XX	GW502XF2H	20 U
7/20/2022	XX	GW502XFAI	20 U
10/5/2022	XX	GW502XG0G	20 U
4/19/2023	XX	GW502XH07	20 U
7/12/2023	XX	GW502X00E	20 U
10/4/2023	XX	GW502X07C	20 U
4/10/2024	XX	GW502X141	5.2 U
7/18/2024	XX	GW502X1FD	5.2 U
10/9/2024	XX	GW502X20E	5.2 U
MW-503			

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(MW-503)			Methane
			ug/L
Date	Type	Sample ID	
2/9/2021	XX	GW503XD9A	20 U
4/8/2021	XX	GW503XDA9	20 U
6/8/2021	XX	GW503XDGC	20 U
8/19/2021	XX	GW503XE46	20 U
10/7/2021	XX	GW503XE96	20 U
4/27/2022	XX	GW503XF3B	20 U
7/20/2022	XX	GW503XFB5	20 U
10/5/2022	XX	GW503XG1A	20 U
4/20/2023	XX	GW503XH11	20 U
7/13/2023	XX	GW503X011	20 U
10/4/2023	XX	GW503X086	20 U
4/10/2024	XX	GW503X14F	5.2 U
7/18/2024	XX	GW503X1G0	5.2 U
10/9/2024	XX	GW503X218	5.2 U
MW-504			
2/9/2021	XD	GWDP1XD94	20 U
2/9/2021	XX	GW504XD9B	20 U
4/7/2021	XX	GW504XDAA	20 U
6/9/2021	XD	GWDP1XDG9	20 U
6/9/2021	XX	GW504XDGD	20 U
8/19/2021	XX	GW504XE47	20 U
10/7/2021	XD	GWDP6XE9A	20 U
10/7/2021	XX	GW504XE97	20 U
4/27/2022	XD	GWDP6XF3F	20 U
4/27/2022	XX	GW504XF3C	20 U
7/21/2022	XX	GW504XFB6	!
10/5/2022	XD	GWDP6XG1E	20 U
10/5/2022	XX	GW504XG1B	20 U
4/20/2023	XD	GWDP6XH15	20 U
4/20/2023	XX	GW504XH12	20 U
7/13/2023	XX	GW504X012	20 U
10/5/2023	XD	GWDP6X08A	20 U
10/5/2023	XX	GW504X087	20 U
4/11/2024	XX	GW504X14G	5.2 U
7/18/2024	XX	GW504X1G1	5.2 U
10/10/2024	XD	GWDP6X21C	5.2 U
10/10/2024	XX	GW504X219	5.2 U
MW-505			
2/10/2021	XX	GW505XD9C	20 U
4/8/2021	XX	GW505XDAB	20 U
6/9/2021	XX	GW505XDGE	20 U
8/18/2021	XX	GW505XE48	20 U
10/7/2021	XX	GW505XE98	20 U
4/27/2022	XX	GW505XF3D	20 U
7/21/2022	XX	GW505XFB7	20 U
10/5/2022	XX	GW505XG1C	20 U
4/20/2023	XX	GW505XH13	20 U
7/13/2023	XX	GW505X013	20 U

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(MW-505)			Methane ug/L														
Date	Type	Sample ID															
10/4/2023	XX	GW505X088	20 U														
4/11/2024	XX	GW505X14H	5.2 U														
7/18/2024	XX	GW505X1G2	5.2 U														
10/9/2024	XX	GW505X21A	5.2 U														
MW-506																	
2/18/2021	XX	GW506XD9D	20 U														
4/8/2021	XX	GW506XDAC	20 U														
6/8/2021	XX	GW506XDGF	F16														
7/14/2021	XX	GW506XE38	20 U														
9/1/2021	XX	GW506XE49	20 U														
10/7/2021	XX	GW506XE99	20 U														
4/27/2022	XX	GW506XF3E	20 U														
7/18/2022	XX	GW506XFB8	20 U														
10/5/2022	XX	GW506XG1D	20 U														
4/18/2023	XX	GW506XH14	20 U														
7/11/2023	XX	GW506X014	20 U														
10/4/2023	XX	GW506X089	20 U														
4/10/2024	XX	GW506X14I	!														
7/17/2024	XX	GW506X1G3	!														
MW-507																	
7/14/2021	XX	GW507XE24	20 U														
10/7/2021	XX	GW507XE8C	20 U														
4/27/2022	XX	GW507XF2I	20 U														
7/20/2022	XX	GW507XFAJ	20 U														
10/5/2022	XX	GW507XG0H	20 U														
4/19/2023	XX	GW507XH08	20 U														
7/13/2023	XX	GW507X00F	20 U														
10/5/2023	XX	GW507X07D	20 U														
4/10/2024	XX	GW507X142	5.2 U														
7/17/2024	XX	GW507X1FE	5.2 U														
10/8/2024	XX	GW507X20F	35														
MW-508																	
10/5/2022	XX	GW508XG2E	20 U														
1/24/2023	XX	GW508XGBF	F														
3/30/2023	XX	GW508XGH2	20 U														
4/19/2023	XX	GW508XH1H	20 U														
6/19/2023	XX	GW508XH5H	20 U														
7/13/2023	XX	GW508X01I	20 U														
10/4/2023	XD	GWDP5X07F	20 U														
10/4/2023	XX	GW508X090	20 U														
4/10/2024	XD	GWDP5X144	5.2 U														
4/10/2024	XX	GW508X157	5.2 U														
7/17/2024	XX	GW508X1GG	5.2 U														
10/10/2024	XD	GWDP5X20H	5.2 U														
10/10/2024	XX	GW508X220	5.2 U														
OW-06-03																	
7/14/2021	XX	GWXXXXE17	2900														

SEVEE & MAHER ENGINEERS, INC.
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(OW-06-03)			Methane ug/L														
Date	Type	Sample ID															
7/20/2022	XX	GWXXXXFA5	I														
7/12/2023	XX	GWXXXX001	D														
7/18/2024	XX	GWXXXX1EI	I														
OW-601A																	
7/12/2021	XX	GW601ADIH	20 U														
7/21/2022	XX	GW601AF7F	20 U														
7/12/2023	XX	GW601AH79	20 U														
7/18/2024	XX	GW601A1C9	5.2 U														
OW-601B																	
7/12/2021	XD	GWDP4XDJI	20 U														
7/12/2021	XX	GW601BE13	20 U														
7/21/2022	XD	GWDP4XF8G	20 U														
7/21/2022	XX	GW601BFA1	20 U														
7/12/2023	XD	GWDP4XH8A	20 U														
7/12/2023	XX	GW601BH9F	20 U														
7/18/2024	XD	GWDP4X1DA	5.2 U														
7/18/2024	XX	GW601B1ED	5.2 U														
OW-602A																	
7/12/2021	XX	GW602AE14	41														
7/21/2022	XX	GW602AFA2	20 U														
7/12/2023	XX	GW602AH9G	130														
7/18/2024	XX	GW602A1EE	140														
OW-603B																	
7/13/2021	XX	GW603BE15	D														
10/6/2021	XX	GW603BE7J	D														
7/21/2022	XX	GW603BFA3	D														
7/12/2023	XX	GW603BH9H	I														
4/2/2024	XX	GW603B13D	D														
7/18/2024	XX	GW603B1EF	D														
OW-604A																	
7/14/2021	XX	GW604AE16	20 U														
7/21/2022	XX	GW604AFA4	20 U														
7/12/2023	XX	GW604AH9I	20 U														
7/18/2024	XX	GW604A1EG	5.2 U														
OW-605A																	
7/14/2021	XD	GWDP6XE1J	20 U														
7/14/2021	XX	GW605AE25	20 U														
10/7/2021	XX	GW605AE8G	20 U														
7/21/2022	XD	GWDP6XFAE	480														
7/21/2022	XX	GW605AFB0	430														
7/12/2023	XD	GWDP7X00A	20 U														
7/12/2023	XX	GW605A00G	20 U														
7/18/2024	XD	GWDP7X1F9	5.2 U														
7/18/2024	XX	GW605A1FF	5.2 U														
OW-606A																	

SEVEE & MAHER ENGINEERS, INC.
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(OW-606A)			Methane
			ug/L
Date	Type	Sample ID	
7/14/2021	XX	GW606AE06	20 U
10/7/2021	XX	GW606AE8H	20 U
7/20/2022	XX	GW606AF94	20 U
7/12/2023	XX	GW606AH8I	20 U
7/17/2024	XX	GW606A1DH	5.2 U
OW-606B			
2/9/2021	XX	GW606BD9E	F
4/8/2021	XX	GW606BDAD	20 U
6/8/2021	XX	GW606BDGG	20 U
7/14/2021	XX	GW606BE37	20 U
8/18/2021	XX	GW606BE4A	20 U
10/7/2021	XX	GW606BE8I	20 U
7/20/2022	XX	GW606BFB9	20 U
7/12/2023	XX	GW606B015	20 U
7/17/2024	XX	GW606B1G4	5.2 U
OW-607B			
2/9/2021	XX	GW607BD9F	20 U
4/7/2021	XX	GW607BDAE	20 U
6/9/2021	XX	GW607BDGH	20 U
8/19/2021	XX	GW607BE4B	20 U
10/7/2021	XX	GW607BE8J	20 U
7/20/2022	XX	GW607BFBA	20 U
7/13/2023	XX	GW607B016	20 U
7/18/2024	XX	GW607B1G5	5.2 U
OW-608A			
7/15/2021	XX	GW608AE26	20 U
10/6/2021	XX	GW608AE90	140
7/20/2022	XX	GW608AFB1	20 U
8/2/2023	XX	GW608A00H	20 U
7/17/2024	XX	GW608A1FG	15
OW-608B			
2/10/2021	XX	GW608BD9G	20 U
4/8/2021	XD	GWDP1XDA6	20 U
4/8/2021	XX	GW608BDAF	20 U
6/8/2021	XX	GW608BDGI	20 U
8/17/2021	XD	GWDP1XE43	20 U
8/17/2021	XX	GW608BE4C	20 U
10/6/2021	XX	GW608BE91	20 U
7/20/2022	XX	GW608BFBB	20 U
7/13/2023	XX	GW608B017	20 U
7/17/2024	XX	GW608B1G6	5.2 U
OW-609B			
2/10/2021	XX	GW609BD9H	20 U
4/8/2021	XX	GW609BDAG	20 U
6/8/2021	XX	GW609BDGJ	20 U
8/17/2021	XX	GW609BE4D	20 U

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(OW-609B)			Methane ug/L
Date	Type	Sample ID	
10/7/2021	XX	GW609BE92	20 U
7/18/2022	XX	GW609BFBC	20 U
7/11/2023	XX	GW609B018	20 U
7/17/2024	XX	GW609B1G7	5.2 U
OW-610A			
10/5/2022	XX	GW610AG2F	250
1/24/2023	XX	GW610AGBG	300
4/19/2023	XX	GW610AH1I	170
6/19/2023	XX	GW610AH61	140
7/13/2023	XX	GW610A01H	150
7/17/2024	XX	GW610A1GF	
7/17/2024	XX	GW610A1GFD	1500
OW-611A			
7/14/2021	XX	GW611AE27	20 U
10/7/2021	XX	GW611AE93	20 U
7/20/2022	XX	GW611AFB2	20 U
7/13/2023	XX	GW611A00I	20 U
7/17/2024	XX	GW611A1FH	5.2 U
P-04-07A			
10/3/2022	XX	GWXXXXG2G	20 U
1/24/2023	XX	GWX07AGBD	F
3/30/2023	XD	GWDP1XGGJ	20 U
3/30/2023	XX	GWX07AGH0	20 U
4/19/2023	XD	GWDP5XH0A	20 U
4/19/2023	XX	GWXXXXH1J	20 U
6/19/2023	XD	GWDP1XH5E	20 U
6/19/2023	XX	GWX07AH5F	20 U
7/13/2023	XD	GWDP6X021	20 U
7/13/2023	XX	GWX07A01J	20 U
7/17/2024	XD	GWDP6X1GJ	5.2 U
7/17/2024	XX	GWX07A1GH	5.2 U
P-04-07B			
10/3/2022	XX	GWXXXXG2H	20 U
1/24/2023	XX	GWX07BGBE	F
3/30/2023	XX	GWX07BGH1	20 U
4/19/2023	XX	GWXXXXH20	20 U
6/19/2023	XX	GWX07BH5G	20 U
7/13/2023	XX	GWX07B020	20 U
7/17/2024	XX	GWX07B1GI	5.2 U
P-04-11A			
2/10/2021	XX	GWXXXXD9I	20 U
4/8/2021	XX	GWXXXXDAH	20 U
6/9/2021	XX	GWXXXXDH0	20 U
8/18/2021	XX	GWXXXXE4E	20 U
10/6/2021	XX	GWX11AE94	20 U
4/27/2022	XX	GWX11AF39	20 U

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(P-04-11A)			Methane ug/L														
Date	Type	Sample ID															
7/21/2022	XX	GWXXXXFBE	20 U														
7/12/2023	XX	GWXXXX01A	20 U														
7/18/2024	XX	GWXXXX1G9	5.2 U														
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	20 U														
4/8/2021	XX	GWXXXXDAI	20 U														
6/9/2021	XX	GWXXXXDH1	20 U														
8/18/2021	XX	GWXXXXE4F	20 U														
10/6/2021	XX	GWX11BE95	20 U														
4/27/2022	XX	GWX11BF3A	20 U														
7/21/2022	XX	GWXXXXFBF	D														
7/12/2023	XX	GWXXXX01B	20 U														
7/18/2024	XX	GWXXXX1GA	5.2 U														
P-206A																	
7/14/2021	XX	GW206AE22	20 U														
7/18/2022	XX	GW206AFAH	20 U														
7/10/2023	XX	GW206A00D	20 U														
10/2/2023	XX	GW206A065	20 U														
4/1/2024	XX	GW206A12F	5.2 U														
7/15/2024	XX	GW206A1FC	5.2 U														
10/7/2024	XX	GW206A1J8	5.2 U														
PWS10-1																	
4/27/2015	XX	GWPWS1788	830														
7/13/2015	XX	GWPWS17C0	4600														
10/26/2015	XX	GWPWS17H9	440														
4/4/2016	XX	GWPWS185J	770														
4/17/2017	XX	GWPWS196E	40														
4/2/2018	XX	GWPWS1A25	20 U														
4/22/2019	XX	GWPWS1B51	79														
7/15/2019	XX	GWPWS1BBE	130														
10/28/2019	XX	GWPWS1BH7	20 U														
4/27/2020	XX	GWPWS1CCE	270														
7/21/2020	XX	GWXXXXIOB	45														
10/26/2020	XX	GWPWS1D2B	20 U														
4/5/2021	XX	GWPWS1DBD	1600														
7/12/2021	XX	GWPWS1DJ5	190														
10/4/2021	XX	GWPWS1E5D	700														
4/25/2022	XX	GWPWS1F05	1100														
7/18/2022	XX	GWPWS1F83	2200														
10/3/2022	XX	GWPWS1FI4	240														
4/17/2023	XX	GWPWS1GHF	160														
7/10/2023	XX	GWPWS1H7H	120														
10/2/2023	XX	GWPWS1055	720														
4/1/2024	XX	GWPWS111F	7.6														
7/15/2024	XX	PWPWS11CH															
7/15/2024	XX	PWPWS11CHD	780														
10/7/2024	XX	PWPWS11I8	320														

SEVEE & MAHER ENGINEERS, INC.
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(PWS10-2)

Date	Type	Sample ID	Methane ug/L
PWS10-2			
4/27/2015	XX	GWPWS2789	50
7/13/2015	XX	GWPWS27C1	690
10/26/2015	XX	GWPWS27HA	20 U
4/4/2016	XX	GWPWS2860	140
4/17/2017	XX	GWPWS296F	220
4/2/2018	XX	GWPWS2A26	20 U
4/22/2019	XX	GWPWS2B52	20 U
7/15/2019	XX	GWPWS2BBF	110
10/28/2019	XX	GWPWS2BH8	20 U
4/27/2020	XX	GWPWS2CCF	20 U
7/20/2020	XX	GWPWS2CH8	38
10/26/2020	XX	GWPWS2D2C	300
4/5/2021	XX	GWPWS2DBE	79
7/12/2021	XX	GWPWS2DJ6	95
10/4/2021	XX	GWPWS2E5E	190
4/25/2022	XX	GWPWS2F06	20 U
7/18/2022	XX	GWPWS2F84	4800
10/3/2022	XX	GWPWS2FI5	92
4/17/2023	XX	GWPWS2GHG	20 U
7/10/2023	XX	GWPWS2H7I	100
10/2/2023	XX	GWPWS2056	99
4/1/2024	XX	GWPWS211G	5.2 U
7/15/2024	XX	PWPWS21CI	61
10/7/2024	XX	PWPWS21I9	390
PWS10-3			
4/27/2015	XX	GWPWS378A	20 U
7/13/2015	XX	GWPWS37C2	260
10/26/2015	XX	GWPWS37HB	160
4/4/2016	XX	GWPWS3861	20 U
4/17/2017	XX	GWPWS396G	20 U
4/2/2018	XX	GWPWS3A27	20 U
4/22/2019	XX	GWPWS3B53	20 U
7/15/2019	XX	GWPWS3BBG	280
10/28/2019	XX	GWPWS3BH9	20 U
4/27/2020	XX	GWPWS3CCG	20 U
7/20/2020	XX	GWPWS3CH9	4000
10/26/2020	XX	GWPWS3D2D	44
4/5/2021	XX	GWPWS3DBF	400
7/12/2021	XX	GWPWS3DJ7	140
10/4/2021	XX	GWPWS3E5F	130
4/25/2022	XX	GWPWS3F07	20 U
7/18/2022	XX	GWPWS3F85	1300
10/3/2022	XX	GWPWS3FI6	250
4/17/2023	XX	GWPWS3GHH	20 U
7/10/2023	XX	GWPWS3H7J	220
10/2/2023	XX	GWPWS3057	20 U
4/1/2024	XX	GWPWS311H	21

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(PWS10-3)			Methane ug/L														
Date	Type	Sample ID															
7/15/2024	XX	PWPWS31CJ	500														
10/7/2024	XX	PWPWS31IA	210														
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A														
3/30/2023	XX	PWXX4XGH5	20 U														
4/19/2023	XX	GWXXXXH22	26														
6/19/2023	XX	PWXX4XH5J	62														
7/13/2023	XX	PWXX4X023	33														
10/4/2023	XX	GWXXXX094	55														
4/2/2024	XX	GWXXXX15B	25														
7/16/2024	XX	PWXX4X1H1	180														
10/9/2024	XX	PWXXXX224	150														
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A														
3/30/2023	XX	SWXX4XGH4	20 U														
4/19/2023	XX	GWXXXXH23	20 U														
6/19/2023	XX	SWXX4XH5I	20 U														
7/13/2023	XX	SWXX4X022	20 U														
10/4/2023	XX	GWXXXX095	20 U														
7/16/2024	XX	SWXX4X1H0	8.5														
QCBT																	
2/9/2021	XX	BTXXXXDA2	20 U														
2/10/2021	XX	BTXXXXDA3	20 U														
2/18/2021	XX	BTXXXXDA4	20 U														
4/5/2021	XX	BTXXXXDF8	20 U														
4/6/2021	XX	BTXXXXDF9	20 U														
4/7/2021	XX	BTXXXXDB0	20 U														
4/7/2021	XX	BTXXXXDFA	20 U														
4/8/2021	XX	BTXXXXDB1	20 U														
6/8/2021	XX	BTXXXXDH3	20 U														
6/9/2021	XX	BTXXXXDH4	20 U														
7/12/2021	XX	BTXXXXE1G	20 U														
7/13/2021	XX	BTXXXXE1H	20 U														
7/14/2021	XX	BTXXXXE1E	20 U														
7/14/2021	XX	BTXXXXE1I	20 U														
7/14/2021	XX	BTXXXXE28	20 U														
8/17/2021	XX	BTXXXXE4J	20 U														
8/18/2021	XX	BTXXXXE4H	20 U														
8/19/2021	XX	BTXXXXE4I	20 U														
9/1/2021	XX	BTXXXXE52	20 U														
4/25/2022	XX	BTXXXXF41	20 U														
4/26/2022	XX	BTXXXXF42	20 U														
4/27/2022	XX	BTXXXXI80	20 U														
7/18/2022	XX	BTXXXXFAB	20 U														
7/19/2022	XX	BTXXXXFAC	20 U														
7/20/2022	XX	BTXXXXFAD	20 U														
7/21/2022	XX	BTXXXXFB3	20 U														

SEVEE & MAHER ENGINEERS, INC.
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(QCBT)

Date	Type	Sample ID	Methane ug/L														
10/3/2022	XX	BTXXXXG1I	20 U														
10/4/2022	XX	BTXXXXG1J	20 U														
10/5/2022	XX	BTXXXXG21	20 U														
1/24/2023	XX	BTXXXXGDF	20 U														
3/30/2023	XX	BTXXXXGH7	20 U														
4/17/2023	XX	BTXXXXH1A	20 U														
4/18/2023	XX	BTXXXXH1C	20 U														
4/19/2023	XX	BTXXXXH19	20 U														
4/19/2023	XX	BTXXXXI9A	20 U														
4/20/2023	XX	BTXXXXI9B	20 U														
6/19/2023	XX	BTXXXXH60	20 U														
7/10/2023	XX	BTXXXX007	20 U														
7/11/2023	XX	BTXXXX008	20 U														
7/12/2023	XX	BTXXXX009	20 U														
7/13/2023	XX	BTXXXX00J	20 U														
7/13/2023	XX	BTXXXXI0C	20 U														
8/2/2023	XX	BTXXXXH97	20 U														
10/2/2023	XX	BTXXXX08E	20 U														
10/4/2023	XX	BTXXXX08F	20 U														
10/5/2023	XX	BTXXXX08H	20 U														
4/1/2024	XX	BTXXXX152	5.2 U														
4/2/2024	XX	BTXXXX153	5.2 U														
4/10/2024	XX	BTXXXX155	5.2 U														
4/11/2024	XX	BTXXXX17D	5.2 U														
7/15/2024	XX	BTXXXX1E6	5.2 U														
7/16/2024	XX	BTXXXX1EH	5.2 U														
7/17/2024	XX	BTXXXX1F6	5.2 U														
7/18/2024	XX	BTXXXX1F7	5.2 U														
10/7/2024	XX	BTXXXX21F	5.2 U														
10/8/2024	XX	BTXXXX21G	5.2 U														
10/9/2024	XX	BTXXXX21I	5.2 U														
10/10/2024	XX	BTXXXX228	5.2 U														

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)	Methane
	ug/L
Date Type Sample ID	

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
LF-UD-1																	
4/28/2015	XX	LFUD1X792	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LFUD1X86D	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	LFUD1X978	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFUD1XA30	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LFUD1XB5G	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LFUD1XCD8	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD1XDC7	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD1XF0J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD1XGI9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD1X05J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD1X129	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD1X1J2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-2																	
4/28/2015	XX	LFUD2X793	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LFUD2X86E	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	LFUD2X979	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFUD2XA31	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LFUD2XB5H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD2XCD9	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	LFUD2XDC8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD2XF10	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD2XGIA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD2X060	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD2X12A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD2X1J3	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-3A,B																	
4/28/2015	XX	LFXXXX79G	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX877	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX982	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFXXXXA3E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD0	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFXXXXF1B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJ1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX12J	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JC	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-4																	
4/28/2015	XX	LFXXXX79H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX878	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX983	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFXXXXA3F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD1	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8

SEVEE & MAHER ENGINEERS, INC.
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(LF-UD-4) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
4/26/2022	XX	LFXXXXF1C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2023	XX	LFXXXXGJ2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX130	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-5and6																	
4/28/2015	XX	LFXXXX79I	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LFXXXX879	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	LFXXXX984	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFXXXXA3G	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LFXXXXB6C	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LFXXXXCE3	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	LFXXXXDD2	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/26/2022	XX	LFXXXXF1D	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2023	XX	LFXXXXGJ3	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/3/2023	XX	LFXXXX06C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2024	XX	LFXXXX131	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/8/2024	XX	LFXXXX1JE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-6																	
4/28/2015	XX	LFUD6X7A0	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LFUD6X87B	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	LFUD6X986	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFUD6XA3I	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LFUD6XB6E	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LFUD6XCE5	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	LFUD6XDD4	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/26/2022	XX	LFUD6XF1E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD6XGJ4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD6X06D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LFUD6X1JF	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-7																	
4/28/2015	XX	LFUD7X7A1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFUD7X87C	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD7X987	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFUD7XA3J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD7XB6F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD7XCE6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD7XDD5	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD7XF1F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD7XGJ5	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD7X06E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD7X133	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD7X1JG	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-8																	
4/28/2015	XX	LFUD8X7A2	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LFUD8X87D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD8X988	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
4/3/2018	XX	LFUD8XA40	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LFUD8XB6G	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LFUD8XCE7	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD8XDD6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD8XF1G	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD8XGJ6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD8X06F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD8X134	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD8X1JH	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-9																	
4/5/2016	XX	LFUD9X881	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD9X98F	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LFUD9XA47	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD9XB73	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD9XCED	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD9XDDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD9XF1J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD9XGJ9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD9X06H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD9X136	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD9X1JJ	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-10																	
4/3/2018	XX	LFXXXXA48	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB74	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCEE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDDB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFXXXXF23	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06I	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX137	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX200	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX0A2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LP-UD-1																	
4/28/2015	XX	LPUD1X794	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LPUD1X86F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LPUD1X97A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LPUD1XA32	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LPUD1XB5I	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LPUD1XCDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LPUD1XDC9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LPUD1XF11	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LPUD1XGIB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LPUD1X061	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LPUD1X12B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LPUD1X1J4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-2) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
LP-UD-2																	
4/28/2015	XX	LPUD2X795	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	LPUD2X86G	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	LPUD2X97B	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	LPUD2XA33	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	LPUD2XB5J	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	LPUD2XCDB	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	LPUD2XDCA	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/26/2022	XX	LPUD2XF12	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2023	XX	LPUD2XGIC	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/3/2023	XX	LPUD2X062	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2024	XX	LPUD2X12C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/8/2024	XX	LPUD2X1J5	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-04-09A																	
2/26/2020	XX	GWX09AC56	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/30/2020	XX	GWX09ACC1	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/23/2020	XX	GWX09ACGC	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/20/2020	XX	GWX09AD1J	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-04-09B																	
2/26/2020	XX	GWX09BC57	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/30/2020	XX	GWX09BCC2	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW06-01																	
4/10/2018	XD	GWDP1XA68	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/10/2018	XX	GWXXXXA70	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	GWXXXXA7H	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/7/2021	XX	GWXXXXDAJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GWXXXXDH2	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/19/2021	XX	GWXXXXE4G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-303 & MW12-303R																	
6/18/2015	XX	42173-1	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
MW-401B																	
4/27/2015	XX	GW401B78I	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/27/2015	XD	GWDP4X791	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/6/2016	XD	GWDP4X86C	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/6/2016	XX	GW401B869	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/17/2017	XD	GWDP4X977	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/17/2017	XX	GW401B974	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2018	XD	GWDP4XA2J	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2018	XX	GW401BA2G	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/22/2019	XD	GWDP4XB5F	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/22/2019	XX	GW401BB5C	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/27/2020	XD	GWDP4XCD7	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/27/2020	XX	GW401BCD4	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-401B) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
4/5/2021	XD	GWDP4XDC6	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/5/2021	XX	GW401BDC3	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/25/2022	XD	GWDP1XF01	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/25/2022	XX	GW401BF0F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/17/2023	XD	GWDP1XGHB	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/17/2023	XX	GW401BGI5	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/1/2024	XD	GWDP1X11B	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/1/2024	XX	GW401B125	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-501																	
4/5/2018	XX	GW501XA6I	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	GW501XA7F	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-502																	
2/26/2020	XD	GWDP1XC52	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/26/2020	XX	GW502XC55	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/30/2020	XX	GW502XCBJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-503																	
2/9/2021	XX	GW503XD9A	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GW503XDA9	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/8/2021	XX	GW503XDGC	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/19/2021	XX	GW503XE46	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-504																	
2/9/2021	XD	GWDP1XD94	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/9/2021	XX	GW504XD9B	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/7/2021	XX	GW504XDAA	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XD	GWDP1XDG9	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GW504XDGD	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/19/2021	XX	GW504XE47	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-505																	
2/10/2021	XX	GW505XD9C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GW505XDAB	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GW505XDGE	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/18/2021	XX	GW505XE48	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-506																	
2/18/2021	XX	GW506XD9D	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GW506XDAC	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/8/2021	XX	GW506XDGF	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16
7/14/2021	XX	GW506XE38	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
9/1/2021	XX	GW506XE49	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-507																	
4/5/2018	XX	GW507XA6J	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	GW507XA7G	3.1	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/20/2018	XX	GW507XAFF	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
MW-508																	
10/5/2022	XX	GW508XG2E	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-508) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
1/24/2023	XX	GW508XGBF	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GW508XGH2	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GW508XH1H	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	GW508XH5H	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-06-03																	
4/10/2018	XX	GWXXXXA73	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	GWXXXXA80	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
7/19/2018	XX	GWXXXXAEI	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
OW-601A																	
4/11/2018	XX	GW601AA69	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/6/2018	XX	GW601AA76	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/19/2018	XX	GW601AAE4	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-601B																	
4/11/2018	XX	GW601BA6A	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/6/2018	XX	GW601BA77	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-602A																	
4/11/2018	XX	GW602AA6B	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/6/2018	XD	GWDP1XA75	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/6/2018	XX	GW602AA78	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-603B																	
4/12/2018	XX	GW603BA6C	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	GW603BA79	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-604A																	
4/12/2018	XX	GW604AA6D	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	GW604AA7A	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-605A																	
4/10/2018	XX	GW605AA6E	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	GW605AA7B	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-606A																	
4/3/2018	XX	GW606AA6F	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	GW606AA7C	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
4/8/2021	XX	GW606BDAD	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/8/2021	XX	GW606BDGG	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/14/2021	XX	GW606BE37	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/18/2021	XX	GW606BE4A	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-607B																	
2/9/2021	XX	GW607BD9F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/7/2021	XX	GW607BDAE	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GW607BDGH	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/19/2021	XX	GW607BE4B	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-608A) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
OW-608A																	
4/4/2018	XX	GW608AA6G	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	GW608AA7D	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-608B																	
2/10/2021	XX	GW608BD9G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XD	GWDP1XDA6	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GW608BDAF	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/8/2021	XX	GW608BDGI	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/17/2021	XD	GWDP1XE43	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/17/2021	XX	GW608BE4C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-609B																	
2/10/2021	XX	GW609BD9H	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GW609BDAG	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1.4	1 U	10 U	1 U	1 U
6/8/2021	XX	GW609BDGJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/17/2021	XX	GW609BE4D	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-610A																	
10/5/2022	XX	GW610AG2F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
1/24/2023	XX	GW610AGBG	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GW610AH1I	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	GW610AH61	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
OW-611A																	
4/4/2018	XX	GW611AA6H	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	GW611AA7E	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
1/24/2023	XX	GWX07AGBD	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XD	GWDP1XGGJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
3/30/2023	XX	GWX07AGH0	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XD	GWDP5XH0A	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GWXXXXH1J	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XD	GWDP1XH5E	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	GWX07AH5F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
1/24/2023	XX	GWX07BGBE	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GWX07BGH1	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GWXXXXH20	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	GWX07BH5G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GWXXXXDAH	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GWXXXXDH0	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/18/2021	XX	GWXXXXE4E	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-11B) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	GWXXXXDAI	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	GWXXXXDH1	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/18/2021	XX	GWXXXXE4F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	PWXX4XGH5	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GWXXXXH22	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	PWXX4XH5J	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/13/2023	XX	PWXX4X023	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/4/2023	XX	GWXXXX094	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	SWXX4XGH4	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	GWXXXXH23	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	SWXX4XH5I	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/13/2023	XX	SWXX4X022	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
QCBT																	
4/27/2015	XX	BTXXXX79E	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/27/2015	XX	BTXXXX79F	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/27/2015	XX	BTXXXX79J	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
7/15/2015	XX	BTXXXX7DB	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/5/2016	XX	BTXXXX876	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/6/2016	XX	BTXXXX875	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/17/2017	XX	BTXXXX985	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2017	XX	BTXXXX981	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2018	XX	BTXXXXA3C	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	BTXXXXA3H	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	BTXXXXHHD	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/4/2018	XX	BTXXXXA5F	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/5/2018	XX	BTXXXXA71	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/10/2018	XX	BTXXXXA72	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/11/2018	XX	BTXXXXHHB	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/12/2018	XX	BTXXXXHHC	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/4/2018	XX	BTXXXXA74	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/5/2018	XX	BTXXXXA7I	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/6/2018	XX	BTXXXXA7J	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/19/2018	XX	BTXXXXAE2	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/20/2018	XX	BTXXXXAF3	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/22/2019	XX	BTXXXXB6D	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	BTXXXXB69	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/26/2020	XX	BTXXXXC5G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/27/2020	XX	BTXXXXCDJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/28/2020	XX	BTXXXXCE0	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/30/2020	XX	BTXXXXCC3	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/23/2020	XX	BTXXXXCGE	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
8/20/2020	XX	BTXXXXD21	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/9/2021	XX	BTXXXXD98	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/10/2021	XX	BTXXXXD99	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
2/18/2021	XX	BTXXXXDA5	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/5/2021	XX	BTXXXXDCI	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	BTXXXXDCJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/7/2021	XX	BTXXXXDA7	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/8/2021	XX	BTXXXXDA8	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/8/2021	XX	BTXXXXDGA	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/9/2021	XX	BTXXXXDGB	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/14/2021	XX	BTXXXXE1F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/17/2021	XX	BTXXXXE44	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/18/2021	XX	BTXXXXE45	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
8/19/2021	XX	BTXXXXE50	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
9/1/2021	XX	BTXXXXE51	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/25/2022	XX	BTXXXXF2B	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/26/2022	XX	BTXXXXF3J	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/3/2022	XX	BTXXXXG0A	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/5/2022	XX	BTXXXXG1G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
1/24/2023	XX	BTXXXXGBB	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
3/30/2023	XX	BTXXXXGGI	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/17/2023	XX	BTXXXXGJ0	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2023	XX	BTXXXXH01	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/19/2023	XX	BTXXXXI9C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
6/19/2023	XX	BTXXXXH5D	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/13/2023	XX	BTXXXX01D	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/2/2023	XX	BTXXXX076	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/4/2023	XX	BTXXXX08C	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/1/2024	XX	BTXXXX13F	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2024	XX	BTXXXX151	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/8/2024	XX	BTXXXX208	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)			Chloromethane	Bromomethane	Vinyl Chloride	Chloroethane	Methylene Chloride	Acetone	Carbon Disulfide	1,1-Dichloroethene	1,1-Dichloroethane	trans-1,2-Dichloroethene	Chloroform	1,2-Dichloroethane	Methyl Ethyl Ketone	1,1,1-Trichloroethane	Carbon Tetrachloride
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Date	Type	Sample ID															

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
LF-UD-1																	
4/28/2015	XX	LFUD1X792	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LFUD1X86D	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	LFUD1X978	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFUD1XA30	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LFUD1XB5G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LFUD1XCD8	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD1XDC7	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD1XF0J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD1XGI9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD1X05J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD1X129	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD1X1J2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-2																	
4/28/2015	XX	LFUD2X793	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LFUD2X86E	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	LFUD2X979	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFUD2XA31	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LFUD2XB5H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD2XCD9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	LFUD2XDC8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD2XF10	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD2XGIA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD2X060	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD2X12A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD2X1J3	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-3A,B																	
4/28/2015	XX	LFXXXX79G	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX877	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX982	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFXXXXA3E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD0	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFXXXXF1B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJ1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX12J	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JC	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-4																	
4/28/2015	XX	LFXXXX79H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX878	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX983	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFXXXXA3F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD1	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
4/26/2022	XX	LFXXXXF1C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2023	XX	LFXXXXGJ2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX130	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-5and6																	
4/28/2015	XX	LFXXXX79I	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LFXXXX879	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	LFXXXX984	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFXXXXA3G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LFXXXXB6C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LFXXXXCE3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	LFXXXXDD2	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/26/2022	XX	LFXXXXF1D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2023	XX	LFXXXXGJ3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/3/2023	XX	LFXXXX06C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2024	XX	LFXXXX131	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/8/2024	XX	LFXXXX1JE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-6																	
4/28/2015	XX	LFUD6X7A0	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LFUD6X87B	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	LFUD6X986	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFUD6XA3I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LFUD6XB6E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LFUD6XCE5	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	LFUD6XDD4	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/26/2022	XX	LFUD6XF1E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD6XGJ4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD6X06D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LFUD6X1JF	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-7																	
4/28/2015	XX	LFUD7X7A1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFUD7X87C	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD7X987	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFUD7XA3J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD7XB6F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD7XCE6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD7XDD5	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD7XF1F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD7XGJ5	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD7X06E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD7X133	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD7X1JG	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-8																	
4/28/2015	XX	LFUD8X7A2	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LFUD8X87D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD8X988	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
4/3/2018	XX	LFUD8XA40	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LFUD8XB6G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LFUD8XCE7	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD8XDD6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD8XF1G	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD8XGJ6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD8X06F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD8X134	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD8X1JH	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-9																	
4/5/2016	XX	LFUD9X881	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD9X98F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LFUD9XA47	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD9XB73	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD9XCED	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD9XDDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD9XF1J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD9XGJ9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD9X06H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD9X136	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD9X1JJ	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-10																	
4/3/2018	XX	LFXXXXA48	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB74	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCEE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDDB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFXXXXF23	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06I	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX137	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX200	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX0A2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LP-UD-1																	
4/28/2015	XX	LPUD1X794	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LPUD1X86F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LPUD1X97A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LPUD1XA32	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LPUD1XB5I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LPUD1XCDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LPUD1XDC9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LPUD1XF11	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LPUD1XGIB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LPUD1X061	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LPUD1X12B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LPUD1X1J4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(LP-UD-2)			Vinyl Acetate	Bromo dichloro methane	1,2-Dichloro propane	cis-1,3-Dichloro propene	Trichloroethene	Dibromo chloromethane	1,1,2-Trichloroethane	Benzene	trans-1,3-Dichloro propene	Bromoform	4-Methyl-2-Pentanone	2-Hexanone	Tetrachloro ethene	1,1,2,2-Tetrachloro ethane	Toluene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LP-UD-2																	
4/28/2015	XX	LPUD2X795	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	LPUD2X86G	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	LPUD2X97B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	LPUD2XA33	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	LPUD2XB5J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	LPUD2XCDB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	LPUD2XDCA	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/26/2022	XX	LPUD2XF12	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2023	XX	LPUD2XGIC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/3/2023	XX	LPUD2X062	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2024	XX	LPUD2X12C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/8/2024	XX	LPUD2X1J5	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-04-09A																	
2/26/2020	XX	GWX09AC56	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/30/2020	XX	GWX09ACC1	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/23/2020	XX	GWX09ACGC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/20/2020	XX	GWX09AD1J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-04-09B																	
2/26/2020	XX	GWX09BC57	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/30/2020	XX	GWX09BCC2	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW06-01																	
4/10/2018	XD	GWDP1XA68	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/10/2018	XX	GWXXXXA70	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	GWXXXXA7H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/7/2021	XX	GWXXXXDAJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GWXXXXDH2	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/19/2021	XX	GWXXXXE4G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-303 & MW12-303R																	
6/18/2015	XX	42173-1	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
MW-401B																	
4/27/2015	XX	GW401B78I	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/27/2015	XD	GWDP4X791	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/6/2016	XD	GWDP4X86C	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/6/2016	XX	GW401B869	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/17/2017	XD	GWDP4X977	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/17/2017	XX	GW401B974	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2018	XD	GWDP4XA2J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2018	XX	GW401BA2G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/22/2019	XD	GWDP4XB5F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/22/2019	XX	GW401BB5C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/27/2020	XD	GWDP4XCD7	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/27/2020	XX	GW401BCD4	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

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(MW-401B) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
4/5/2021	XD	GWDP4XDC6	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/5/2021	XX	GW401BDC3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/25/2022	XD	GWDP1XF01	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/25/2022	XX	GW401BF0F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/17/2023	XD	GWDP1XGHB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/17/2023	XX	GW401BGI5	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/1/2024	XD	GWDP1X11B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/1/2024	XX	GW401B125	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-501																	
4/5/2018	XX	GW501XA6I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	GW501XA7F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-502																	
2/26/2020	XD	GWDP1XC52	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/26/2020	XX	GW502XC55	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/30/2020	XX	GW502XCBJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-503																	
2/9/2021	XX	GW503XD9A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GW503XDA9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	GW503XDGC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/19/2021	XX	GW503XE46	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-504																	
2/9/2021	XD	GWDP1XD94	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/9/2021	XX	GW504XD9B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/7/2021	XX	GW504XDAA	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XD	GWDP1XDG9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GW504XDGD	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/19/2021	XX	GW504XE47	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-505																	
2/10/2021	XX	GW505XD9C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GW505XDAB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GW505XDGE	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/18/2021	XX	GW505XE48	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-506																	
2/18/2021	XX	GW506XD9D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GW506XDAC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	GW506XDGF	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16
7/14/2021	XX	GW506XE38	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
9/1/2021	XX	GW506XE49	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-507																	
4/5/2018	XX	GW507XA6J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	GW507XA7G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/20/2018	XX	GW507XAFF	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
MW-508																	
10/5/2022	XX	GW508XG2E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-508) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
1/24/2023	XX	GW508XGBF	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GW508XGH2	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GW508XH1H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	GW508XH5H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-06-03																	
4/10/2018	XX	GWXXXXA73	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	GWXXXXA80	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
7/19/2018	XX	GWXXXXAEI	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
OW-601A																	
4/11/2018	XX	GW601AA69	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1.1	1 U	1 U
6/6/2018	XX	GW601AA76	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/19/2018	XX	GW601AAE4	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-601B																	
4/11/2018	XX	GW601BA6A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/6/2018	XX	GW601BA77	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-602A																	
4/11/2018	XX	GW602AA6B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/6/2018	XD	GWDP1XA75	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/6/2018	XX	GW602AA78	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-603B																	
4/12/2018	XX	GW603BA6C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	GW603BA79	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-604A																	
4/12/2018	XX	GW604AA6D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	GW604AA7A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-605A																	
4/10/2018	XX	GW605AA6E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	GW605AA7B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-606A																	
4/3/2018	XX	GW606AA6F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	GW606AA7C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
4/8/2021	XX	GW606BDAD	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	GW606BDGG	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/14/2021	XX	GW606BE37	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/18/2021	XX	GW606BE4A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-607B																	
2/9/2021	XX	GW607BD9F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/7/2021	XX	GW607BDAE	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GW607BDGH	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/19/2021	XX	GW607BE4B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-608A) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
OW-608A																	
4/4/2018	XX	GW608AA6G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	GW608AA7D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-608B																	
2/10/2021	XX	GW608BD9G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XD	GWDP1XDA6	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GW608BDAF	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	GW608BDGI	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/17/2021	XD	GWDP1XE43	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/17/2021	XX	GW608BE4C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-609B																	
2/10/2021	XX	GW609BD9H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GW609BDAG	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	GW609BDGJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/17/2021	XX	GW609BE4D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-610A																	
10/5/2022	XX	GW610AG2F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
1/24/2023	XX	GW610AGBG	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GW610AH1I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	GW610AH61	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
OW-611A																	
4/4/2018	XX	GW611AA6H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	GW611AA7E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
1/24/2023	XX	GWX07AGBD	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XD	GWDP1XGGJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
3/30/2023	XX	GWX07AGH0	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XD	GWDP5XH0A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GWXXXXH1J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XD	GWDP1XH5E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	GWX07AH5F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
1/24/2023	XX	GWX07BGBE	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GWX07BGH1	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GWXXXXH20	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	GWX07BH5G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GWXXXXDAH	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GWXXXXDH0	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/18/2021	XX	GWXXXXE4E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-11B) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	GWXXXXDAI	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	GWXXXXDH1	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/18/2021	XX	GWXXXXE4F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	PWXX4XGH5	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GWXXXXH22	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	PWXX4XH5J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/13/2023	XX	PWXX4X023	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/4/2023	XX	GWXXXX094	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	SWXX4XGH4	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	GWXXXXH23	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	SWXX4XH5I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/13/2023	XX	SWXX4X022	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
QCBT																	
4/27/2015	XX	BTXXXX79E	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79F	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79J	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
7/15/2015	XX	BTXXXX7DB	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/5/2016	XX	BTXXXX876	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/6/2016	XX	BTXXXX875	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/17/2017	XX	BTXXXX985	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2017	XX	BTXXXX981	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2018	XX	BTXXXXA3C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	BTXXXXA3H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	BTXXXXHHD	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/4/2018	XX	BTXXXXA5F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/5/2018	XX	BTXXXXA71	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/10/2018	XX	BTXXXXA72	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/11/2018	XX	BTXXXXHHB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/12/2018	XX	BTXXXXHHC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/4/2018	XX	BTXXXXA74	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/5/2018	XX	BTXXXXA7I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/6/2018	XX	BTXXXXA7J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/19/2018	XX	BTXXXXAE2	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/20/2018	XX	BTXXXXAF3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/22/2019	XX	BTXXXXB6D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	BTXXXXB69	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/26/2020	XX	BTXXXXC5G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/27/2020	XX	BTXXXXCDJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/28/2020	XX	BTXXXXCE0	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/30/2020	XX	BTXXXXCC3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/23/2020	XX	BTXXXXCGE	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
8/20/2020	XX	BTXXXXD21	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/9/2021	XX	BTXXXXD98	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/10/2021	XX	BTXXXXD99	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
2/18/2021	XX	BTXXXXDA5	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/5/2021	XX	BTXXXXDCI	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	BTXXXXDCJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/7/2021	XX	BTXXXXDA7	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/8/2021	XX	BTXXXXDA8	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/8/2021	XX	BTXXXXDGA	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/9/2021	XX	BTXXXXDGB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/14/2021	XX	BTXXXXE1F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/17/2021	XX	BTXXXXE44	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/18/2021	XX	BTXXXXE45	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
8/19/2021	XX	BTXXXXE50	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
9/1/2021	XX	BTXXXXE51	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/25/2022	XX	BTXXXXF2B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/26/2022	XX	BTXXXXF3J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/3/2022	XX	BTXXXXG0A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/5/2022	XX	BTXXXXG1G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
1/24/2023	XX	BTXXXXGBB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
3/30/2023	XX	BTXXXXGGI	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/17/2023	XX	BTXXXXGJ0	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2023	XX	BTXXXXH01	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/19/2023	XX	BTXXXXI9C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
6/19/2023	XX	BTXXXXH5D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/13/2023	XX	BTXXXX01D	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/2/2023	XX	BTXXXX076	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/4/2023	XX	BTXXXX08C	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/1/2024	XX	BTXXXX13F	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2024	XX	BTXXXX151	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/8/2024	XX	BTXXXX208	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
LF-UD-1																	
4/28/2015	XX	LFUD1X792	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LFUD1X86D	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LFUD1X978	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFUD1XA30	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LFUD1XB5G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LFUD1XCD8	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD1XDC7	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD1XF0J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD1XGI9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD1X05J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD1X129	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD1X1J2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-2																	
4/28/2015	XX	LFUD2X793	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LFUD2X86E	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LFUD2X979	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFUD2XA31	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LFUD2XB5H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD2XCD9	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	LFUD2XDC8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD2XF10	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD2XGIA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD2X060	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD2X12A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD2X1J3	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-3A,B																	
4/28/2015	XX	LFXXXX79G	F6	F6	F6	F6	F6		F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX877	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX982	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFXXXXA3E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD0	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFXXXXF1B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJ1	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX12J	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JC	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-4																	
4/28/2015	XX	LFXXXX79H	F6	F6	F6	F6	F6		F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFXXXX878	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFXXXX983	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFXXXXA3F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB6B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCE2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDD1	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
4/26/2022	XX	LFXXXXF1C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/18/2023	XX	LFXXXXGJ2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX130	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX1JD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-5and6																	
4/28/2015	XX	LFXXXX79I	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LFXXXX879	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LFXXXX984	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFXXXXA3G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LFXXXXB6C	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LFXXXXCE3	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	LFXXXXDD2	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/26/2022	XX	LFXXXXF1D	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/18/2023	XX	LFXXXXGJ3	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/3/2023	XX	LFXXXX06C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/2/2024	XX	LFXXXX131	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/8/2024	XX	LFXXXX1JE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-6																	
4/28/2015	XX	LFUD6X7A0	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LFUD6X87B	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LFUD6X986	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFUD6XA3I	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LFUD6XB6E	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LFUD6XCE5	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	LFUD6XDD4	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/26/2022	XX	LFUD6XF1E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD6XGJ4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD6X06D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LFUD6X1JF	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-7																	
4/28/2015	XX	LFUD7X7A1	F6	F6	F6	F6	F6		F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LFUD7X87C	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD7X987	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LFUD7XA3J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD7XB6F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD7XCE6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD7XDD5	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
4/26/2022	XX	LFUD7XF1F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD7XGJ5	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD7X06E	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD7X133	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD7X1JG	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LF-UD-8																	
4/28/2015	XX	LFUD8X7A2	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LFUD8X87D	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD8X988	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U

DATA SUMMARY TABLE

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
4/3/2018	XX	LFUD8XA40	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LFUD8XB6G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LFUD8XCE7	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD8XDD6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD8XF1G	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD8XGJ6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD8X06F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD8X134	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD8X1JH	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-9																	
4/5/2016	XX	LFUD9X881	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LFUD9X98F	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LFUD9XA47	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFUD9XB73	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFUD9XCED	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFUD9XDDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFUD9XF1J	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFUD9XGJ9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFUD9X06H	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFUD9X136	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFUD9X1JJ	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-10																	
4/3/2018	XX	LFXXXXA48	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LFXXXXB74	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/28/2020	XX	LFXXXXCEE	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LFXXXXDDB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LFXXXXF23	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LFXXXXGJD	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX06I	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LFXXXX137	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
10/8/2024	XX	LFXXXX200	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LFXXXX0A2	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
LP-UD-1																	
4/28/2015	XX	LPUD1X794	F6	F6	F6	F6	F6		F6	F6	F6	F6	F6	F6	F6	F6	F6
4/5/2016	XX	LPUD1X86F	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2017	XX	LPUD1X97A	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/3/2018	XX	LPUD1XA32	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/23/2019	XX	LPUD1XB5I	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LPUD1XCDA	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/6/2021	XX	LPUD1XDC9	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/26/2022	XX	LPUD1XF11	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/18/2023	XX	LPUD1XGIB	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/3/2023	XX	LPUD1X061	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
4/2/2024	XX	LPUD1X12B	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6
10/8/2024	XX	LPUD1X1J4	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6	F6

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-2)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LP-UD-2																	
4/28/2015	XX	LPUD2X795	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	LPUD2X86G	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LPUD2X97B	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LPUD2XA33	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	LPUD2XB5J	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	LPUD2XCDB	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	LPUD2XDCA	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/26/2022	XX	LPUD2XF12	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/18/2023	XX	LPUD2XGIC	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/3/2023	XX	LPUD2X062	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/2/2024	XX	LPUD2X12C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/8/2024	XX	LPUD2X1J5	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-04-09A																	
2/26/2020	XX	GWX09AC56	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/30/2020	XX	GWX09ACC1	1 U	1 U	1 U	1 U	1.1	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/23/2020	XX	GWX09ACGC	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/20/2020	XX	GWX09AD1J	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-04-09B																	
2/26/2020	XX	GWX09BC57	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/30/2020	XX	GWX09BCC2	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW06-01																	
4/10/2018	XD	GWDP1XA68	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/10/2018	XX	GWXXXXA70	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	GWXXXXA7H	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/7/2021	XX	GWXXXXDAJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GWXXXXDH2	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/19/2021	XX	GWXXXXE4G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-303 & MW12-303R																	
6/18/2015	XX	42173-1	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
MW-401B																	
4/27/2015	XX	GW401B78I	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/27/2015	XD	GWDP4X791	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/6/2016	XD	GWDP4X86C	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/6/2016	XX	GW401B869	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/17/2017	XD	GWDP4X977	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/17/2017	XX	GW401B974	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/2/2018	XD	GWDP4XA2J	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/2/2018	XX	GW401BA2G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/22/2019	XD	GWDP4XB5F	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/22/2019	XX	GW401BB5C	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/27/2020	XD	GWDP4XCD7	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/27/2020	XX	GW401BCD4	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-401B) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
4/5/2021	XD	GWDP4XDC6	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/5/2021	XX	GW401BDC3	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/25/2022	XD	GWDP1XF01	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/25/2022	XX	GW401BF0F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/17/2023	XD	GWDP1XGHB	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/17/2023	XX	GW401BGI5	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/1/2024	XD	GWDP1X11B	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/1/2024	XX	GW401B125	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-501																	
4/5/2018	XX	GW501XA6I	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	GW501XA7F	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
MW-502																	
2/26/2020	XD	GWDP1XC52	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
2/26/2020	XX	GW502XC55	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/30/2020	XX	GW502XCBJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-503																	
2/9/2021	XX	GW503XD9A	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GW503XDA9	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	GW503XDGC	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/19/2021	XX	GW503XE46	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-504																	
2/9/2021	XD	GWDP1XD94	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
2/9/2021	XX	GW504XD9B	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/7/2021	XX	GW504XDAA	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XD	GWDP1XDG9	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GW504XDGD	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/19/2021	XX	GW504XE47	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-505																	
2/10/2021	XX	GW505XD9C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GW505XDAB	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GW505XDGE	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/18/2021	XX	GW505XE48	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-506																	
2/18/2021	XX	GW506XD9D	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GW506XDAC	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	GW506XDGF	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16	F16
7/14/2021	XX	GW506XE38	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
9/1/2021	XX	GW506XE49	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
MW-507																	
4/5/2018	XX	GW507XA6J	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	GW507XA7G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
8/20/2018	XX	GW507XAFF	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
MW-508																	
10/5/2022	XX	GW508XG2E	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

(MW-508) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
1/24/2023	XX	GW508XGBF	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GW508XGH2	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GW508XH1H	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	GW508XH5H	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
OW-06-03																	
4/10/2018	XX	GWXXXXA73	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	GWXXXXA80	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
7/19/2018	XX	GWXXXXAEI	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
OW-601A																	
4/11/2018	XX	GW601AA69	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/6/2018	XX	GW601AA76	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/19/2018	XX	GW601AAE4	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-601B																	
4/11/2018	XX	GW601BA6A	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/6/2018	XX	GW601BA77	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-602A																	
4/11/2018	XX	GW602AA6B	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/6/2018	XD	GWDP1XA75	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/6/2018	XX	GW602AA78	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-603B																	
4/12/2018	XX	GW603BA6C	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	GW603BA79	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-604A																	
4/12/2018	XX	GW604AA6D	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	GW604AA7A	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-605A																	
4/10/2018	XX	GW605AA6E	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	GW605AA7B	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-606A																	
4/3/2018	XX	GW606AA6F	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	GW606AA7C	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
4/8/2021	XX	GW606BDAD	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	GW606BDGG	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/14/2021	XX	GW606BE37	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/18/2021	XX	GW606BE4A	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
OW-607B																	
2/9/2021	XX	GW607BD9F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/7/2021	XX	GW607BDAE	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GW607BDGH	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/19/2021	XX	GW607BE4B	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

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SME SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-608A)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
OW-608A																	
4/4/2018	XX	GW608AA6G	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	GW608AA7D	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
OW-608B																	
2/10/2021	XX	GW608BD9G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XD	GWDP1XDA6	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GW608BDAF	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	GW608BDGI	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/17/2021	XD	GWDP1XE43	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/17/2021	XX	GW608BE4C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
OW-609B																	
2/10/2021	XX	GW609BD9H	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GW609BDAG	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	GW609BDGJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/17/2021	XX	GW609BE4D	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
OW-610A																	
10/5/2022	XX	GW610AG2F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
1/24/2023	XX	GW610AGBG	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GW610AH1I	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	GW610AH61	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
OW-611A																	
4/4/2018	XX	GW611AA6H	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	GW611AA7E	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
1/24/2023	XX	GWX07AGBD	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XD	GWDP1XGGJ	1 U	1 U	1 U	1 U	1 U	16	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
3/30/2023	XX	GWX07AGH0	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XD	GWDP5XH0A	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GWXXXXH1J	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XD	GWDP1XH5E	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	GWX07AH5F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
1/24/2023	XX	GWX07BGBE	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
3/30/2023	XX	GWX07BGH1	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GWXXXXH20	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	GWX07BH5G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GWXXXXDAH	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GWXXXXDH0	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/18/2021	XX	GWXXXXE4E	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

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SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-11B)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
P-04-11B																	
2/10/2021	XX	GWXXXXD9J	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	GWXXXXDAI	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	GWXXXXDH1	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/18/2021	XX	GWXXXXE4F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
PWS-4																	
1/24/2023	XX	PWXX4XGBI	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	PWXX4XGH5	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GWXXXXH22	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	PWXX4XH5J	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/13/2023	XX	PWXX4X023	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/4/2023	XX	GWXXXX094	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
SW23-4																	
1/24/2023	XX	SWXX4XGBH	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
3/30/2023	XX	SWXX4XGH4	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	GWXXXXH23	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	SWXX4XH5I	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/13/2023	XX	SWXX4X022	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
QCBT																	
4/27/2015	XX	BTXXXX79E	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79F	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79J	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
7/15/2015	XX	BTXXXX7DB	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/5/2016	XX	BTXXXX876	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/6/2016	XX	BTXXXX875	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/17/2017	XX	BTXXXX985	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/18/2017	XX	BTXXXX981	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/2/2018	XX	BTXXXXA3C	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5	2 U	1 U
4/3/2018	XX	BTXXXXA3H	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	BTXXXXHHD	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/4/2018	XX	BTXXXXA5F	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/5/2018	XX	BTXXXXA71	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/10/2018	XX	BTXXXXA72	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/11/2018	XX	BTXXXXHHB	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/12/2018	XX	BTXXXXHHC	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/4/2018	XX	BTXXXXA74	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/5/2018	XX	BTXXXXA7I	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
6/6/2018	XX	BTXXXXA7J	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/19/2018	XX	BTXXXXAE2	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
8/20/2018	XX	BTXXXXAF3	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/22/2019	XX	BTXXXXB6D	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	BTXXXXB69	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
2/26/2020	XX	BTXXXXC5G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/27/2020	XX	BTXXXXCDJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/28/2020	XX	BTXXXXCE0	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/30/2020	XX	BTXXXXCC3	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/23/2020	XX	BTXXXXCGE	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
8/20/2020	XX	BTXXXXD21	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
2/9/2021	XX	BTXXXXD98	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
2/10/2021	XX	BTXXXXD99	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
2/18/2021	XX	BTXXXXDA5	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/5/2021	XX	BTXXXXDCI	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	BTXXXXDCJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/7/2021	XX	BTXXXXDA7	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/8/2021	XX	BTXXXXDA8	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/8/2021	XX	BTXXXXDGA	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/9/2021	XX	BTXXXXDGB	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/14/2021	XX	BTXXXXE1F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/17/2021	XX	BTXXXXE44	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/18/2021	XX	BTXXXXE45	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
8/19/2021	XX	BTXXXXE50	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
9/1/2021	XX	BTXXXXE51	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/25/2022	XX	BTXXXXF2B	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/26/2022	XX	BTXXXXF3J	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/3/2022	XX	BTXXXXG0A	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/5/2022	XX	BTXXXXG1G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
1/24/2023	XX	BTXXXXGBB	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
3/30/2023	XX	BTXXXXGGI	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/17/2023	XX	BTXXXXGJ0	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/18/2023	XX	BTXXXXH01	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/19/2023	XX	BTXXXXI9C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
6/19/2023	XX	BTXXXXH5D	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/13/2023	XX	BTXXXX01D	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/2/2023	XX	BTXXXX076	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/4/2023	XX	BTXXXX08C	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/1/2024	XX	BTXXXX13F	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/2/2024	XX	BTXXXX151	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/8/2024	XX	BTXXXX208	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-1) Date	Type	Sample ID	1,2-Dichlorobenzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
LF-UD-1																	
4/28/2015	XX	LFUD1X792	1 U	20 U		5 U	5 U										
4/5/2016	XX	LFUD1X86D	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	LFUD1X978	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFUD1XA30	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LFUD1XB5G	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LFUD1XCD8	F6	F6	F6	F6	F6										
4/6/2021	XX	LFUD1XDC7	H8	H8	H8	H8	H8										
4/26/2022	XX	LFUD1XF0J	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD1XGI9	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD1X05J	F6	F6	F6	F6	F6										
4/2/2024	XX	LFUD1X129	D	D	D	D	D										
10/8/2024	XX	LFUD1X1J2	F6	F6	F6	F6	F6										
LF-UD-2																	
4/28/2015	XX	LFUD2X793	1 U	20 U		5 U	5 U										
4/5/2016	XX	LFUD2X86E	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	LFUD2X979	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFUD2XA31	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LFUD2XB5H	F6	F6	F6	F6	F6										
4/28/2020	XX	LFUD2XCD9	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	LFUD2XDC8	H8	H8	H8	H8	H8										
4/26/2022	XX	LFUD2XF10	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD2XGIA	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD2X060	F6	F6	F6	F6	F6										
4/2/2024	XX	LFUD2X12A	D	D	D	D	D										
10/8/2024	XX	LFUD2X1J3	F6	F6	F6	F6	F6										
LF-UD-3A,B																	
4/28/2015	XX	LFXXXX79G	F6	F6		F6	F6										
4/5/2016	XX	LFXXXX877	F6	F6	F6	F6	F6										
4/18/2017	XX	LFXXXX982	F6	F6	F6	F6	F6										
4/3/2018	XX	LFXXXXA3E	F6	F6	F6	F6	F6										
4/23/2019	XX	LFXXXXB6A	F6	F6	F6	F6	F6										
4/28/2020	XX	LFXXXXCE1	F6	F6	F6	F6	F6										
4/6/2021	XX	LFXXXXDD0	H8	H8	H8	H8	H8										
4/26/2022	XX	LFXXXXF1B	F6	F6	F6	F6	F6										
4/18/2023	XX	LFXXXXGJ1	F6	F6	F6	F6	F6										
10/3/2023	XX	LFXXXX06A	F6	F6	F6	F6	F6										
4/2/2024	XX	LFXXXX12J	D	D	D	D	D										
10/8/2024	XX	LFXXXX1JC	F6	F6	F6	F6	F6										
LF-UD-4																	
4/28/2015	XX	LFXXXX79H	F6	F6		F6	F6										
4/5/2016	XX	LFXXXX878	F6	F6	F6	F6	F6										
4/18/2017	XX	LFXXXX983	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFXXXXA3F	F6	F6	F6	F6	F6										
4/23/2019	XX	LFXXXXB6B	F6	F6	F6	F6	F6										
4/28/2020	XX	LFXXXXCE2	F6	F6	F6	F6	F6										
4/6/2021	XX	LFXXXXDD1	H8	H8	H8	H8	H8										

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-4) Date	Type	Sample ID	1,2-Dichloro benzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
4/26/2022	XX	LFXXXXF1C	1 U	20 U	2 U	5 U	5 U										
4/18/2023	XX	LFXXXXGJ2	F6	F6	F6	F6	F6										
10/3/2023	XX	LFXXXX06B	F6	F6	F6	F6	F6										
4/2/2024	XX	LFXXXX130	D	D	D	D	D										
10/8/2024	XX	LFXXXX1JD	F6	F6	F6	F6	F6										
LF-UD-5and6																	
4/28/2015	XX	LFXXXX79I	1 U	20 U		5 U	5 U										
4/5/2016	XX	LFXXXX879	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	LFXXXX984	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFXXXXA3G	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LFXXXXB6C	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LFXXXXCE3	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	LFXXXXDD2	1 U	20 U	2 U	5 U	5 U										
4/26/2022	XX	LFXXXXF1D	1 U	20 U	2 U	5 U	5 U										
4/18/2023	XX	LFXXXXGJ3	1 U	20 U	2 U	5 U	5 U										
10/3/2023	XX	LFXXXX06C	1 U	20 U	2 U	5 U	5 U										
4/2/2024	XX	LFXXXX131	1 U	20 U	2 U	5 U	5 U										
10/8/2024	XX	LFXXXX1JE	F6	F6	F6	F6	F6										
LF-UD-6																	
4/28/2015	XX	LFUD6X7A0	1 U	20 U		5 U	5 U										
4/5/2016	XX	LFUD6X87B	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	LFUD6X986	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFUD6XA3I	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LFUD6XB6E	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LFUD6XCE5	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	LFUD6XDD4	1 U	20 U	2 U	5 U	5 U										
4/26/2022	XX	LFUD6XF1E	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD6XGJ4	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD6X06D	F6	F6	F6	F6	F6										
10/8/2024	XX	LFUD6X1JF	D	D	D	D	D										
LF-UD-7																	
4/28/2015	XX	LFUD7X7A1	F6	F6		F6	F6										
4/5/2016	XX	LFUD7X87C	F6	F6	F6	F6	F6										
4/18/2017	XX	LFUD7X987	F6	F6	F6	F6	F6										
4/3/2018	XX	LFUD7XA3J	F6	F6	F6	F6	F6										
4/23/2019	XX	LFUD7XB6F	F6	F6	F6	F6	F6										
4/28/2020	XX	LFUD7XCE6	F6	F6	F6	F6	F6										
4/6/2021	XX	LFUD7XDD5	H8	H8	H8	H8	H8										
4/26/2022	XX	LFUD7XF1F	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD7XGJ5	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD7X06E	F6	F6	F6	F6	F6										
4/2/2024	XX	LFUD7X133	D	D	D	D	D										
10/8/2024	XX	LFUD7X1JG	F6	F6	F6	F6	F6										
LF-UD-8																	
4/28/2015	XX	LFUD8X7A2	1 U	20 U		5 U	5 U										
4/5/2016	XX	LFUD8X87D	F6	F6	F6	F6	F6										
4/18/2017	XX	LFUD8X988	1 U	20 U	5 U	5 U	5 U										

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-8)			1,2-Dichloro benzene	Acrylonitrile	Diethyl ether	trans-1,4-Dichloro-2-butene	Iodomethane										
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L										
4/3/2018	XX	LFUD8XA40	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LFUD8XB6G	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LFUD8XCE7	F6	F6	F6	F6	F6										
4/6/2021	XX	LFUD8XDD6	F6	F6	F6	F6	F6										
4/26/2022	XX	LFUD8XF1G	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD8XGJ6	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD8X06F	F6	F6	F6	F6	F6										
4/2/2024	XX	LFUD8X134	D	D	D	D	D										
10/8/2024	XX	LFUD8X1JH	D	D	D	D	D										
LF-UD-9																	
4/5/2016	XX	LFUD9X881	F6	F6	F6	F6	F6										
4/18/2017	XX	LFUD9X98F	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LFUD9XA47	F6	F6	F6	F6	F6										
4/23/2019	XX	LFUD9XB73	F6	F6	F6	F6	F6										
4/28/2020	XX	LFUD9XCED	F6	F6	F6	F6	F6										
4/6/2021	XX	LFUD9XDDA	F6	F6	F6	F6	F6										
4/26/2022	XX	LFUD9XF1J	F6	F6	F6	F6	F6										
4/18/2023	XX	LFUD9XGJ9	F6	F6	F6	F6	F6										
10/3/2023	XX	LFUD9X06H	F6	F6	F6	F6	F6										
4/2/2024	XX	LFUD9X136	D	D	D	D	D										
10/8/2024	XX	LFUD9X1JJ	D	D	D	D	D										
LF-UD-10																	
4/3/2018	XX	LFXXXXA48	F6	F6	F6	F6	F6										
4/23/2019	XX	LFXXXXB74	F6	F6	F6	F6	F6										
4/28/2020	XX	LFXXXXCEE	F6	F6	F6	F6	F6										
4/6/2021	XX	LFXXXXDDB	F6	F6	F6	F6	F6										
4/26/2022	XX	LFXXXXF23	F6	F6	F6	F6	F6										
4/18/2023	XX	LFXXXXGJD	F6	F6	F6	F6	F6										
10/3/2023	XX	LFXXXX06I	F6	F6	F6	F6	F6										
4/2/2024	XX	LFXXXX137	D	D	D	D	D										
10/8/2024	XX	LFXXXX200	D	D	D	D	D										
LF-UD-12+13+14																	
4/6/2021	XX	LFX12XDFB	F6	F6	F6	F6	F6										
10/3/2023	XX	LFXXXX0A2	F6	F6	F6	F6	F6										
LP-UD-1																	
4/28/2015	XX	LPUD1X794	F6	F6		F6	F6										
4/5/2016	XX	LPUD1X86F	F6	F6	F6	F6	F6										
4/18/2017	XX	LPUD1X97A	F6	F6	F6	F6	F6										
4/3/2018	XX	LPUD1XA32	F6	F6	F6	F6	F6										
4/23/2019	XX	LPUD1XB5I	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LPUD1XCDA	F6	F6	F6	F6	F6										
4/6/2021	XX	LPUD1XDC9	F6	F6	F6	F6	F6										
4/26/2022	XX	LPUD1XF11	F6	F6	F6	F6	F6										
4/18/2023	XX	LPUD1XGIB	F6	F6	F6	F6	F6										
10/3/2023	XX	LPUD1X061	F6	F6	F6	F6	F6										
4/2/2024	XX	LPUD1X12B	F6	F6	F6	F6	F6										
10/8/2024	XX	LPUD1X1J4	F6	F6	F6	F6	F6										

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-UD-2)			1,2-Dichloro benzene	Acrylonitrile	Diethyl ether	trans-1,4-Dichloro-2-butene	Iodomethane										
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L										
LP-UD-2																	
4/28/2015	XX	LPUD2X795	1 U	20 U		5 U	5 U										
4/5/2016	XX	LPUD2X86G	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	LPUD2X97B	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LPUD2XA33	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	LPUD2XB5J	1 U	20 U	5 U	5 U	5 U										
4/28/2020	XX	LPUD2XCDB	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	LPUD2XDCA	1 U	20 U	2 U	5 U	5 U										
4/26/2022	XX	LPUD2XF12	1 U	20 U	2 U	5 U	5 U										
4/18/2023	XX	LPUD2XGIC	1 U	20 U	2 U	5 U	5 U										
10/3/2023	XX	LPUD2X062	1 U	20 U	2 U	5 U	5 U										
4/2/2024	XX	LPUD2X12C	1 U	20 U	2 U	5 U	5 U										
10/8/2024	XX	LPUD2X1J5	1 U	20 U	2 U	5 U	5 U										
MW-04-09A																	
2/26/2020	XX	GWX09AC56	1 U	20 U	2 U	5 U	5 U										
4/30/2020	XX	GWX09ACC1	1 U	20 U	2 U	5 U	5 U										
6/23/2020	XX	GWX09ACGC	1 U	20 U	2 U	5 U	5 U										
8/20/2020	XX	GWX09AD1J	1 U	20 U	2 U	5 U	5 U										
MW-04-09B																	
2/26/2020	XX	GWX09BC57	1 U	20 U	2 U	5 U	5 U										
4/30/2020	XX	GWX09BCC2	1 U	20 U	2 U	5 U	5 U										
MW06-01																	
4/10/2018	XD	GWDP1XA68	1 U	20 U	5 U	5 U	5 U										
4/10/2018	XX	GWXXXXA70	1 U	20 U	5 U	5 U	5 U										
6/4/2018	XX	GWXXXXA7H	1 U	20 U	5 U	5 U	5 U										
MW-08-01																	
2/9/2021	XX	GWXXXXDA0	1 U	20 U	2 U	5 U	5 U										
4/7/2021	XX	GWXXXXDAJ	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	GWXXXXDH2	1 U	20 U	2 U	5 U	5 U										
8/19/2021	XX	GWXXXXE4G	1 U	20 U	2 U	5 U	5 U										
MW-303 & MW12-303R																	
6/18/2015	XX	42173-1	1 U	20 U		5 U	5 U										
MW-401B																	
4/27/2015	XX	GW401B78I	1 U	20 U		5 U	5 U										
4/27/2015	XD	GWDP4X791	1 U	20 U		5 U	5 U										
4/6/2016	XD	GWDP4X86C	1 U	20 U	5 U	5 U	5 U										
4/6/2016	XX	GW401B869	1 U	20 U	5 U	5 U	5 U										
4/17/2017	XD	GWDP4X977	1 U	20 U	5 U	5 U	5 U										
4/17/2017	XX	GW401B974	1 U	20 U	5 U	5 U	5 U										
4/2/2018	XD	GWDP4XA2J	1 U	20 U	5 U	5 U	5 U										
4/2/2018	XX	GW401BA2G	1 U	20 U	5 U	5 U	5 U										
4/22/2019	XD	GWDP4XB5F	1 U	20 U	5 U	5 U	5 U										
4/22/2019	XX	GW401BB5C	1 U	20 U	5 U	5 U	5 U										
4/27/2020	XD	GWDP4XCD7	1 U	20 U	2 U	5 U	5 U										
4/27/2020	XX	GW401BCD4	1 U	20 U	2 U	5 U	5 U										

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW-401B) Date	Type	Sample ID	1,2-Dichlorobenzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
4/5/2021	XD	GWDP4XDC6	1 U	20 U	2 U	5 U	5 U										
4/5/2021	XX	GW401BDC3	1 U	20 U	2 U	5 U	5 U										
4/25/2022	XD	GWDP1XF01	1 U	20 U	2 U	5 U	5 U										
4/25/2022	XX	GW401BF0F	1 U	20 U	2 U	5 U	5 U										
4/17/2023	XD	GWDP1XGHB	1 U	20 U	2 U	5 U	5 U										
4/17/2023	XX	GW401BGI5	1 U	20 U	2 U	5 U	5 U										
4/1/2024	XD	GWDP1X11B	1 U	20 U	2 U	5 U	5 U										
4/1/2024	XX	GW401B125	1 U	20 U	2 U	5 U	5 U										
MW-501																	
4/5/2018	XX	GW501XA6I	1 U	20 U	5 U	5 U	5 U										
6/4/2018	XX	GW501XA7F	1 U	20 U	5 U	5 U	5 U										
MW-502																	
2/26/2020	XD	GWDP1XC52	1 U	20 U	2 U	5 U	5 U										
2/26/2020	XX	GW502XC55	1 U	20 U	2 U	5 U	5 U										
4/30/2020	XX	GW502XCBJ	1 U	20 U	2 U	5 U	5 U										
MW-503																	
2/9/2021	XX	GW503XD9A	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GW503XDA9	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	GW503XDGC	1 U	20 U	2 U	5 U	5 U										
8/19/2021	XX	GW503XE46	1 U	20 U	2 U	5 U	5 U										
MW-504																	
2/9/2021	XD	GWDP1XD94	1 U	20 U	2 U	5 U	5 U										
2/9/2021	XX	GW504XD9B	1 U	20 U	2 U	5 U	5 U										
4/7/2021	XX	GW504XDAA	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XD	GWDP1XDG9	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	GW504XDGD	1 U	20 U	2 U	5 U	5 U										
8/19/2021	XX	GW504XE47	1 U	20 U	2 U	5 U	5 U										
MW-505																	
2/10/2021	XX	GW505XD9C	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GW505XDAB	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	GW505XDGE	1 U	20 U	2 U	5 U	5 U										
8/18/2021	XX	GW505XE48	1 U	20 U	2 U	5 U	5 U										
MW-506																	
2/18/2021	XX	GW506XD9D	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GW506XDAC	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	GW506XDGF	F16	F16	F16	F16	F16										
7/14/2021	XX	GW506XE38	1 U	20 U	2 U	5 U	5 U										
9/1/2021	XX	GW506XE49	1 U	20 U	2 U	5 U	5 U										
MW-507																	
4/5/2018	XX	GW507XA6J	1 U	20 U	5 U	5 U	5 U										
6/5/2018	XX	GW507XA7G	1 U	20 U	5 U	5 U	5 U										
8/20/2018	XX	GW507XAFF	1 U	20 U	5 U	5 U	5 U										
MW-508																	
10/5/2022	XX	GW508XG2E	1 U	20 U	2 U	5 U	5 U										

SEVEE & MAHER ENGINEERS, INC.
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CUMBERLAND CENTER, ME 04021

(MW-508) Date	Type	Sample ID	1,2-Dichlorobenzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
1/24/2023	XX	GW508XGBF	F	F	F	F	F										
3/30/2023	XX	GW508XGH2	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XX	GW508XH1H	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XX	GW508XH5H	1 U	20 U	2 U	5 U	5 U										
OW-06-03																	
4/10/2018	XX	GWXXXXA73	1 U	20 U	5 U	5 U	5 U										
6/5/2018	XX	GWXXXXA80	I	I	I	I	I										
7/19/2018	XX	GWXXXXAEI	I	I	I	I	I										
OW-601A																	
4/11/2018	XX	GW601AA69	1 U	20 U	5 U	5 U	5 U										
6/6/2018	XX	GW601AA76	1 U	20 U	5 U	5 U	5 U										
7/19/2018	XX	GW601AAE4	1 U	20 U	5 U	5 U	5 U										
OW-601B																	
4/11/2018	XX	GW601BA6A	1 U	20 U	5 U	5 U	5 U										
6/6/2018	XX	GW601BA77	1 U	20 U	5 U	5 U	5 U										
OW-602A																	
4/11/2018	XX	GW602AA6B	1 U	20 U	5 U	5 U	5 U										
6/6/2018	XD	GWDP1XA75	1 U	20 U	5 U	5 U	5 U										
6/6/2018	XX	GW602AA78	1 U	20 U	5 U	5 U	5 U										
OW-603B																	
4/12/2018	XX	GW603BA6C	1 U	20 U	5 U	5 U	5 U										
6/5/2018	XX	GW603BA79	1 U	20 U	5 U	5 U	5 U										
OW-604A																	
4/12/2018	XX	GW604AA6D	1 U	20 U	5 U	5 U	5 U										
6/4/2018	XX	GW604AA7A	1 U	20 U	5 U	5 U	5 U										
OW-605A																	
4/10/2018	XX	GW605AA6E	1 U	20 U	5 U	5 U	5 U										
6/5/2018	XX	GW605AA7B	1 U	20 U	5 U	5 U	5 U										
OW-606A																	
4/3/2018	XX	GW606AA6F	1 U	20 U	5 U	5 U	5 U										
6/4/2018	XX	GW606AA7C	1 U	20 U	5 U	5 U	5 U										
OW-606B																	
2/9/2021	XX	GW606BD9E	F	F	F	F	F										
4/8/2021	XX	GW606BDAD	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	GW606BDGG	1 U	20 U	2 U	5 U	5 U										
7/14/2021	XX	GW606BE37	1 U	20 U	2 U	5 U	5 U										
8/18/2021	XX	GW606BE4A	1 U	20 U	2 U	5 U	5 U										
OW-607B																	
2/9/2021	XX	GW607BD9F	1 U	20 U	2 U	5 U	5 U										
4/7/2021	XX	GW607BDAE	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	GW607BDGH	1 U	20 U	2 U	5 U	5 U										
8/19/2021	XX	GW607BE4B	1 U	20 U	2 U	5 U	5 U										

DATA SUMMARY TABLE

Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-608A) Date	Type	Sample ID	1,2-Dichlorobenzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
OW-608A																	
4/4/2018	XX	GW608AA6G	1 U	20 U	5 U	5 U	5 U										
6/4/2018	XX	GW608AA7D	1 U	20 U	5 U	5 U	5 U										
OW-608B																	
2/10/2021	XX	GW608BD9G	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XD	GWDP1XDA6	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GW608BDAF	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	GW608BDGI	1 U	20 U	2 U	5 U	5 U										
8/17/2021	XD	GWDP1XE43	1 U	20 U	2 U	5 U	5 U										
8/17/2021	XX	GW608BE4C	1 U	20 U	2 U	5 U	5 U										
OW-609B																	
2/10/2021	XX	GW609BD9H	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GW609BDAG	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	GW609BDGJ	1 U	20 U	2 U	5 U	5 U										
8/17/2021	XX	GW609BE4D	1 U	20 U	2 U	5 U	5 U										
OW-610A																	
10/5/2022	XX	GW610AG2F	1 U	20 U	2 U	5 U	5 U										
1/24/2023	XX	GW610AGBG	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XX	GW610AH1I	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XX	GW610AH61	1 U	20 U	2 U	5 U	5 U										
OW-611A																	
4/4/2018	XX	GW611AA6H	1 U	20 U	5 U	5 U	5 U										
6/5/2018	XX	GW611AA7E	1 U	20 U	5 U	5 U	5 U										
P-04-07A																	
10/3/2022	XX	GWXXXXG2G	1 U	20 U	2 U	5 U	5 U										
1/24/2023	XX	GWX07AGBD	F	F	F	F	F										
3/30/2023	XD	GWDP1XGGJ	1 U	20 U	2 U	5 U	5 U										
3/30/2023	XX	GWX07AGH0	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XD	GWDP5XH0A	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XX	GWXXXXH1J	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XD	GWDP1XH5E	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XX	GWX07AH5F	1 U	20 U	2 U	5 U	5 U										
P-04-07B																	
10/3/2022	XX	GWXXXXG2H	1 U	20 U	2 U	5 U	5 U										
1/24/2023	XX	GWX07BGBE	F	F	F	F	F										
3/30/2023	XX	GWX07BGH1	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XX	GWXXXXH20	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XX	GWX07BH5G	1 U	20 U	2 U	5 U	5 U										
P-04-11A																	
2/10/2021	XX	GWXXXXD9I	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	GWXXXXDAH	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	GWXXXXDH0	1 U	20 U	2 U	5 U	5 U										
8/18/2021	XX	GWXXXXE4E	1 U	20 U	2 U	5 U	5 U										

DATA SUMMARY TABLE

Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-11B) Date	Type	Sample ID	1,2-Dichlorobenzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L
P-04-11B							
2/10/2021	XX	GWXXXXD9J	1 U	20 U	2 U	5 U	5 U
4/8/2021	XX	GWXXXXDAI	1 U	20 U	2 U	5 U	5 U
6/9/2021	XX	GWXXXXDH1	1 U	20 U	2 U	5 U	5 U
8/18/2021	XX	GWXXXXE4F	1 U	20 U	2 U	5 U	5 U
PWS-4							
1/24/2023	XX	PWXX4XGBI	A	A	A	A	A
3/30/2023	XX	PWXX4XGH5	1 U	20 U	2 U	5 U	5 U
4/19/2023	XX	GWXXXXH22	1 U	20 U	2 U	5 U	5 U
6/19/2023	XX	PWXX4XH5J	1 U	20 U	2 U	5 U	5 U
7/13/2023	XX	PWXX4X023	1 U	20 U	2 U	5 U	5 U
10/4/2023	XX	GWXXXX094	1 U	20 U	2 U	5 U	5 U
SW23-4							
1/24/2023	XX	SWXX4XGBH	A	A	A	A	A
3/30/2023	XX	SWXX4XGH4	1 U	20 U	2 U	5 U	5 U
4/19/2023	XX	GWXXXXH23	1 U	20 U	2 U	5 U	5 U
6/19/2023	XX	SWXX4XH5I	1 U	20 U	2 U	5 U	5 U
7/13/2023	XX	SWXX4X022	1 U	20 U	2 U	5 U	5 U
QCBT							
4/27/2015	XX	BTXXXX79E	1 U	20 U		5 U	5 U
4/27/2015	XX	BTXXXX79F	1 U	20 U		5 U	5 U
4/27/2015	XX	BTXXXX79J	1 U	20 U		5 U	5 U
7/15/2015	XX	BTXXXX7DB	1 U	20 U		5 U	5 U
4/5/2016	XX	BTXXXX876	1 U	20 U	5 U	5 U	5 U
4/6/2016	XX	BTXXXX875	1 U	20 U	5 U	5 U	5 U
4/17/2017	XX	BTXXXX985	1 U	20 U	5 U	5 U	5 U
4/18/2017	XX	BTXXXX981	1 U	20 U	5 U	5 U	5 U
4/2/2018	XX	BTXXXXA3C	1 U	20 U	5 U	5 U	5 U
4/3/2018	XX	BTXXXXA3H	1 U	20 U	5 U	5 U	5 U
4/3/2018	XX	BTXXXXHHD	1 U	20 U	5 U	5 U	5 U
4/4/2018	XX	BTXXXXA5F	1 U	20 U	5 U	5 U	5 U
4/5/2018	XX	BTXXXXA71	1 U	20 U	5 U	5 U	5 U
4/10/2018	XX	BTXXXXA72	1 U	20 U	5 U	5 U	5 U
4/11/2018	XX	BTXXXXHHB	1 U	20 U	5 U	5 U	5 U
4/12/2018	XX	BTXXXXHHC	1 U	20 U	5 U	5 U	5 U
6/4/2018	XX	BTXXXXA74	1 U	20 U	5 U	5 U	5 U
6/5/2018	XX	BTXXXXA7I	1 U	20 U	5 U	5 U	5 U
6/6/2018	XX	BTXXXXA7J	1 U	20 U	5 U	5 U	5 U
7/19/2018	XX	BTXXXXAE2	1 U	20 U	5 U	5 U	5 U
8/20/2018	XX	BTXXXXAF3	1 U	20 U	5 U	5 U	5 U
4/22/2019	XX	BTXXXXB6D	1 U	20 U	5 U	5 U	5 U
4/23/2019	XX	BTXXXXB69	1 U	20 U	5 U	5 U	5 U
2/26/2020	XX	BTXXXXC5G	1 U	20 U	2 U	5 U	5 U
4/27/2020	XX	BTXXXXCDJ	1 U	20 U	2 U	5 U	5 U
4/28/2020	XX	BTXXXXCE0	1 U	20 U	2 U	5 U	5 U
4/30/2020	XX	BTXXXXCC3	1 U	20 U	2 U	5 U	5 U
6/23/2020	XX	BTXXXXCGE	1 U	20 U	2 U	5 U	5 U

DATA SUMMARY TABLE

Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)			1,2-Dichloro benzene	Acrylonitrile	Diethyl ether	trans-1,4-Dichloro-2-butene	Iodomethane										
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L										
8/20/2020	XX	BTXXXXD21	1 U	20 U	2 U	5 U	5 U										
2/9/2021	XX	BTXXXXD98	1 U	20 U	2 U	5 U	5 U										
2/10/2021	XX	BTXXXXD99	1 U	20 U	2 U	5 U	5 U										
2/18/2021	XX	BTXXXXDA5	1 U	20 U	2 U	5 U	5 U										
4/5/2021	XX	BTXXXXDCI	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	BTXXXXDCJ	1 U	20 U	2 U	5 U	5 U										
4/7/2021	XX	BTXXXXDA7	1 U	20 U	2 U	5 U	5 U										
4/8/2021	XX	BTXXXXDA8	1 U	20 U	2 U	5 U	5 U										
6/8/2021	XX	BTXXXXDGA	1 U	20 U	2 U	5 U	5 U										
6/9/2021	XX	BTXXXXDGB	1 U	20 U	2 U	5 U	5 U										
7/14/2021	XX	BTXXXXE1F	1 U	20 U	2 U	5 U	5 U										
8/17/2021	XX	BTXXXXE44	1 U	20 U	2 U	5 U	5 U										
8/18/2021	XX	BTXXXXE45	1 U	20 U	2 U	5 U	5 U										
8/19/2021	XX	BTXXXXE50	1 U	20 U	2 U	5 U	5 U										
9/1/2021	XX	BTXXXXE51	1 U	20 U	2 U	5 U	5 U										
4/25/2022	XX	BTXXXXF2B	1 U	20 U	2 U	5 U	5 U										
4/26/2022	XX	BTXXXXF3J	1 U	20 U	2 U	5 U	5 U										
10/3/2022	XX	BTXXXXG0A	1 U	20 U	2 U	5 U	5 U										
10/5/2022	XX	BTXXXXG1G	1 U	20 U	2 U	5 U	5 U										
1/24/2023	XX	BTXXXXGBB	1 U	20 U	2 U	5 U	5 U										
3/30/2023	XX	BTXXXXGGI	1 U	20 U	2 U	5 U	5 U										
4/17/2023	XX	BTXXXXGJ0	1 U	20 U	2 U	5 U	5 U										
4/18/2023	XX	BTXXXXH01	1 U	20 U	2 U	5 U	5 U										
4/19/2023	XX	BTXXXXI9C	1 U	20 U	2 U	5 U	5 U										
6/19/2023	XX	BTXXXXH5D	1 U	20 U	2 U	5 U	5 U										
7/13/2023	XX	BTXXXX01D	1 U	20 U	2 U	5 U	5 U										
10/2/2023	XX	BTXXXX076	1 U	20 U	2 U	5 U	5 U										
10/4/2023	XX	BTXXXX08C	1 U	20 U	2 U	5 U	5 U										
4/1/2024	XX	BTXXXX13F	1 U	20 U	2 U	5 U	5 U										
4/2/2024	XX	BTXXXX151	1 U	20 U	2 U	5 U	5 U										
10/8/2024	XX	BTXXXX208	1 U	20 U	2 U	5 U	5 U										

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT)			1,2-Dichloro benzene	Acrylonitrile	Diethyl ether	trans-1,4-Dichloro-2-butene	Iodomethane
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

A - The sampling location was inaccessible.
D - The sampling location was dry.
F - The sampling location was frozen.
F16 - Could not pump water to surface for testing/sampling
F6 - No flow. Sample not taken.
H8 - No flow from pipe. See LF-COMP for readings
I - The sampling location yielded insufficient quantity to collect a sample.
U - Not Detected above the laboratory reporting limit.

REPORT PREPARED: 1/7/2025 14:36
FOR: Juniper Ridge Landfill
DATE RANGE: 1/1/2015 - 12/31/2024

DATA SUMMARY TABLE

Leachate - Field Data

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	Specific Conductance µmhos/cm @25°C	pH STU	Temperature Deg C	Eh mV	Dissolved Oxygen mg/L	Turbidity (field) NTU	Flow Rate cfs								
4/28/2015	XX	LTC4LX78C	22600	7.5	12.1	-151	D2	D3									
7/15/2015	XX	LTC4LX7C4	21500	6.9	22.7	-178	D2	D3									
10/27/2015	XX	LTC4LX7HD	29100	7.6	9.4	-133	D2	D3									
4/5/2016	XX	LTC4LX863	19950	5.5	10.9	100	D2	D3									
7/26/2016	XX	LTC4LX8AD	29200	6.3	27.1	-6	D2	D3									
10/25/2016	XX	LTC4LX8IC	25800	6.3	14.7	113	D2	1416									
4/18/2017	XX	LTC4LX96I	26400	6.3	12.7	-102	D2	1009									
7/25/2017	XX	LTC4LX9CG	25900	7.3	20.8	-141	D2	156									
10/24/2017	XX	LTC4LX9GB	29800	7.6	22.2	-12	D2	126									
4/3/2018	XX	LTC4LXA2A	11520	7	12.7	-41	D2	198									
7/17/2018	XX	LTC4LXABB	26000	7.2	23.1	-127	D2	190									
10/2/2018	XX	LTC4LXB09	23000	7.5	15.4	-76	D2	7.84									
4/23/2019	XX	LTC4LXB56	13730	7	9.6	-6	7.5	1733									
7/16/2019	XX	LTC4LXBBI	21908	7.1	26.1	7	D2	609									
10/29/2019	XX	LTC4LXBHB	18730	7.1	15.2	-59	D2	1407									
4/28/2020	XX	LTC4LXCCI	17490	6.6	12.6	-20	2.8	D3									
7/21/2020	XX	LTC4LXCHB	25800	5.9	29	-311	1.1	D3									
10/27/2020	XX	LTC4LXD2F	21900	7.5	12.8	-299	D2	741									
4/6/2021	XX	LTC4LXDBH	17300	7.4	13	52	2.2	D3									
7/13/2021	XX	LTC4LXDJ9	21200	7.2	23.9	-71	0.5	D3									
10/5/2021	XX	LTC4LXE5H	18480	7.2	25.1	-41	0.9	4.4									
5/26/2022	XX	LTC4LXF09	18909	7.5	22.1	46	0.2	D3									
7/19/2022	XX	LTC4LXF87	22260	6.8	26.4	-98	FK	D3									
10/4/2022	XX	LTC4LXFI8	21263	6.7	16.3	-62	0.3	D3	0.0071								
4/18/2023	XX	LTC4LXGHJ	20000	7.5	13.1	-113	1.3	D3	0.0071								
7/11/2023	XX	LTC4LXH81	19380	7.1	25.2	-135	0.3	66.5	0.0071								
10/2/2023	XX	LTC4LX059	17673	6.8	23.4	-108	0.1	D3	0.0071								
4/2/2024	XX	LTC4LX11J	12151	7.1	13.5	-39	0.4	D3	0.0071								
7/16/2024	XX	LTC4LX1D1	18034	7	27.5	-40	0.5	D3	0.0071								
7/18/2024	XX	LTC4LX1H9	19800	6.9	31.9	-50	0.1	D3	0.0071								
10/8/2024	XX	LTC4LX1IC	22146	6.8	19.6	-46	0.1	D3	0.0071								

DATA SUMMARY TABLE

Leachate - Field Data

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			Specific Conductance	pH	Temperature	Eh	Dissolved Oxygen	Turbidity (field)	Flow Rate
Date	Type	Sample ID	µmhos/cm @25°C	STU	Deg C	mV	mg/L	NTU	cfs

Units Abbreviations:

µmhos/cm @25°C - MICROSIEMENS PER CENTIMETER
cfs - CUBIC FEET PER SECOND
Deg C - DEGREES CELCIUS (TEMPERATURE)
mg/L - MILLIGRAMS PER LITER
mV - MILLIVOLTS
NTU - NEPHELOMETRIC TURBIDITY UNIT (TURBIDITY)
STU - STANDARD PH UNIT

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

D2 - Sample too dark to read D.O. reading.
D3 - Sample too dark to take reading.
FK - Outside range of available field kits.

REPORT PREPARED: 1/7/2025 14:29
FOR: Juniper Ridge Landfill
DATE RANGE: 1/1/2015 - 12/31/2024

DATA SUMMARY TABLE

Leachate - Inorganics Group 1 of 2

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR) Date	Type	Sample ID	Total Kjeldahl Nitrogen mg/L	Ammonia (N) mg/L	Nitrate (N) mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L	Total Suspended Solids mg/L	Sulfate mg/L	Sulfide mg/L	Ca-mg Hardness (CaCO3) mg/L	Bicarbonate Alkalinity (CaCO3) mg/L	Alkalinity (CaCO3) mg/L	Organic Carbon mg/L	Biochemical Oxygen Demand mg/L	Nitrite/Nitrate - (N) mg/L	Chemical Oxygen Demand mg/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	800	636	48 U		10080	38	320 U	40	1738	3560	3560	580	1284		2955
7/15/2015	XX	LTC4LX7C4				2.93	17940	40	800			4710		373		10 U	
10/27/2015	XX	LTC4LX7HD				2.99	15800	17	2670			3850		363		3 U	
4/5/2016	XX	LTC4LX863	680	554	30 U		11850	119	205	16	2910	2800	2800	1426	2700		5000
7/26/2016	XX	LTC4LX8AD	550				16460	125	970			3850		1900		0.3 U	
10/25/2016	XX	LTC4LX8IC	990				14380	60	1780			3490		1150		0.05 U	
4/18/2017	XX	LTC4LX96I	1100	830	190		12732	30	640	31	2000	3700	3700	1200	890		3200
7/25/2017	XX	LTC4LX9CG	1300				15448	34	1500			4100		680		0.1 U	
10/24/2017	XX	LTC4LX9GB	1000				15836	13	2700			3400		480		0.1 U	
4/3/2018	XX	LTC4LXA2A	610	520	260		7956	25	1100	11	1400	2200	2200	360	320		1600
7/17/2018	XX	LTC4LXABB	1400				13	42	600 U			3600		450		0.5 U	
10/2/2018	XX	LTC4LXB09	1000				12960	29	2900			2900		430		0.05 U	
4/23/2019	XX	LTC4LXB56	470	330	240		8744	40	2200	29	2300	1900	1900	110	760		1400
7/16/2019	XX	LTC4LXBBI	780				12152	180	2000			3000		480		0.5 U	
10/29/2019	XX	LTC4LXBHB	660				9832	48	1900			2600		570		0.073	
4/28/2020	XX	LTC4LXCCI	730	590	210		10160	48	1300	16	1700	2400	2400	880	200		1700
7/21/2020	XX	LTC4LXCHB	780				14610	8	2000			3100		500		0.2	
10/27/2020	XX	LTC4LXD2F	660				10940	29	120			2700		1100 M10		0.05 U	
4/6/2021	XX	LTC4LXDBH	710	600	310		9970	7	1600	4.5	1300	2300	2300	330	150		1700
7/13/2021	XX	LTC4LXDJ9	660				12000	7	500 U			2900		520		0.3 U	
10/5/2021	XX	LTC4LXE5H	890				11040	4.5	32			2800		450		0.05 U	
5/26/2022	XX	LTC4LXF09	970	750	30 U		12340	40	200 U	3.5	1500	3300	3300	430	150		2300
7/19/2022	XX	LTC4LXF87	990				13120	8	20 U			3500		470		0.2 U	
10/4/2022	XX	LTC4LXFI8	1000				11000	16	50			3100		370		0.15	
4/18/2023	XX	LTC4LXGHJ	940	720	7.5 U		11760	10	78	18	1500	3300	3300	530	220		2200
7/11/2023	XX	LTC4LXH81	910				12160	10	100 U			3300		480		0.3 U	
10/2/2023	XX	LTC4LX059	810				10010	2.5 U	43			3400		490		0.3 U	
4/2/2024	XX	LTC4LX11J	490				6930	8.3 U	330			2400		580		0.082	
7/16/2024	XX	LTC4LX1D1	720	630	6 U		9590	25 U	70	22	1400	3200	3200	420	160		2000
10/8/2024	XX	LTC4LX1IC	1100				12710	8.3 U	32			390		490		0.3 U	

Units Abbreviations:

mg/L - MILLIGRAMS PER LITER

Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

M10 - Due to a identified laboratory instrumentation malfunction, this analytical result is likely elevated–the laboratory has fixed the issue.
U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Leachate - Inorganics Group 2 of 2

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)

LT-C4L & LT-C4LR

Date	Type	Sample ID	Chloride mg/L	Bromide mg/L	Cyanide ug/L												
4/28/2015	XX	LTC4LX78C	5420	57	5 U												
7/15/2015	XX	LTC4LX7C4	11600	10 U													
10/27/2015	XX	LTC4LX7HD	16100	30 U													
4/5/2016	XX	LTC4LX863	5910	84.1	5 U												
7/26/2016	XX	LTC4LX8AD	11100	72.7													
10/25/2016	XX	LTC4LX8IC	16100	120													
4/18/2017	XX	LTC4LX96I	12000	75	74												
7/25/2017	XX	LTC4LX9CG	12000	72													
10/24/2017	XX	LTC4LX9GB	14000	20 U													
4/3/2018	XX	LTC4LXA2A	9300	52	43												
7/17/2018	XX	LTC4LXABB	8100	83													
10/2/2018	XX	LTC4LXB09	15000	63													
4/23/2019	XX	LTC4LXB56	12000	83	17												
7/16/2019	XX	LTC4LXBBI	14000	40 U													
10/29/2019	XX	LTC4LXBHB	11000	47													
4/28/2020	XX	LTC4LXCCI	8300	52	5 U												
7/21/2020	XX	LTC4LXCHB	13000	120													
10/27/2020	XX	LTC4LXD2F	7400	77													
4/6/2021	XX	LTC4LXDBH	9900	66	5 U												
7/13/2021	XX	LTC4LXDJ9	6800	59													
10/5/2021	XX	LTC4LXE5H	4800	41													
5/26/2022	XX	LTC4LXF09	5700	69	430												
7/19/2022	XX	LTC4LXF87	6600	75													
10/4/2022	XX	LTC4LXFI8	5700	84													
4/18/2023	XX	LTC4LXGHJ	5000	71	810												
7/11/2023	XX	LTC4LXH81	5000	63													
10/2/2023	XX	LTC4LX059	3900	53													
4/2/2024	XX	LTC4LX11J	2500	31													
7/16/2024	XX	LTC4LX1D1	4200	52	450												
10/8/2024	XX	LTC4LX1IC	5700	82													

Units Abbreviations:

mg/L - MILLIGRAMS PER LITER
ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Leachate - Metal Parameters Group 1 of 2

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	Aluminum mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Calcium mg/L	Chromium mg/L	Cobalt mg/L	Copper mg/L	Iron mg/L	Lead mg/L	Magnesium mg/L	Manganese mg/L	Mercury mg/L
4/28/2015	XX	LTC4LX78C	0.556	0.026	0.209	1.316	0.0012	0.0161	259	0.093	0.034	0.047	11	0.095	265	1.8	0.0005 U
7/15/2015	XX	LTC4LX7C4			0.287				393				9.7		431	1.9	
10/27/2015	XX	LTC4LX7HD			0.29				318				5.9		307	1.6	
4/5/2016	XX	LTC4LX863	0.231	0.005 U	0.157	1.304	0.0006 U	0.0007	656	0.105	0.015	0.003 U	60.3	0.004	309	15.9	0.0005 U
7/26/2016	XX	LTC4LX8AD			0.331				686				44.3		411	7.5	
10/25/2016	XX	LTC4LX8IC			0.403				541				21.7		307	5.95	
4/18/2017	XX	LTC4LX96I	0.72	0.025 U	0.54	1.5	0.003 U	0.003 U	300	0.025 U	0.05 U	0.015 U	8.5	0.03 U	300	1.8	0.0005 U
7/25/2017	XX	LTC4LX9CG			0.6				300				6.7		350	1.5	
10/24/2017	XX	LTC4LX9GB			0.34				310				5.4		310	2.5 U	
4/3/2018	XX	LTC4LXA2A	0.65	0.025 U	0.33	0.77	0.003 U	0.0037	260	0.09	0.05 U	0.015 U	9	0.015 U	190	2.2	0.0005 U
7/17/2018	XX	LTC4LXABB			0.39				300				9.4		280	2.4	
10/2/2018	XX	LTC4LXB09			0.3				290				7.8		270	2.2	
4/23/2019	XX	LTC4LXB56	0.52	0.005 U	0.14	0.86	0.0006 U	0.0006 U	560	0.078	0.01 U	0.023	17	0.007	230	10	0.0005 U
7/16/2019	XX	LTC4LXBBI			0.24				510				5.1		310	4.4	
10/29/2019	XX	LTC4LXBHB			0.23				350				12		280	4.1	
4/28/2020	XX	LTC4LXCCI	0.54	0.005 U	0.25	0.94	0.0006 U	0.0053	300	0.1	0.01 U	0.003 U	6	0.003 U	220	1.7	0.0005 U
7/21/2020	XX	LTC4LXCHB			0.33				310				3.5		340	1.3	
10/27/2020	XX	LTC4LXD2F			0.24				310				7.5		250	14	
4/6/2021	XX	LTC4LXDBH	0.45	0.006	0.2	1.1	0.0033	0.025	240	0.13	0.044	0.093	5	0.035	170	3.1	0.0005 U
7/13/2021	XX	LTC4LXDJ9			0.35				240				5		210	2.2	
10/5/2021	XX	LTC4LXE5H			0.45				200				3.1		200	1.7	
5/26/2022	XX	LTC4LXF09	1.4	0.005 U	0.4	1	0.0012 U	0.0055	250	0.21	0.011	0.0059	12	0.006 U	200	16	Y
7/19/2022	XX	LTC4LXF87			0.42				230				5.8		230	2.2	
10/4/2022	XX	LTC4LXFI8			0.33				250				6.6		220	2.8	
4/18/2023	XX	LTC4LXGHJ	0.81	0.021	0.42	1.1	0.0006 U	0.0065	260	0.29	0.011	0.007	3.2	0.0035	210	1.8	0.0005 U
7/11/2023	XX	LTC4LXH81			0.43				290				2.9		200	2.1	
10/2/2023	XX	LTC4LX059			0.25				290				8.8		200	5.8	
4/2/2024	XX	LTC4LX11J			0.19				370				5.8		140	3.6	
7/16/2024	XX	LTC4LX1D1	0.53	0.035	0.24	0.9	0.001 U	0.0044	260	0.22	0.01	0.0072	4.2	0.027	190	2.2	0.0005 U
10/8/2024	XX	LTC4LX1IC			0.37				200				2.8		190	1.3	

Units Abbreviations:

mg/L - MILLIGRAMS PER LITER

Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.
Y - Laboratory error, results not available.

DATA SUMMARY TABLE

Leachate - Metal Parameters Group 2 of 2

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)

LT-C4L & LT-C4LR

Date	Type	Sample ID	Nickel mg/L	Potassium mg/L	Selenium mg/L	Silver mg/L	Sodium mg/L	Thallium mg/L	Vanadium mg/L	Zinc mg/L	Tin mg/L						
4/28/2015	XX	LTC4LX78C	0.141	1118	0.052	0.0021	3401	0.008 U	0.063	0.258	0.157						
7/15/2015	XX	LTC4LX7C4		1845			8135										
10/27/2015	XX	LTC4LX7HD		1247			5081										
4/5/2016	XX	LTC4LX863	0.096	954	0.005 U	0.0011 U	1681	0.004 U	0.024	0.136	0.015 U						
7/26/2016	XX	LTC4LX8AD		1498			2687										
10/25/2016	XX	LTC4LX8IC		1131			2288										
4/18/2017	XX	LTC4LX96I	0.027	1261	0.098	0.0055 U	3000	0.02 U	0.1	0.031	0.075 U						
7/25/2017	XX	LTC4LX9CG		1300			3100										
10/24/2017	XX	LTC4LX9GB		1300			2600										
4/3/2018	XX	LTC4LXA2A	0.025 U	740	0.043	0.2	1500	0.02 U	0.05 U	0.051	0.075 U						
7/17/2018	XX	LTC4LXABB		1200			2700										
10/2/2018	XX	LTC4LXB09		1100			2400										
4/23/2019	XX	LTC4LXB56	0.022	580	0.017	0.001 U	1300	0.004 U	0.016	0.093	0.015 U						
7/16/2019	XX	LTC4LXBBI		1000			2200										
10/29/2019	XX	LTC4LXBHB		870			1900										
4/28/2020	XX	LTC4LXCCI	0.035	790	0.022	0.001 U	1700	0.004 U	0.039	0.046	0.016						
7/21/2020	XX	LTC4LXCHB		1400			2800										
10/27/2020	XX	LTC4LXD2F		900			2000										
4/6/2021	XX	LTC4LXDBH	0.064	740	0.046	0.001 U	1600	0.025	0.031	0.051	0.015 U						
7/13/2021	XX	LTC4LXDJ9		930			2200										
10/5/2021	XX	LTC4LXE5H		870			2000										
5/26/2022	XX	LTC4LXF09	0.043	1100	0.0082	0.0026	2400	0.004 U	0.01 U	0.014	0.047						
7/19/2022	XX	LTC4LXF87		1100			2500										
10/4/2022	XX	LTC4LXFI8		1000			2100										
4/18/2023	XX	LTC4LXGHJ	0.071	1000	0.011	0.001 U	2500	0.004 U	0.056	0.053	0.015 U						
7/11/2023	XX	LTC4LXH81		1000			2400										
10/2/2023	XX	LTC4LX059		760			2000										
4/2/2024	XX	LTC4LX11J		500			1200										
7/16/2024	XX	LTC4LX1D1	0.054	820	0.0053	0.0013	2000	0.004 U	0.062	0.047	0.041						
10/8/2024	XX	LTC4LX1IC		890			2100										

Units Abbreviations:

mg/L - MILLIGRAMS PER LITER

Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			Chloromethane	Bromomethane	Vinyl Chloride	Chloroethane	Methylene Chloride	Acetone	Carbon Disulfide	1,1-Dichloroethene	1,1-Dichloroethane	trans-1,2-Dichloroethene	Chloroform	1,2-Dichloroethane	Methyl Ethyl Ketone	1,1,1-Trichloroethane	Carbon Tetrachloride
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	20 U	20 U	20 U	50 U	50 U	2400	20 U	10 U	10 U	10 U	10 U	10 U	4400	10 U	10 U
7/15/2015	XX	LTC4LX7C4	20 U	20 U	20 U	50 U	50 U	1400	20 U	10 U	10 U	10 U	10 U	10 U	2000	10 U	10 U
10/27/2015	XX	LTC4LX7HD	20 U	20 U	20 U	50 U	50 U	1200	20 U	10 U	10 U	10 U	10 U	10 U	1300	10 U	10 U
4/5/2016	XX	LTC4LX863	20 U	20 U	20 U	50 U	50 U	2300	20 U	10 U	10 U	10 U	10 U	10 U	5900	10 U	10 U
7/26/2016	XX	LTC4LX8AD	20 U	20 U	20 U	50 U	50 U	2800	20 U	10 U	10 U	10 U	10 U	10 U	8000	10 U	10 U
10/25/2016	XX	LTC4LX8IC	2 U	2 U	2 U	5 U	5 U	2500	5 U	1 U	2 U	2 U	2 U	5	4800	2 U	2 U
4/18/2017	XX	LTC4LX96I	2 U	2 U	2 U	5 U	5 U	1900	2 U	1 U	1 U	1 U	1 U	1 U	2500	1 U	1 U
7/25/2017	XX	LTC4LX9CG	2 U	2 U	2 U	5 U	5 U	1100	2 U	1 U	1 U	1 U	1 U	4	1400	1 U	1 U
10/24/2017	XX	LTC4LX9GB	2 U	2 U	2 U	5 U	5 U	800	2 U	1 U	1 U	1 U	1 U	2	800	1 U	1 U
4/3/2018	XX	LTC4LXA2A	2 U	2 U	2 U	5 U	5.3	1700	2 U	1 U	1 U	1 U	1 U	6.1	1700	1 U	1 U
7/17/2018	XX	LTC4LXABB	2 U	2 U	2 U	5 U	5 U	230	2 U	1 U	1 U	1 U	1 U	1 U	210	1 U	1 U
10/2/2018	XX	LTC4LXB09	20 U	20 U	20 U	50 U	50 U	1000	20 U	10 U	10 U	10 U	10 U	10 U	970	10 U	10 U
4/23/2019	XX	LTC4LXB56	40 U	40 U	40 U	100 U	100 U	2000	40 U	20 U	20 U	20 U	20 U	20 U	2000	20 U	20 U
7/16/2019	XX	LTC4LXBBI	20 U	20 U	20 U	50 U	50 U	1200	20 U	10 U	10 U	10 U	10 U	10 U	1000	10 U	10 U
10/29/2019	XX	LTC4LXBHB	20 U	20 U	20 U	50 U	50 U	2100	20 U	10 U	10 U	10 U	10 U	10 U	2100	10 U	10 U
4/28/2020	XX	LTC4LXCCI	20 U	20 U	10 U	20 U	10 U	1200	20 U	5 U	10 U	10 U	10 U	10 U	1000	10 U	10 U
7/21/2020	XX	LTC4LXCHB	2 U	2 U	1 U	2 U	1.2	560	2 U	0.5 U	1 U	1 U	1 U	1.8	300	1 U	1 U
10/27/2020	XX	LTC4LXD2F	20 U	20 U	10 U	20 U	30	1700	20 U	5 U	10 U	10 U	10 U	10 U	2100	10 U	10 U
4/6/2021	XX	LTC4LXDBH	2 U	2 U	1 U	2 U	1.1	970	2 U	0.5 U	1 U	1 U	1 U	2.7	770	1 U	1 U
7/13/2021	XX	LTC4LXDJ9	2 U	2 U	1 U	2 U	1 U	800	3.6	0.5 U	1 U	1 U	1 U	1 U	660	1 U	1 U
10/5/2021	XX	LTC4LXE5H	2 U	2 U	1 U	2 U	1.9	450	2 U	0.5 U	1 U	1 U	1 U	1.7	340	1 U	1 U
5/26/2022	XX	LTC4LXF09	2 U	2 U	1 U	2 U	1 U	260	2 U	0.5 U	1 U	1 U	1 U	1.8	180	1 U	1 U
7/19/2022	XX	LTC4LXF87	2 U	2 U	1 U	2 U	1 U	100	2 U	0.5 U	1 U	1 U	1 U	1.8	92	1 U	1 U
10/4/2022	XX	LTC4LXFI8	2 U	2 U	1 U	2 U	1 U	210	2 U	0.5 U	1 U	1 U	1 U	2.7	200	1 U	1 U
4/18/2023	XX	LTC4LXGHJ	2 U	2 U	1.5	2 U	1 U	1300	2 U	0.5 U	1 U	1 U	1 U	2	900	1 U	1 U
7/11/2023	XX	LTC4LXH81	2 U	2 U	1 U	2 U	1 U	430	2 U	0.5 U	1 U	1 U	1 U	2.4	300	1 U	1 U
10/2/2023	XX	LTC4LX059	2 U	2 U	1 U	2 U	30	930	2 U	0.5 U	1	5.3	1 U	5.3	780	1 U	1 U
4/2/2024	XX	LTC4LX11J	2 U	2 U	1 U	2 U	1.2	1300	2 U	0.5 U	1 U	1 U	1 U	3.4	1100	1 U	1 U
7/18/2024	XX	LTC4LX1H9	2 U	2 U	1.1	2 U	1 U	720	2 U	0.5 U	1 U	1 U	1 U	2.2	550	1 U	1 U
10/8/2024	XX	LTC4LX1IC	2 U	2 U	1.6	2 U	1 U	820	2 U	0.5 U	1 U	1 U	1 U	2.4	560	1 U	1 U
QCBT																	
4/27/2015	XX	BTXXXX79E	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/27/2015	XX	BTXXXX79F	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/27/2015	XX	BTXXXX79J	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
7/15/2015	XX	BTXXXX7DB	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
10/27/2015	XX	BTXXXX7II	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
7/26/2016	XX	BTXXXX8BF	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
10/25/2016	XX	BTXXXX8JE	2 U	2 U	2 U	5 U	5 U	10 U	5 U	1 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U
4/18/2017	XX	BTXXXX980	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/25/2017	XX	BTXXXX9DI	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/24/2017	XX	BTXXXX9HD	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/3/2018	XX	BTXXXXHG3	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/17/2018	XX	BTXXXXACD	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/2/2018	XX	BTXXXXB1B	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/23/2019	XX	BTXXXXB68	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/16/2019	XX	BTXXXXBCJ	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/29/2019	XX	BTXXXXBIC	2 U	2 U	2 U	5 U	5 U	10 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 1 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Chloromethane ug/L	Bromomethane ug/L	Vinyl Chloride ug/L	Chloroethane ug/L	Methylene Chloride ug/L	Acetone ug/L	Carbon Disulfide ug/L	1,1-Dichloroethene ug/L	1,1-Dichloroethane ug/L	trans-1,2-Dichloroethene ug/L	Chloroform ug/L	1,2-Dichloroethane ug/L	Methyl Ethyl Ketone ug/L	1,1,1-Trichloroethane ug/L	Carbon Tetrachloride ug/L
4/28/2020	XX	BTXXXXCE4	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/21/2020	XX	BTXXXXCIC	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/27/2020	XX	BTXXXXD3G	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/6/2021	XX	BTXXXXDDJ	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/13/2021	XX	BTXXXXE0B	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/5/2021	XX	BTXXXXE6I	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
5/26/2022	XX	BTXXXXF1A	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/19/2022	XX	BTXXXXFE7	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/4/2022	XX	BTXXXXFJ9	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/18/2023	XX	BTXXXXH24	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/11/2023	XX	BTXXXXH92	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/2/2023	XX	BTXXXX076	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
4/2/2024	XX	BTXXXX151	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
7/18/2024	XX	BTXXXXI9E	2 U	2 U	0.2 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U
10/8/2024	XX	BTXXXX208	2 U	2 U	1 U	2 U	1 U	10 U	2 U	0.5 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			Vinyl Acetate	Bromo dichloro methane	1,2-Dichloro propane	cis-1,3-Dichloro propene	Trichloroethene	Dibromo chloromethane	1,1,2-Trichloroethane	Benzene	trans-1,3-Dichloro propene	Bromoform	4-Methyl-2-Pentanone	2-Hexanone	Tetrachloro ethene	1,1,2,2-Tetrachloro ethane	Toluene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	100 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	100 U	100 U	10 U	10 U	10
7/15/2015	XX	LTC4LX7C4	100 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	100 U	100 U	10 U	10 U	10
10/27/2015	XX	LTC4LX7HD	100 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	100 U	100 U	10 U	10 U	10
4/5/2016	XX	LTC4LX863	100 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	100 U	100 U	10 U	10 U	20
7/26/2016	XX	LTC4LX8AD	100 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	100 U	100 U	10 U	10 U	20
10/25/2016	XX	LTC4LX8IC	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	2	2 U	2 U	50	20	2 U	2 U	17
4/18/2017	XX	LTC4LX96I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	4	0.5 U	2 U	40	10 U	1 U	1 U	14
7/25/2017	XX	LTC4LX9CG	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	5	0.5 U	2 U	30	10 U	1 U	1 U	19
10/24/2017	XX	LTC4LX9GB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	2	0.5 U	2 U	20	10 U	1 U	1 U	6
4/3/2018	XX	LTC4LXA2A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	5.6	0.5	2 U	35	10 U	1 U	1 U	26
7/17/2018	XX	LTC4LXABB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1	0.5 U	2 U	10 U	10 U	1 U	1 U	4.4
10/2/2018	XX	LTC4LXB09	100 U	5 U	10 U	5 U	10 U	10 U	10 U	10 U	5 U	20 U	100 U	100 U	10 U	10 U	26
4/23/2019	XX	LTC4LXB56	200 U	10 U	20 U	10 U	20 U	20 U	20 U	20 U	10 U	40 U	200 U	200 U	20 U	20 U	25
7/16/2019	XX	LTC4LXBBI	100 U	5 U	10 U	5 U	10 U	10 U	10 U	10 U	5 U	20 U	100 U	100 U	10 U	10 U	16
10/29/2019	XX	LTC4LXBHB	100 U	5 U	10 U	5 U	10 U	10 U	10 U	10 U	5 U	20 U	100 U	100 U	10 U	10 U	53
4/28/2020	XX	LTC4LXCCI	100 U	5 U	10 U	5 U	10 U	10 U	10 U	10 U	5 U	20 U	100 U	100 U	10 U	10 U	26
7/21/2020	XX	LTC4LXCHB	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	5	0.5 U	2 U	20	10 U	1 U	1 U	16
10/27/2020	XX	LTC4LXD2F	100 U	5 U	10 U	5 U	10 U	10 U	10 U	10 U	5 U	20 U	100 U	100 U	10 U	10 U	24
4/6/2021	XX	LTC4LXDBH	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	4.9	0.5 U	2 U	33	16	1 U	1 U	24
7/13/2021	XX	LTC4LXDJ9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	5.5	0.5 U	2 U	22	10 U	1 U	1 U	28
10/5/2021	XX	LTC4LXE5H	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	3.7	0.5 U	2 U	19	10 U	1 U	1 U	17
5/26/2022	XX	LTC4LXF09	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	3.7	0.5 U	2 U	21	10 U	1 U	1 U	37
7/19/2022	XX	LTC4LXF87	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	3.8	0.5 U	2 U	12	10 U	1 U	1 U	74
10/4/2022	XX	LTC4LXFI8	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	4.8	0.5 U	2 U	10 U	10 U	1 U	1 U	16
4/18/2023	XX	LTC4LXGHJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	6.6	0.5 U	2 U	46	10 U	1 U	1 U	33
7/11/2023	XX	LTC4LXH81	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	6.2	0.5 U	2 U	27	10 U	1 U	1 U	30
10/2/2023	XX	LTC4LX059	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	5.5	0.5 U	2 U	33	10 U	1.3	1 U	48
4/2/2024	XX	LTC4LX11J	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	4.6	0.5 U	2 U	28	10 U	1 U	1 U	56
7/18/2024	XX	LTC4LX1H9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	4.1	0.5 U	2 U	18	10 U	1 U	1 U	29
10/8/2024	XX	LTC4LX1IC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	7.7	0.5 U	2 U	19	10 U	1 U	1 U	29
QCBT																	
4/27/2015	XX	BTXXXX79E	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79F	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79J	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
7/15/2015	XX	BTXXXX7DB	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
10/27/2015	XX	BTXXXX7II	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
7/26/2016	XX	BTXXXX8BF	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
10/25/2016	XX	BTXXXX8JE	10 U	0.5 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U	2 U	10 U	10 U	2 U	2 U	1 U
4/18/2017	XX	BTXXXX980	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/25/2017	XX	BTXXXX9DI	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/24/2017	XX	BTXXXX9HD	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/3/2018	XX	BTXXXXHG3	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/17/2018	XX	BTXXXXACD	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/2/2018	XX	BTXXXXB1B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/23/2019	XX	BTXXXXB68	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/16/2019	XX	BTXXXXBCJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/29/2019	XX	BTXXXXBIC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 2 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Vinyl Acetate ug/L	Bromo dichloro methane ug/L	1,2-Dichloro propane ug/L	cis-1,3-Dichloro propene ug/L	Trichloroethene ug/L	Dibromo chloromethane ug/L	1,1,2-Trichloroethane ug/L	Benzene ug/L	trans-1,3-Dichloro propene ug/L	Bromoform ug/L	4-Methyl-2-Pentanone ug/L	2-Hexanone ug/L	Tetrachloro ethene ug/L	1,1,2,2-Tetrachloro ethane ug/L	Toluene ug/L
4/28/2020	XX	BTXXXXCE4	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/21/2020	XX	BTXXXXCIC	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/27/2020	XX	BTXXXXD3G	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/6/2021	XX	BTXXXXDDJ	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/13/2021	XX	BTXXXXE0B	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/5/2021	XX	BTXXXXE6I	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
5/26/2022	XX	BTXXXXF1A	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/19/2022	XX	BTXXXXFE7	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/4/2022	XX	BTXXXXFJ9	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/18/2023	XX	BTXXXXH24	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/11/2023	XX	BTXXXXH92	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/2/2023	XX	BTXXXX076	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
4/2/2024	XX	BTXXXX151	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
7/18/2024	XX	BTXXXXI9E	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U
10/8/2024	XX	BTXXXX208	10 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.5 U	2 U	10 U	10 U	1 U	1 U	1 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

REPORT PREPARED: 1/7/2025 14:26
FOR: Juniper Ridge Landfill
DATE RANGE: 1/1/2015 - 12/31/2024

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			Chlorobenzene	Ethylbenzene	Styrene	o-Xylene	m,p-Xylene	Tetra hydrofuran	Trichloro fluoromethane	cis-1,2-Dichloroethene	Bromochloro methane	Dibromo methane	1,2-Dibromoethane	1,1,1,2-Tetrachloro ethane	1,2,3-Trichloro propane	1,2-Dibromo-3-Chloropropane	1,4-Dichloro benzene
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	10 U	10 U	10 U	10 U	10 U		50 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	10 U
7/15/2015	XX	LTC4LX7C4	10 U	10 U	10 U	10 U	10 U		50 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	10 U
10/27/2015	XX	LTC4LX7HD	10 U	10 U	10 U	10 U	10 U		50 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	10 U
4/5/2016	XX	LTC4LX863	10 U	10	10 U	10 U	10 U	400	50 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	10 U
7/26/2016	XX	LTC4LX8AD	10 U	10 U	10 U	10 U	10 U	600	50 U	10 U	10 U	10 U	20 U	10 U	10 U	20 U	10 U
10/25/2016	XX	LTC4LX8IC	2 U	13	1 U	3	6	400	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	LTC4LX96I	1 U	7	1 U	3	6	500	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/25/2017	XX	LTC4LX9CG	1 U	7	1 U	5	9	500	5 U	1	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
10/24/2017	XX	LTC4LX9GB	1 U	3	1 U	2	3	400	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	LTC4LXA2A	1 U	7.5	1.1	5	9.6	400	5 U	1.4	1 U	1 U	2 U	1 U	0.5 U	2 U	1
7/17/2018	XX	LTC4LXABB	1 U	1.5	1 U	1 U	1.7	110	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
10/2/2018	XX	LTC4LXB09	10 U	10 U	10 U	10 U	11	430	50 U	10 U	10 U	10 U	20 U	10 U	5 U	20 U	10 U
4/23/2019	XX	LTC4LXB56	20 U	20 U	20 U	20 U	20 U	280	100 U	20 U	20 U	20 U	40 U	20 U	10 U	40 U	20 U
7/16/2019	XX	LTC4LXBBI	10 U	10 U	10 U	10 U	10	390	50 U	10 U	10 U	10 U	20 U	10 U	5 U	20 U	10 U
10/29/2019	XX	LTC4LXBHB	10 U	12	10 U	10 U	10 U	370	50 U	10 U	10 U	10 U	20 U	10 U	5 U	20 U	10 U
4/28/2020	XX	LTC4LXCCI	10 U	10 U	10 U	10 U	10 U	420	20 U	10 U	10 U	10 U	5 U	10 U	5 U	20 U	10 U
7/21/2020	XX	LTC4LXCHB	1 U	7.8	1 U	5.3	9.1	490	2 U	1.5	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1
10/27/2020	XX	LTC4LXD2F	10 U	10 U	10 U	10 U	12	350	20 U	10 U	10 U	10 U	5 U	10 U	5 U	20 U	10 U
4/6/2021	XX	LTC4LXDBH	1 U	10	1 U	6.9	13	320	2 U	2.2	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.2
7/13/2021	XX	LTC4LXDJ9	1 U	11	1 U	8	13	480	2 U	2.5	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.3
10/5/2021	XX	LTC4LXE5H	1 U	6.6	1 U	4.7	8.5	360	2 U	1.6	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
5/26/2022	XX	LTC4LXF09	1 U	6.8	1 U	4.8	9	410	2 U	2.2	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/19/2022	XX	LTC4LXF87	1 U	7.7	1 U	6.3	11	420	2 U	2.5	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/4/2022	XX	LTC4LXFI8	1 U	8.6	1 U	6.2	12	410	2 U	1.8	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.1
4/18/2023	XX	LTC4LXGHJ	1 U	12	1 U	8.5	16	480	2 U	2.5	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.3
7/11/2023	XX	LTC4LXH81	1 U	13	1.2	11	19	450	2 U	3.2	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.3
10/2/2023	XX	LTC4LX059	1 U	13	2	9.9	20	560	2 U	3.1	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1.3
4/2/2024	XX	LTC4LX11J	1 U	10	1.2	6.7	15	310	2 U	2.8	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/18/2024	XX	LTC4LX1H9	1 U	8.9	1 U	6.5	13	450	2 U	2	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/8/2024	XX	LTC4LX1IC	1 U	9.5	1 U	7.2	14	740	2 U	2.1	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
QCBT																	
4/27/2015	XX	BTXXXX79E	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79F	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/27/2015	XX	BTXXXX79J	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
7/15/2015	XX	BTXXXX7DB	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
10/27/2015	XX	BTXXXX7II	2 U	1 U	1 U	1 U	1 U		5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
7/26/2016	XX	BTXXXX8BF	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
10/25/2016	XX	BTXXXX8JE	2 U	1 U	1 U	1 U	1 U	10 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
4/18/2017	XX	BTXXXX980	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/25/2017	XX	BTXXXX9DI	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
10/24/2017	XX	BTXXXX9HD	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/3/2018	XX	BTXXXXHG3	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/17/2018	XX	BTXXXXACD	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
10/2/2018	XX	BTXXXXB1B	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
4/23/2019	XX	BTXXXXB68	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
7/16/2019	XX	BTXXXXBCJ	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U
10/29/2019	XX	BTXXXXBIC	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	2 U	1 U	0.5 U	2 U	1 U

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 3 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	Chlorobenzene ug/L	Ethylbenzene ug/L	Styrene ug/L	o-Xylene ug/L	m,p-Xylene ug/L	Tetra hydrofuran ug/L	Trichloro fluoromethane ug/L	cis-1,2-Dichloroethene ug/L	Bromochloro methane ug/L	Dibromo methane ug/L	1,2-Dibromoethane ug/L	1,1,1,2-Tetrachloro ethane ug/L	1,2,3-Trichloro propane ug/L	1,2-Dibromo-3-Chloropropane ug/L	1,4-Dichloro benzene ug/L
4/28/2020	XX	BTXXXXCE4	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/21/2020	XX	BTXXXXCIC	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/27/2020	XX	BTXXXXD3G	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/6/2021	XX	BTXXXXDDJ	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/13/2021	XX	BTXXXXE0B	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/5/2021	XX	BTXXXXE6I	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
5/26/2022	XX	BTXXXXF1A	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/19/2022	XX	BTXXXXFE7	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/4/2022	XX	BTXXXXFJ9	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/18/2023	XX	BTXXXXH24	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/11/2023	XX	BTXXXXH92	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/2/2023	XX	BTXXXX076	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
4/2/2024	XX	BTXXXX151	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
7/18/2024	XX	BTXXXXI9E	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U
10/8/2024	XX	BTXXXX208	1 U	1 U	1 U	1 U	1 U	10 U	2 U	1 U	1 U	1 U	0.5 U	1 U	0.5 U	2 U	1 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			1,2-Dichlorobenzene	Acrylonitrile	Diethyl ether	trans-1,4-Dichloro-2-butene	Iodomethane										
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L										
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	10 U	200 U		50 U	50 U										
7/15/2015	XX	LTC4LX7C4	10 U	200 U		50 U	50 U										
10/27/2015	XX	LTC4LX7HD	10 U	200 U		50 U	50 U										
4/5/2016	XX	LTC4LX863	10 U	200 U	50 U	50 U	50 U										
7/26/2016	XX	LTC4LX8AD	10 U	200 U	50 U	50 U	50 U										
10/25/2016	XX	LTC4LX8IC	1 U	20 U	8	5 U	5 U										
4/18/2017	XX	LTC4LX96I	1 U	20 U	5 U	5 U	5 U										
7/25/2017	XX	LTC4LX9CG	1 U	20 U	5 U	5 U	5 U										
10/24/2017	XX	LTC4LX9GB	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	LTC4LXA2A	1 U	20 U	5 U	5 U	5 U										
7/17/2018	XX	LTC4LXABB	1 U	20 U	5 U	5 U	5 U										
10/2/2018	XX	LTC4LXB09	10 U	200 U	50 U	50 U	50 U										
4/23/2019	XX	LTC4LXB56	20 U	400 U	100 U	100 U	100 U										
7/16/2019	XX	LTC4LXBBI	10 U	200 U	50 U	50 U	50 U										
10/29/2019	XX	LTC4LXBHB	10 U	200 U	50 U	50 U	50 U										
4/28/2020	XX	LTC4LXCCI	10 U	200 U	20 U	50 U	50 U										
7/21/2020	XX	LTC4LXCHB	1 U	20 U	6.5	5 U	5 U										
10/27/2020	XX	LTC4LXD2F	10 U	200 U	20 U	50 U	50 U										
4/6/2021	XX	LTC4LXDBH	1 U	20 U	2 U	5 U	5 U										
7/13/2021	XX	LTC4LXDJ9	1 U	20 U	9.3	5 U	5 U										
10/5/2021	XX	LTC4LXE5H	1 U	20 U	7.3	5 U	5 U										
5/26/2022	XX	LTC4LXF09	1 U	20 U	16	5 U	5 U										
7/19/2022	XX	LTC4LXF87	1 U	20 U	14	5 U	5 U										
10/4/2022	XX	LTC4LXFI8	1 U	20 U	11	5 U	5 U										
4/18/2023	XX	LTC4LXGHJ	1 U	20 U	16	5 U	5 U										
7/11/2023	XX	LTC4LXH81	1 U	20 U	12	5 U	5 U										
10/2/2023	XX	LTC4LX059	1 U	20 U	35	5 U	5 U										
4/2/2024	XX	LTC4LX11J	1 U	20 U	2 U	5 U	5 U										
7/18/2024	XX	LTC4LX1H9	1 U	20 U	2 U	5 U	5 U										
10/8/2024	XX	LTC4LX1IC	1 U	20 U	12	5 U	5 U										
QCBT																	
4/27/2015	XX	BTXXXX79E	1 U	20 U		5 U	5 U										
4/27/2015	XX	BTXXXX79F	1 U	20 U		5 U	5 U										
4/27/2015	XX	BTXXXX79J	1 U	20 U		5 U	5 U										
7/15/2015	XX	BTXXXX7DB	1 U	20 U		5 U	5 U										
10/27/2015	XX	BTXXXX7II	1 U	20 U		5 U	5 U										
7/26/2016	XX	BTXXXX8BF	1 U	20 U	5 U	5 U	5 U										
10/25/2016	XX	BTXXXX8JE	1 U	20 U	5 U	5 U	5 U										
4/18/2017	XX	BTXXXX980	1 U	20 U	5 U	5 U	5 U										
7/25/2017	XX	BTXXXX9DI	1 U	20 U	5 U	5 U	5 U										
10/24/2017	XX	BTXXXX9HD	1 U	20 U	5 U	5 U	5 U										
4/3/2018	XX	BTXXXXHG3	1 U	20 U	5 U	5 U	5 U										
7/17/2018	XX	BTXXXXACD	1 U	20 U	5 U	5 U	5 U										
10/2/2018	XX	BTXXXXB1B	1 U	20 U	5 U	5 U	5 U										
4/23/2019	XX	BTXXXXB68	1 U	20 U	5 U	5 U	5 U										
7/16/2019	XX	BTXXXXBCJ	1 U	20 U	5 U	5 U	5 U										
10/29/2019	XX	BTXXXXBIC	1 U	20 U	5 U	5 U	5 U										

DATA SUMMARY TABLE

Leachate - Volatile Organic Compounds Group 4 of 4

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(QCBT) Date	Type	Sample ID	1,2-Dichloro benzene ug/L	Acrylonitrile ug/L	Diethyl ether ug/L	trans-1,4-Dichloro-2-butene ug/L	Iodomethane ug/L										
4/28/2020	XX	BTXXXXCE4	1 U	20 U	2 U	5 U	5 U										
7/21/2020	XX	BTXXXXCIC	1 U	20 U	2 U	5 U	5 U										
10/27/2020	XX	BTXXXXD3G	1 U	20 U	2 U	5 U	5 U										
4/6/2021	XX	BTXXXXDDJ	1 U	20 U	2 U	5 U	5 U										
7/13/2021	XX	BTXXXXE0B	1 U	20 U	2 U	5 U	5 U										
10/5/2021	XX	BTXXXXE6I	1 U	20 U	2 U	5 U	5 U										
5/26/2022	XX	BTXXXXF1A	1 U	20 U	2 U	5 U	5 U										
7/19/2022	XX	BTXXXXFE7	1 U	20 U	2 U	5 U	5 U										
10/4/2022	XX	BTXXXXFJ9	1 U	20 U	2 U	5 U	5 U										
4/18/2023	XX	BTXXXXH24	1 U	20 U	2 U	5 U	5 U										
7/11/2023	XX	BTXXXXH92	1 U	20 U	2 U	5 U	5 U										
10/2/2023	XX	BTXXXX076	1 U	20 U	2 U	5 U	5 U										
4/2/2024	XX	BTXXXX151	1 U	20 U	2 U	5 U	5 U										
7/18/2024	XX	BTXXXXI9E	1 U	20 U	2 U	5 U	5 U										
10/8/2024	XX	BTXXXX208	1 U	20 U	2 U	5 U	5 U										

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 1 of 7

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR)			Phenol	Bis (2-Chloroethyl) ether	2-Chlorophenol	1,3-Dichloro benzene (SVOC)	1,4-Dichloro benzene (SVOC)	Benzyl Alcohol	1,2-Dichloro benzene (SVOC)	2-Methylphenol	Bis(2-Chloroiso propyl) ether	N-Nitroso-di-n-propylamine	Hexachloro ethane	Nitrobenzene	Isophorone	2-Nitrophenol	2,4-Dimethyl phenol
Date	Type	Sample ID	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	110	47 U	47 U	47 U	47 U	94 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4/5/2016	XX	LTC4LX863	210	200 U	200 U	200 U	200 U	400 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	75	14 U	14 U	14 U	14 U	28 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
4/3/2018	XX	LTC4LXA2A	54	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4/23/2019	XX	LTC4LXB56	85	10 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U
4/28/2020	XX	LTC4LXCCI		9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
4/28/2020	XX	LTC4LXCCIDL	190														
4/6/2021	XX	LTC4LXDBH		9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4/6/2021	XX	LTC4LXDBHDL	200														
5/26/2022	XX	LTC4LXF09		9.3 U	9.3 U	9.3 U	9.3 U	19 U	9.3 U	11	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U
5/26/2022	XX	LTC4LXF09DL	94														
4/18/2023	XX	LTC4LXGHJ		10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4/18/2023	XX	LTC4LXGHJDL	84														
7/16/2024	XX	LTC4LX1D1	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

REPORT PREPARED: 1/16/2025 11:55
FOR: Juniper Ridge Landfill
DATE RANGE: 1/1/2015 - 12/31/2024

DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 2 of 7

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	Bis(2-Chloroethoxy)methane ug/L	2,4-Dichlorophenol ug/L	1,2,4-Trichlorobenzene (SVOC) ug/L	Naphthalene (SVOC) ug/L	4-Chloroaniline ug/L	Hexachlorobutadiene (SVOC) ug/L	4-Chloro-3-Methylphenol ug/L	2-Methylnaphthalene ug/L	Hexachlorocyclopentadiene ug/L	2,4,6-Trichlorophenol ug/L	2,4,5-Trichlorophenol ug/L	2-Chloronaphthalene ug/L	2-Nitroaniline ug/L	Dimethyl Phthalate ug/L	Acenaphthylene ug/L
4/28/2015	XX	LTC4LX78C	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	120 U	47 U	120 U	47 U	47 U
4/5/2016	XX	LTC4LX863	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	500 U	200 U	500 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	14 U	14 U	14 U	20	14 U	14 U	14 U	14 U	14 U	14 U	36 U	14 U	36 U	14 U	14 U
4/3/2018	XX	LTC4LXA2A	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	24 U	9.4 U	9.4 U
4/23/2019	XX	LTC4LXB56	10 U	10 U	10 U	6.7	10 U	10 U	10 U	1.4	50 U	10 U	10 U	10 U	50 U	10 U	1 U
4/28/2020	XX	LTC4LXCCI	9.5 U	9.5 U	9.5 U	20	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	24 U	9.5 U	9.5 U
4/6/2021	XX	LTC4LXDBH	9.4 U	9.4 U	9.4 U	17	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	24 U	9.4 U	9.4 U
5/26/2022	XX	LTC4LXF09	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	23 U	9.3 U	23 U	9.3 U	9.3 U
4/18/2023	XX	LTC4LXGHJ	10 U	10 U	10 U	16	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	25 U	10 U	10 U
7/16/2024	XX	LTC4LX1D1	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 UL	9.5 U	9.5 U	9.5 U	24 U	9.5 ULL	24 U	9.5 U	9.5 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample

Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

UL - Not Detected above the laboratory reporting limit. Flagged compound did not meet DoD criteria in the LCS and/or LCSD prepared and/or analyzed concurrently with the sample. The laboratory's policy is to qualify with these qualifiers regardless of whether it is a Department of Defense job.

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DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 3 of 7

SME
SEVEE & MAHER ENGINEERS

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	2,6-Dinitrotoluene ug/L	3-Nitroaniline ug/L	Acenaphthene ug/L	2,4-Dinitrophenol ug/L	4-Nitrophenol ug/L	Dibenzofuran ug/L	2,4-Dinitrotoluene ug/L	Diethyl phthalate ug/L	4-Chlorophenyl-phenylether ug/L	Fluorene ug/L	4-Nitroaniline ug/L	4,6-Dinitro-2-methylphenol ug/L	N-Nitroso diphenylamine ug/L	4-Bromophenyl-phenylether ug/L	Hexachloro benzene ug/L
4/28/2015	XX	LTC4LX78C	47 U	120 U	47 U	120 U	120 U	47 U	47 U	47 U	47 U	47 U	120 U	120 U	47 U	47 U	47 U
4/5/2016	XX	LTC4LX863	200 U	500 U	200 U	500 U	500 U	200 U	200 U	200 U	200 U	200 U	500 U	500 U	200 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	14 U	36 U	14 U	36 U	36 U	14 U	14 U	14 U	14 U	14 U	36 U	36 U	14 U	14 U	14 U
4/3/2018	XX	LTC4LXA2A	9.4 U	24 U	9.4 U	24 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	24 U	9.4 U	9.4 U	9.4 U
4/23/2019	XX	LTC4LXB56	50 U	50 U	1.5	100 U	50 U	10 U	50 U	50 U	10 U	1 U	50 U	50 U	10 U	10 U	10 U
4/28/2020	XX	LTC4LXCCI	9.5 U	24 U	9.5 U	24 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	24 U	9.5 U	9.5 U	9.5 U
4/6/2021	XX	LTC4LXDBH	9.4 U	24 U	9.4 U	24 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	24 U	9.4 U	9.4 U	9.4 U
5/26/2022	XX	LTC4LXF09	9.3 U	23 U	9.3 U	23 U	23 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	23 U	23 U	9.3 U	9.3 U	9.3 U
4/18/2023	XX	LTC4LXGHJ	10 U	25 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 U	10 U	10 U	10 U
7/16/2024	XX	LTC4LX1D1	9.5 U	24 U	9.5 U	24 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	24 U	9.5 U	9.5 U	9.5 U

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DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 4 of 7

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

(LT-C4L & LT-C4LR) Date	Type	Sample ID	Pentachlorophenol ug/L	Phenanthrene ug/L	Anthracene ug/L	Di-n-butylphthalate ug/L	Fluoranthene ug/L	Pyrene ug/L	Butylbenzylphthalate ug/L	3,3-Dichlorobenzidine ug/L	Benzo(a)Anthracene ug/L	Chrysene ug/L	Bis(2-Ethylhexyl)phthalate ug/L	Di-n-octylphthalate ug/L	Benzo(b)Fluoranthene ug/L	Benzo(k)Fluoranthene ug/L	Benzo(a) Pyrene ug/L
4/28/2015	XX	LTC4LX78C	120 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4/5/2016	XX	LTC4LX863	500 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	36 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
4/3/2018	XX	LTC4LXA2A	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4/23/2019	XX	LTC4LXB56	50 U	1 U	1 U	50 U	1 U	1 U	50 U	10 U	1 U	1 U	50 U	50 U	1 U	1 U	1 U
4/28/2020	XX	LTC4LXCCI	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
4/6/2021	XX	LTC4LXDBH	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
5/26/2022	XX	LTC4LXF09	23 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U
4/18/2023	XX	LTC4LXGHJ	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
7/16/2024	XX	LTC4LX1D1	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 UL	9.5 U	9.5 UL	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U

Units Abbreviations:

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DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 5 of 7

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

(LT-C4L & LT-C4LR) Date	Type	Sample ID	Indeno(1,2,3-c,d) Pyrene ug/L	Dibenz(a,h) Anthracene ug/L	Benzo(g,h,i) perylene ug/L	N-Nitroso dimethylamine ug/L	Carbazole ug/L	2,3,4,6-Tetrachloro phenol ug/L	2,6-Dichlorophenol ug/L	3&4-Methylphenol ug/L	2-Acetyl aminofluorene ug/L	4-Aminobiphenyl ug/L	3,3'-Dimethyl benzidine ug/L	1,3-Dinitro benzene (m-Dinitrobenzene) ug/L	Ethyl methanesulfonate ug/L	Hexa chloropropene ug/L	Isosafrole ug/L
4/28/2015	XX	LTC4LX78C	47 U	47 U	47 U	47 U		47 U	47 U	890	47 U	47 U	120 U	47 U	47 U	47 U	47 U
4/5/2016	XX	LTC4LX863	200 U	200 U	200 U	200 U		200 U	200 U	1000	200 U	200 U	500 U	200 U	200 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	14 U	14 U	14 U	14 U		14 U	14 U		14 U	14 U	36 U	14 U	14 U	14 U	14 U
4/18/2017	XX	LTC4LX96IDL								480							
4/3/2018	XX	LTC4LXA2A	9.4 U	9.4 U	9.4 U	9.4 U		9.4 U	9.4 U		9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U
4/3/2018	XX	LTC4LXA2ADL								350							
4/23/2019	XX	LTC4LXB56	1 U	1 U	1 U	10 U	10 U	10 UH	10 UH	540	10 UH	10 UH	26 UH	10 UH	10 UH	10 UH	
4/28/2020	XX	LTC4LXCCI	9.5 U	9.5 U	9.5 U	9.5 U		9.5 U	9.5 U		9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U
4/28/2020	XX	LTC4LXCCIDL								540							
4/6/2021	XX	LTC4LXDBH	9.4 U	9.4 U	9.4 U	9.4 U		9.4 U	9.4 U		9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U
4/6/2021	XX	LTC4LXDBHDL								320							
5/26/2022	XX	LTC4LXF09	9.3 U	9.3 U	9.3 U	9.3 U		9.3 U	9.3 U		9.3 U	9.3 U	23 U	9.3 U	9.3 U	9.3 U	9.3 U
5/26/2022	XX	LTC4LXF09DL								200							
4/18/2023	XX	LTC4LXGHJ	10 U	10 U	10 U	10 U		10 U	10 U		10 U	10 U	25 U	10 U	10 U	10 U	10 U
4/18/2023	XX	LTC4LXGHJDL								210							
7/16/2024	XX	LTC4LX1D1	9.5 U	9.5 UL	9.5 U	9.5 U		9.5 U	9.5 U	63	9.5 U	9.5 U	24 UL	9.5 U	9.5 U	9.5 U	9.5 U

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DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 6 of 7

SME
SEVEE & MAHER ENGINEERS
SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR) Date	Type	Sample ID	Methapyrilene ug/L	3-Methyl cholanthrene ug/L	Methyl methane sulfonate ug/L	1-Naphthalene amine (1-Naphthyl amine) ug/L	2-Naphthalene amine (2-Naphthyl amine) ug/L	1,4-Naphtho quinone ug/L	5-Nitro-o-toluidine ug/L	N-Nitroso diethylamine ug/L	N-Nitrosodi-n-butylamine ug/L	N-Nitrosomethyl ethylamine ug/L	N-Nitroso piperidine ug/L	N-Nitroso pyrrolidine ug/L	Pentachloro benzene ug/L	Pentachloro nitrobenzene ug/L	Phenacetin ug/L
LT-C4L & LT-C4LR																	
4/28/2015	XX	LTC4LX78C	120 U	47 U	47 U	47 U	47 U	120 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4/5/2016	XX	LTC4LX863	500 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
4/18/2017	XX	LTC4LX96I	36 U	14 U	14 U	14 U	14 U	36 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
4/3/2018	XX	LTC4LXA2A	24 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4/23/2019	XX	LTC4LXB56	26 UH	10 UH	10 UH	10 UH	10 UH	26 UH	10 UH	10 UH	10 UH	10 UH	10 UH	10 UH	10 UH	10 UH	10 UH
4/28/2020	XX	LTC4LXCCI	24 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
4/6/2021	XX	LTC4LXDBH	24 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
5/26/2022	XX	LTC4LXF09	23 U	9.3 U	9.3 U	9.3 U	9.3 U	23 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U	9.3 U
4/18/2023	XX	LTC4LXGHJ	25 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
7/16/2024	XX	LTC4LX1D1	24 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U

Units Abbreviations:

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DATA SUMMARY TABLE

Semivolatile Organic Compounds Group 7 of 7

SME
SEVEE & MAHER ENGINEERS

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

(LT-C4L & LT-C4LR) Date	Type	Sample ID	p-Phenylene diamine ug/L	Pronamide ug/L	1,2,4,5-Tetrachloro benzene ug/L	1,3,5-Trinitro benzene (sym-Trinitrobenzene) ug/L	Safrole ug/L	O-Toluidine ug/L	p-(Dimethyl amino) azobenzene ug/L	7,12-Dimethylbenz (a)anthracene ug/L	Acetophenone ug/L						
4/28/2015	XX	LTC4LX78C	120 U	47 U	47 U	47 U	47 U	120 U	47 U	47 U	47 U						
4/5/2016	XX	LTC4LX863	500 U	200 U	200 U	200 U	200 U	500 U	200 U	200 U	200 U						
4/18/2017	XX	LTC4LX96I	36 U	14 U	14 U	14 U	14 U	36 U	14 U	14 U	14 U						
4/3/2018	XX	LTC4LXA2A	24 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	11						
4/23/2019	XX	LTC4LXB56	26 UH	10 UH	10 UH	10 UH	10 UH	26 UH	10 UH	10 UH	100 U						
4/28/2020	XX	LTC4LXCCI	24 U	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	14						
4/6/2021	XX	LTC4LXDBH	24 U	9.4 U	9.4 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	12						
5/26/2022	XX	LTC4LXF09	23 U	9.3 U	9.3 U	9.3 U	9.3 U	23 U	9.3 U	9.3 U	9.3 U						
4/18/2023	XX	LTC4LXGHJ	25 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	12						
7/16/2024	XX	LTC4LX1D1	24 ULL	9.5 U	9.5 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U						

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DATA SUMMARY TABLE

Pesticides, Herbicides and PCBs Group 1 of 3

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	alpha-BHC ug/L	beta-BHC ug/L	delta-BHC ug/L	gamma-BHC (Lindane) ug/L	Heptachlor ug/L	Aldrin ug/L	Heptachlor Epoxide ug/L	Endosulfan I ug/L	Dieldrin ug/L	4,4'-DDE ug/L	Endrin ug/L	Endosulfan II ug/L	4,4'-DDD ug/L	Endosulfan Sulfate ug/L	4,4'-DDT ug/L
4/28/2015	XX	LTC4LX78C	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4/5/2016	XX	LTC4LX863	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
4/18/2017	XX	LTC4LX96IRE	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4/3/2018	XX	LTC4LXA2A	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4/23/2019	XX	LTC4LXB56	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.036	0.02 U
4/28/2020	XX	LTC4LXCCI	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
4/6/2021	XX	LTC4LXDBH	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
5/26/2022	XX	LTC4LXF09RA	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4/18/2023	XX	LTC4LXGHJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
7/16/2024	XX	LTC4LX1D1	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U

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Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample
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Concentration Qualifier Notes:

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DATA SUMMARY TABLE

Pesticides, Herbicides and PCBs Group 2 of 3

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

(LT-C4L & LT-C4LR) Date	Type	Sample ID	Methoxychlor ug/L	Endrin Ketone ug/L	alpha-Chlordane ug/L	gamma-Chlordane ug/L	Toxaphene ug/L	Aroclor-1016 ug/L	Aroclor-1221 ug/L	Aroclor-1232 ug/L	Aroclor-1242 ug/L	Aroclor-1248 ug/L	Aroclor-1254 ug/L	Aroclor-1260 ug/L	Endrin Aldehyde ug/L	Chlordane (technical) ug/L	2,4-Dichloro phenoxyacetic Acid ug/L
4/28/2015	XX	LTC4LX78C	0.47 U				0.94 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.094 U	0.47 U	2.8 U
4/5/2016	XX	LTC4LX863	0.48 U				0.96 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.096 U	0.48 U	3.1 U
4/18/2017	XX	LTC4LX96I															2.8 U
4/18/2017	XX	LTC4LX96IRE	0.52 U				1 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.1 U	0.52 U	
4/3/2018	XX	LTC4LXA2A	0.47 U				0.94 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.094 U	0.47 U	2.7 U
4/23/2019	XX	LTC4LXB56	0.1 U				0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 U	0.1 U	
4/23/2019	XX	LTC4LXB56RA															2.8 U
4/28/2020	XX	LTC4LXCCI	0.47 U				0.93 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.093 U	0.47 U	2.6 U
4/28/2020	XX	LTC4LXCCIRE															2.7 U
4/6/2021	XX	LTC4LXDBH	0.47 U				0.94 U								0.094 U	0.47 U	2.6 U
4/6/2021	XX	LTC4LXDBHRA						0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U			
5/26/2022	XX	LTC4LXF09															2.7 U
5/26/2022	XX	LTC4LXF09RA	0.47 U				0.94 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.094 U	0.47 U	
4/18/2023	XX	LTC4LXGHJ	0.5 U	0.1 U	0.05 U	0.05 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 U		2.8 U
7/16/2024	XX	LTC4LX1D1	0.47 U	0.095 U	0.047 U	0.047 U	0.95 U								0.095 U	0.47 U	2.7 U
7/16/2024	XX	LTC4LX1D1RA						0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U			

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes: Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.

REPORT PREPARED: 1/16/2025 11:57
FOR: Juniper Ridge Landfill
DATE RANGE: 1/1/2015 - 12/31/2024

DATA SUMMARY TABLE

Pesticides, Herbicides and PCBs Group 3 of 3

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

LT-C4L & LT-C4LR

Date	Type	Sample ID	2,4,5-Trichlorophenoxypropionic Acid ug/L	2,4,5-Trichlorophenoxyacetic acid ug/L	Diallate ug/L	Isodrin ug/L	Kepone ug/L	Dimethoate ug/L	Chlorobenzilate ug/L	Disulfoton ug/L	Famphur ug/L	Methyl Parathion ug/L	Parathion ug/L	Phorate ug/L	Thionazin ug/L	o,o,o-Triethyl phosphorothioate ug/L	2-sec-Butyl-4-6-dinitrophenol (Dinoseb) ug/L
4/28/2015	XX	LTC4LX78C	2.8 U	2.8 U	47 U	47 U	120 U	47 U	47 U	47 U	140 U	47 U	120 U	47 U	94 U	47 U	4.7 U
4/5/2016	XX	LTC4LX863	3.1 U	3.1 U	200 U	200 U	500 U	200 U	200 U	200 U	590 U	200 U	500 U	200 U	400 U	200 U	5.1 U
4/18/2017	XX	LTC4LX96I	2.8 U	2.8 U	14 U	14 U	36 U	14 U	14 U	14 U	43 U	14 U	36 U	14 U	28 U	14 U	4.7 U
4/3/2018	XX	LTC4LXA2A	2.7 U	2.7 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	28 U	9.4 U	24 U	9.4 U	19 U	9.4 U	4.4 U
4/23/2019	XX	LTC4LXB56			10 UH	10 UH	26 UH	10 UH	10 UH	10 UH	31 UH	10 UH	26 UH	10 UH	21 UH	10 UH	
4/23/2019	XX	LTC4LXB56RA	2.9 U	2.9 U													4.8 U
4/28/2020	XX	LTC4LXCCI	2.7 U	2.6 U	9.5 U	9.5 U	24 U	9.5 U	9.5 U	9.5 U	28 U	9.5 U	24 U	9.5 U	19 U	9.5 U	4.4 U
4/28/2020	XX	LTC4LXCCIRE	2.7 U	2.7 U													4.4 U
4/6/2021	XX	LTC4LXDBH	2.7 U	2.6 U	9.4 U	9.4 U	24 U	9.4 U	9.4 U	9.4 U	28 U	9.4 U	24 U	9.4 U	19 U	9.4 U	4.4 U
5/26/2022	XX	LTC4LXF09	2.7 U	2.7 U	9.3 U	9.3 U	23 U	9.3 U	9.3 U	9.3 U	28 U	9.3 U	23 U	9.3 U	19 U	9.3 U	4.4 U
5/26/2022	XX	LTC4LXF09DL			19 U	19 U	47 U	19 U	19 U	19 U	56 U	19 U	47 U	19 U	37 U	19 U	
4/18/2023	XX	LTC4LXGHJ	2.8 U	2.8 U	10 U	10 U	25 U	10 U	10 U	10 U	30 U	10 U	25 U	10 U	20 U	10 U	4.7 U
7/16/2024	XX	LTC4LX1D1	2.7 U	2.7 U	9.5 U	9.5 U	24 ULL	9.5 U	9.5 U	9.5 U	28 ULL	9.5 U	24 U	9.5 U	19 U	9.5 U	4.5 U

Units Abbreviations:

ug/L - MICROGRAMS PER LITER

Notes:

Sample Type XX = Environmental Sample, XD = Duplicate Sample
Blank Cells appear when a parameter was not analyzed.

Concentration Qualifier Notes:

U - Not Detected above the laboratory reporting limit.
UH - Not Detected above the laboratory reporting limit. Analyzed outside U.S.EPA's recommended hold time
ULL - Not Detected above the laboratory reporting limit. Flagged compound did not meet DoD criteria in the LCS and/or LCSD prepared and/or analyzed concurrently with the sample. The laboratory's policy is to qualify with these qualifiers regardless of whether it is a Department of Defense job.

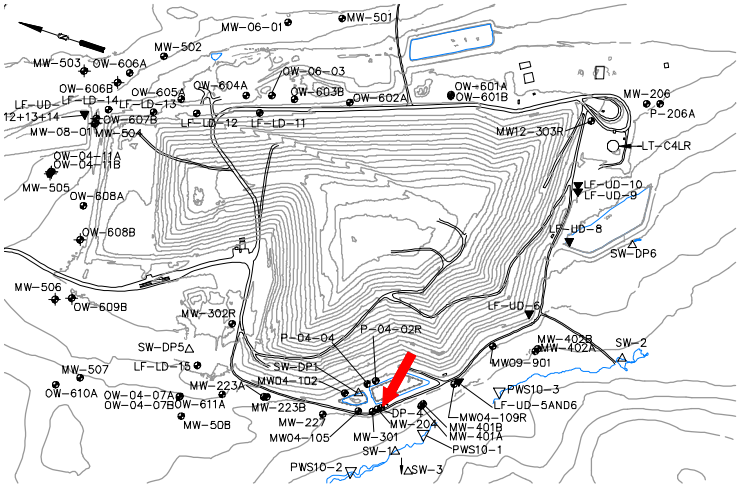
APPENDIX E

2024 WATER QUALITY SUMMARY REPORTS AND DATA PLOTS

SME
SEVEE & MAHER
ENGINEERS

Well Description

DP-4 is located downgradient of the landfill and former leachate pond and monitors groundwater quality within the overburden.



Screen Interval:	**18.5 ft. to 24.5 ft.**
Sampled:	**1 Time Annually(field parameters only)**
Sampled Since:	**01/30/04**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)				189	100	to 965	330 ±	21.000	41
pH (STU)				5.9	5.6	to 7.3	6.5 ±	0.058	41
Temperature (Deg C)				14	6	to 23.9	13 ±	0.590	41
Water Level Depth (Feet)				15.3	13.25	to 17.19	15 ±	0.140	41
Water Level Elevation (Feet)				154.07	152.18	to 156.12	150 ±	0.140	41
Water Level Reference Point (Feet)				169.37	169.37	to 169.37	170 ±	0.000	41
Eh (mV)				215	-51	to 352	240 ±	13.000	40
Dissolved Oxygen (mg/L)				1.2	0.4	to 6	1.7 ±	0.240	41
Well Depth (Feet)				27.07	22.17	to 27.16	27 ±	0.260	19
Turbidity (field) (NTU)				11	0.6	to 36.2	8.4 ±	1.200	41

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

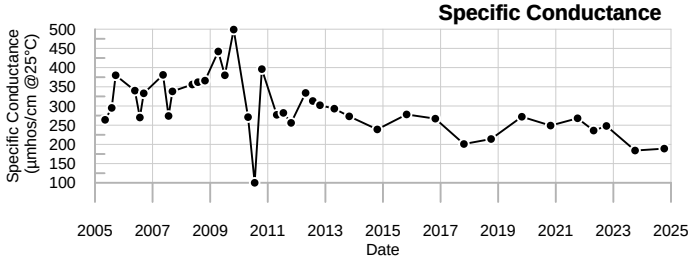
Q4= 10 - 2024

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

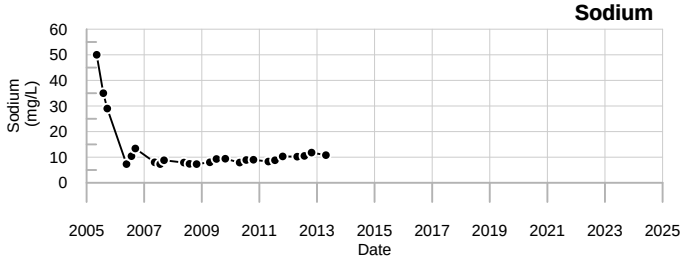
Data Group: 245
Printed: 4/16/2025 11:25

SME SEVEE & MAHER ENGINEERS

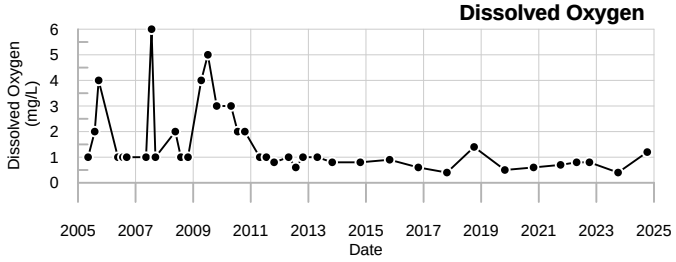
Specific Conductance



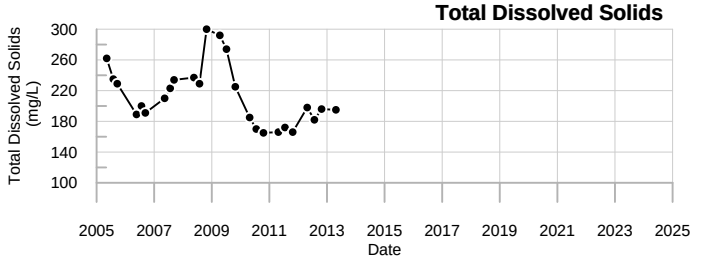
Sodium



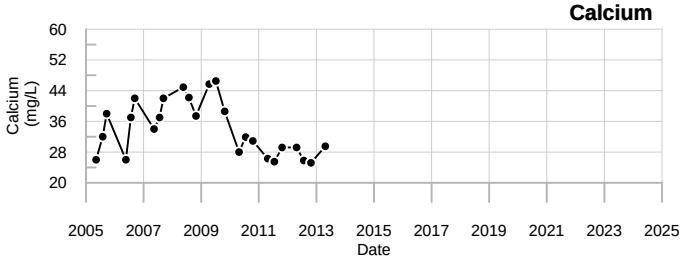
Dissolved Oxygen



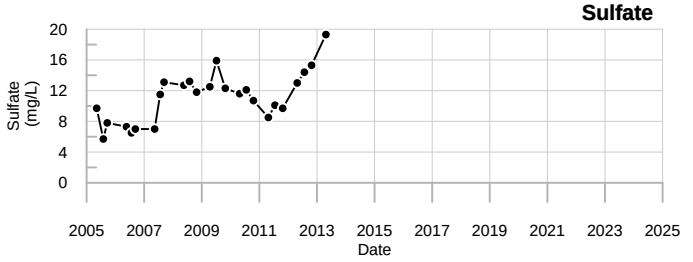
Total Dissolved Solids



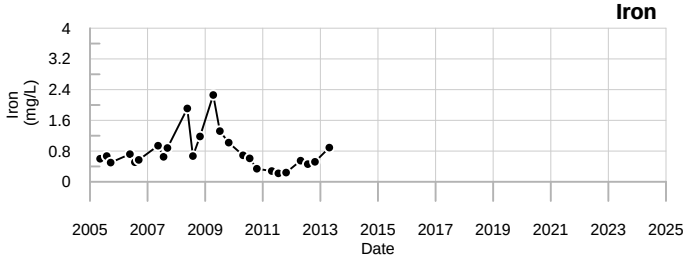
Calcium



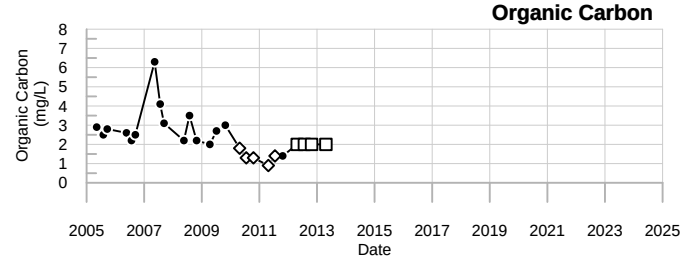
Sulfate



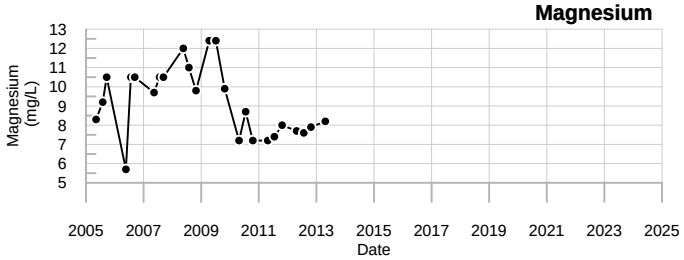
Iron



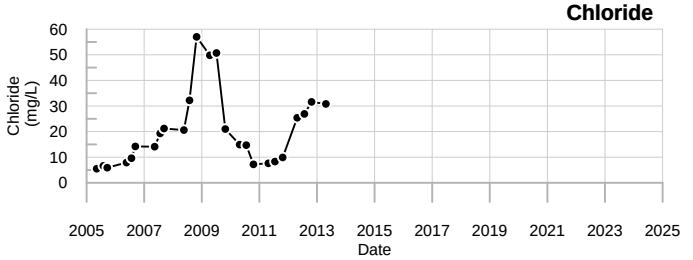
Organic Carbon



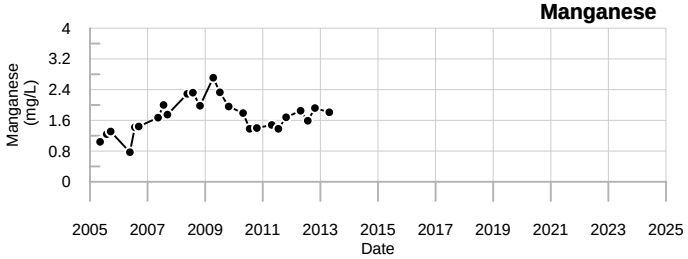
Magnesium



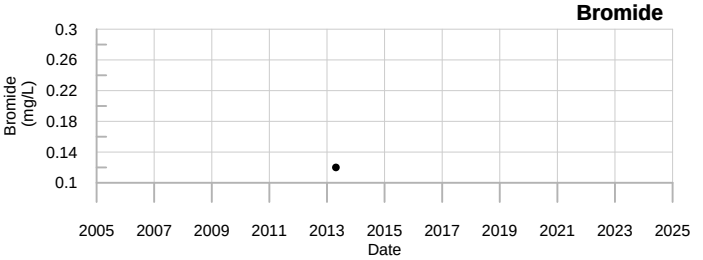
Chloride



Manganese



Bromide



LEGEND

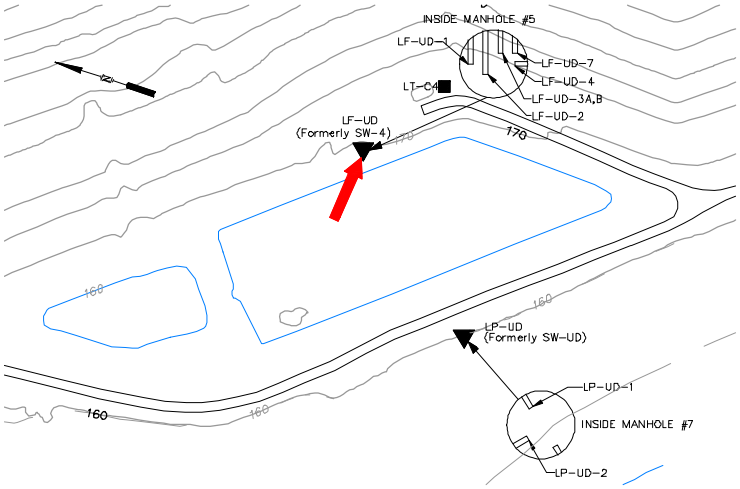
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

DP-4
Juniper Ridge Landfill

Well Description

Manhole #5 composite sample



Sampled:

Sampled Since: **See comments below**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	471	490	↑650	↑615	101	to 504	370	± 6.900	123
pH (STU)	7.2	7.5	7.4	7.6	6.7	to 8.4	7.4	± 0.036	123
Temperature (Deg C)	13.4	22.4	22.9	19.9	3.2	to 29.7	17	± 0.470	123
Eh (mV)	357	337	353	356	293	to 446	360	± 2.800	123
Dissolved Oxygen (mg/L)	6	8	6	6	4	to 10	6.8	± 0.120	121
Alkalinity (CaCO3) (field) (mg/L)	200	190	175	250	55	to 325	170	± 4.300	122
Turbidity (field) (NTU)	6.3	6	9.2	4.1	0	to 625.23	15	± 5.600	122

underlined/bold - values exceed a regulatory standard listed below.

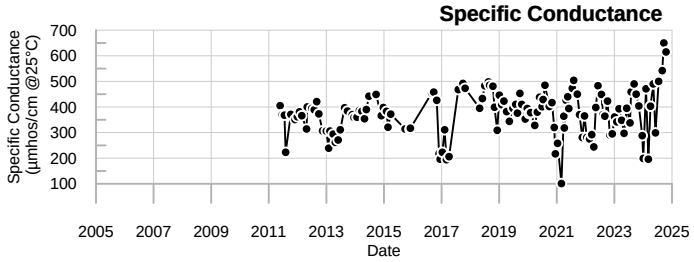
Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

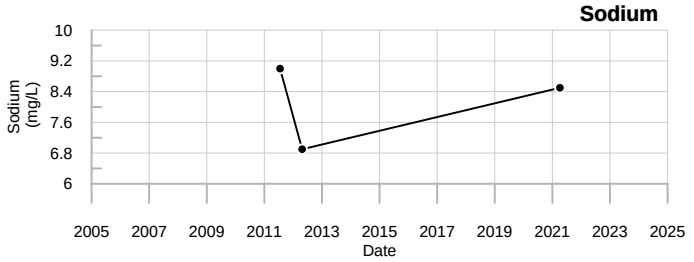
↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

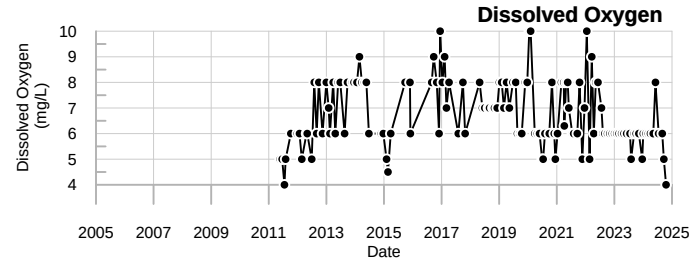
Comments

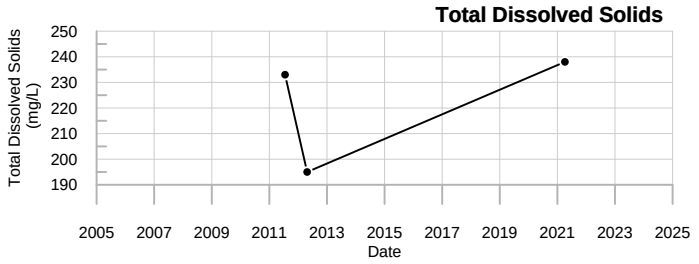
During times when LF-UD-1, LF-UD-2, LF-UD-3A & B, LF-UD-4, and LF-UD-7 have not been able to be sampled seperately due to pipe submergence, LF-COMP has been collected from manhole #5. Field parameters are measured at this location during some monthly monitoring rounds by NEWSME.

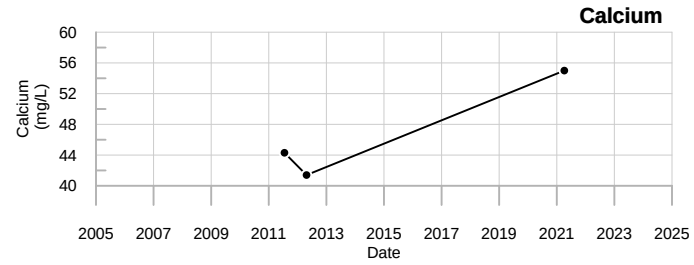
Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

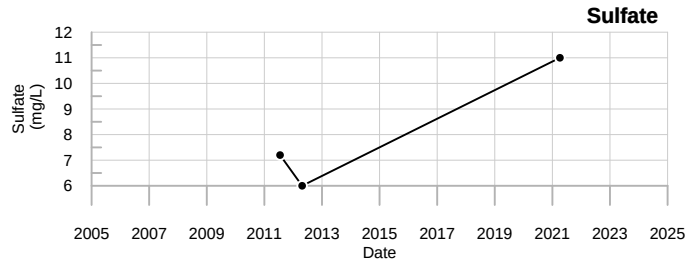


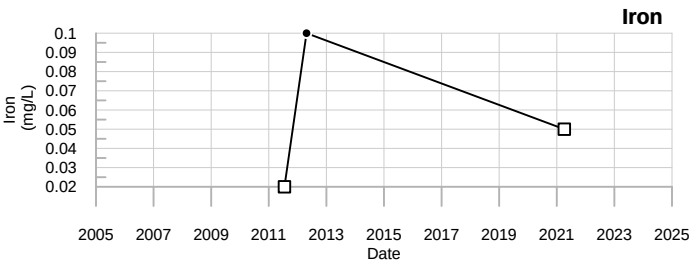


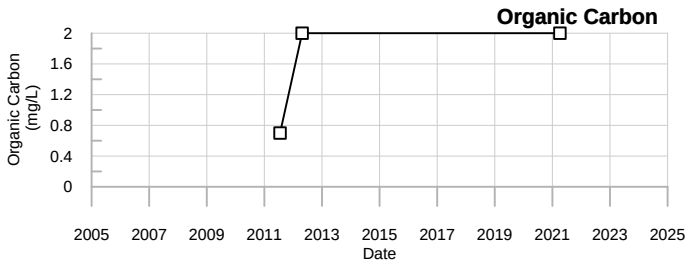


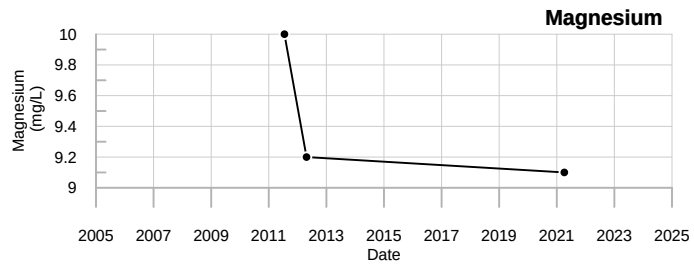


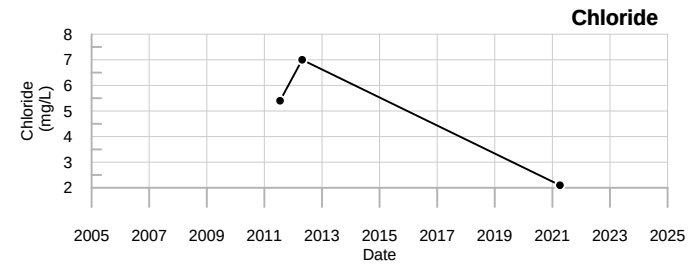


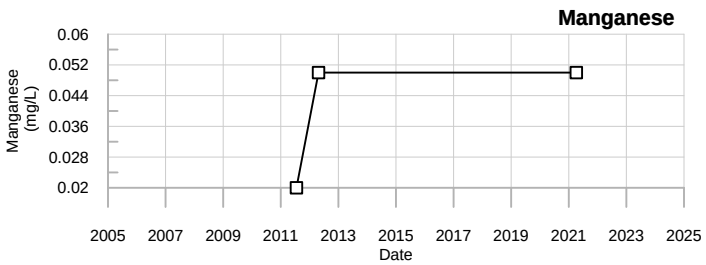


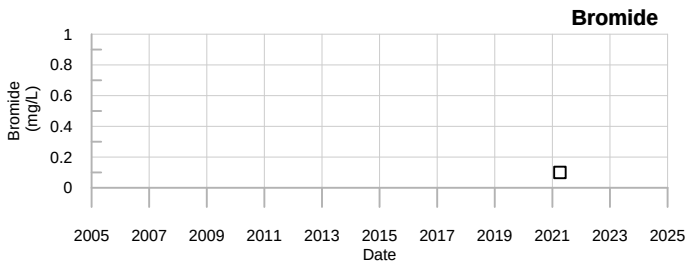












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

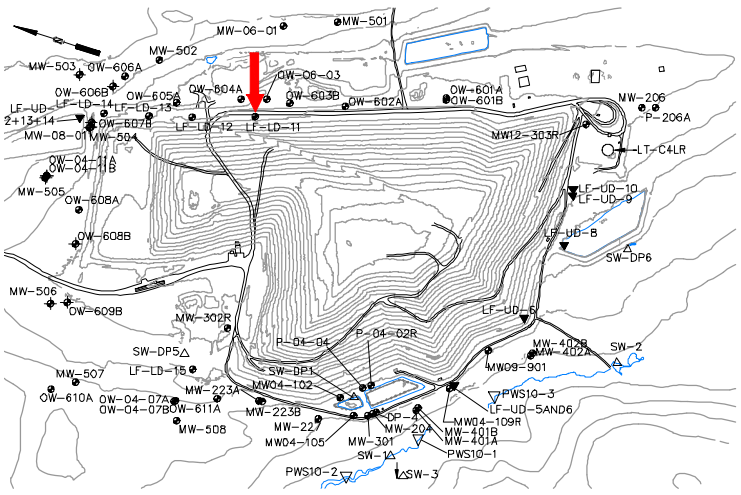
◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

LF-COMP
Juniper Ridge Landfill

Well Description

LF-LD-11 monitors the leak detection system for Cell 11 from the Cell 11 leak detection system pump station.



Sampled: **Annually in summer***

Sampled Since: **Apr-21**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	972	940	938	978	568	to 1275	900	± 17.000	65
pH (STU)	7.4	7.4	7.2	7.3	6.3	to 7.9	6.9	± 0.037	65
Temperature (Deg C)	19.6	24.9	23	22.7	13.2	to 25.9	19	± 0.360	65
Eh (mV)	372	↑451	↑422	↑456	130	to 420	320	± 8.200	65
Dissolved Oxygen (mg/L)	6	6	6	8	1.5	to 9	5	± 0.180	65
Flow Rate (cfs)		0.035	0.035	0.0236	0.0189	to 0.035	0.031	± 0.003	6
Total Flow (gallons)			↑7527418	↑7530408	44128	to 58785	50000	± 2600.000	6
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	4
Calcium (mg/L)			140		120	to 150	140	± 7.100	4
Copper (mg/L)			0.003 U		0.003 U	to 0.006 U	0.0038	± 0.001	4
Iron (mg/L)			0.05 U		0.05 U	to 0.17	0.08	± 0.030	4
Magnesium (mg/L)			29		26	to 33	30	± 1.700	4
Manganese (mg/L)			0.05 U		0.05 U	to 0.56	0.21	± 0.120	4
Potassium (mg/L)			7.9		7.1	to 8.3	7.6	± 0.280	4
Sodium (mg/L)			↑15		10	to 14	12	± 0.850	4
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	4
Nitrite/Nitrate - (N) (mg/L)			1.2		0.31	to 1.3	0.72	± 0.210	4
Total Dissolved Solids (mg/L)			567		494	to 597	550	± 22.000	4
Total Suspended Solids (mg/L)			↑8.3		2.5 U	to 2.5 U	2.5	± 0.000	4
Sulfate (mg/L)			45		34	to 72	48	± 8.300	4
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	4
Alkalinity (CaCO3) (mg/L)			460		430	to 470	450	± 8.500	4
Alkalinity (CaCO3) (field) (mg/L)	400	400	350	250	125	to 500	370	± 11.000	57
Organic Carbon (mg/L)			↑2.4		2 U	to 2.3	2.1	± 0.075	4
Chloride (mg/L)			1 U		1 U	to 3.2	2	± 0.590	4
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	4
Turbidity (field) (NTU)	8.4	6.6	0.9	0.5	0.3	to 36.6	3.8	± 0.730	65
Methane (ug/L)			↓5.2 U		20 U	to 59	31	± 9.400	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

*Field parameters measured monthly by NEWSME.

Q1= 1 - 2024 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2024

Q3= 7 - 2024

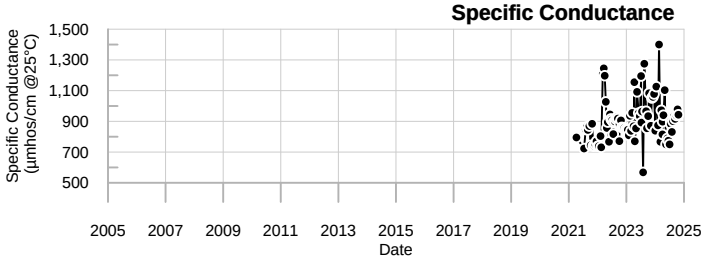
Q4= 10 - 2024

Data Group: 245

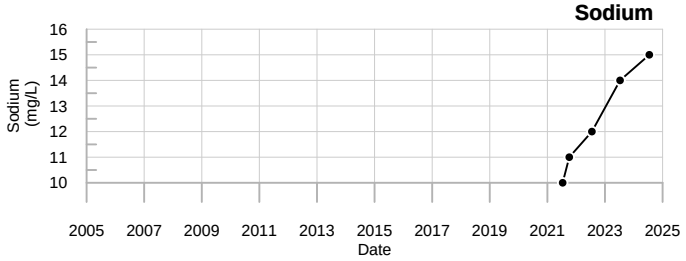
Printed: 4/16/2025 11:25

SME
SEVEE & MAHER ENGINEERS

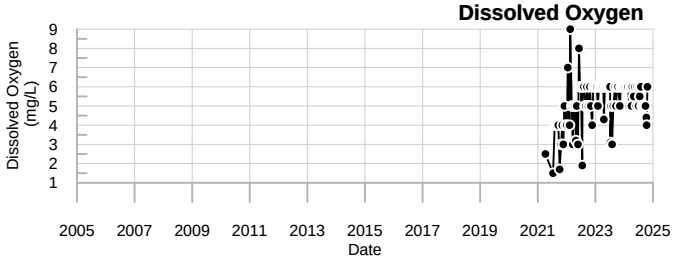
Specific Conductance



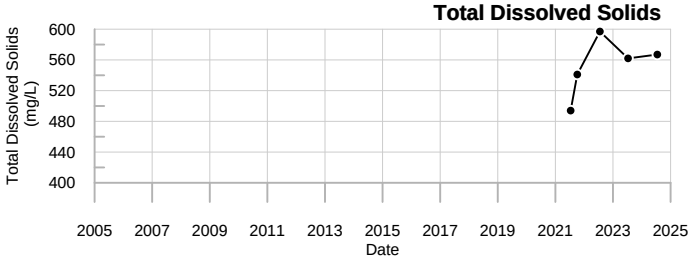
Sodium



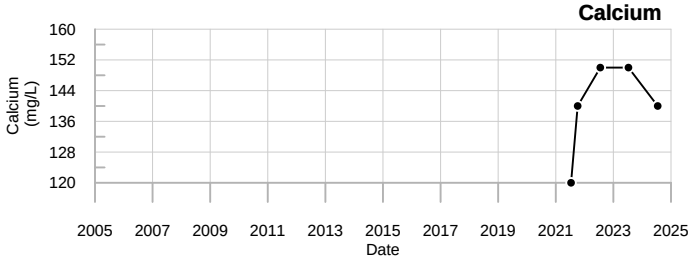
Dissolved Oxygen



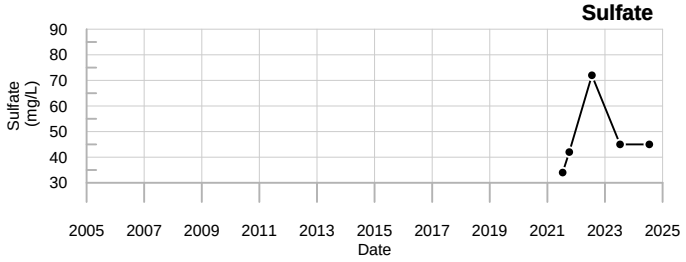
Total Dissolved Solids



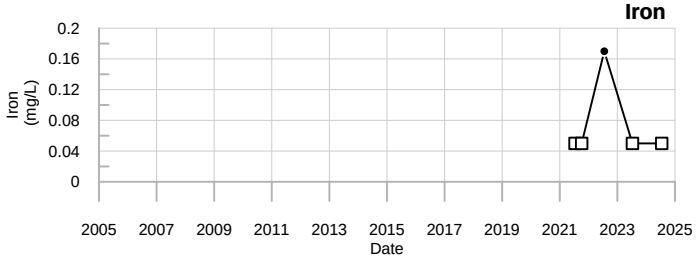
Calcium



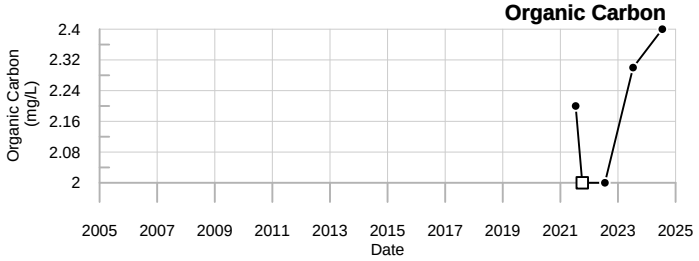
Sulfate



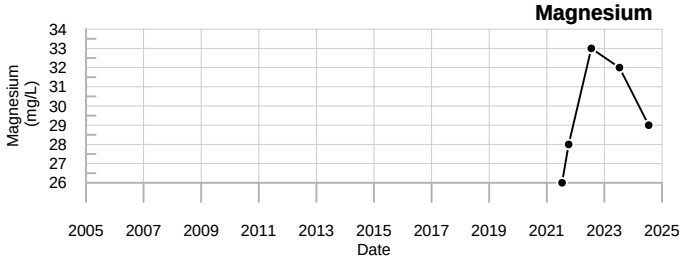
Iron



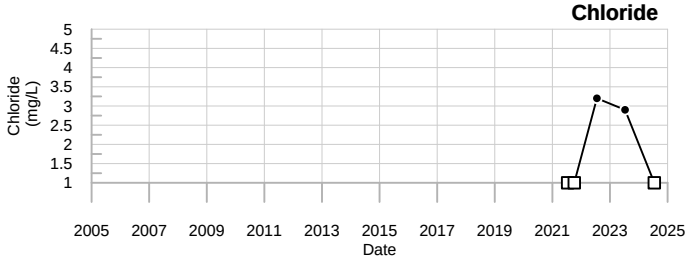
Organic Carbon



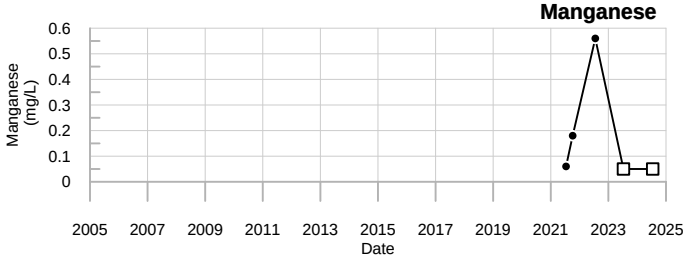
Magnesium



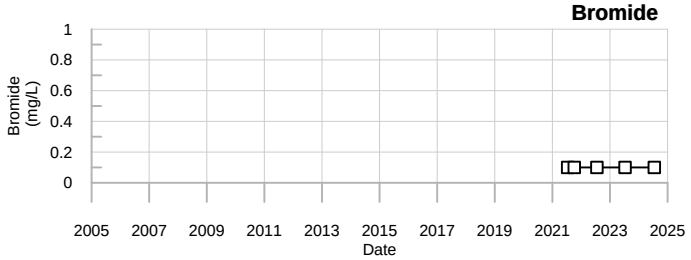
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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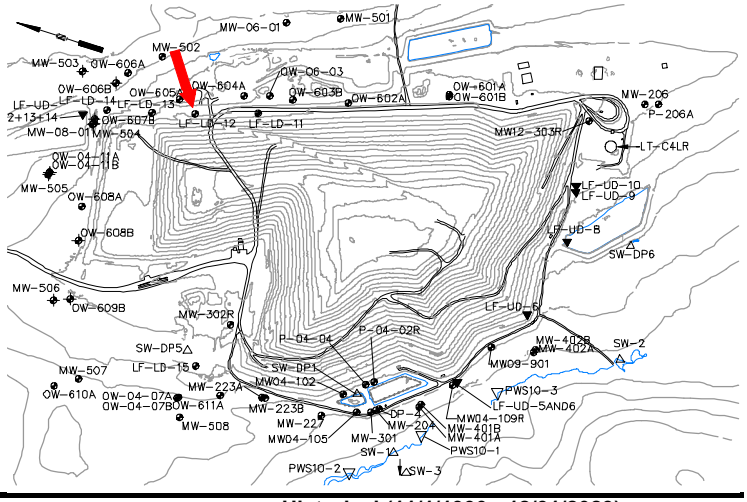
LF-LD-11
Juniper Ridge Landfill

Well Description

LF-LD-12 monitors the leak detection system for Cell 12 from the Cell 12 leak detection system pump station



Sampled: **Annually in summer***

Sampled Since: **Apr-21**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	972	909	920	964	300	to 1410	600	± 25.000	65
pH (STU)	6.7	6.8	6.6	6.8	4.3	to 7	6.4	± 0.043	65
Temperature (Deg C)	20.4	25.3	23.9	22.7	15.3	to 25.9	20	± 0.320	65
Eh (mV)	245	330	398	368	74	to 405	280	± 8.900	65
Dissolved Oxygen (mg/L)	6	6	6	5.6	0.8	to 7	4	± 0.210	65
Flow Rate (cfs)		0.0205	↑0.0352	0.0207	0.0176	to 0.0245	0.021	± 0.001	6
Total Flow (gallons)		↑71745	↑79757	↑83612	1910	to 14410	6700	± 2100.000	6
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005	± 0.000	4
Calcium (mg/L)			↑130		47	to 91	75	± 9.900	4
Copper (mg/L)			↑0.0042		0.003 U	to 0.003 U	0.003	± 0.000	4
Iron (mg/L)			↑5.7		0.06	to 1.2	0.48	± 0.250	4
Magnesium (mg/L)			↑21		8.1	to 16	13	± 1.900	4
Manganese (mg/L)			↑15		0.77	to 5.9	3.8	± 1.200	4
Potassium (mg/L)			↑5.9		3.2	to 4.5	4.1	± 0.310	4
Sodium (mg/L)			↑14		6.3	to 9.2	7.6	± 0.620	4
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	4
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.1	0.066	± 0.012	4
Total Dissolved Solids (mg/L)			↑566		240	to 397	320	± 33.000	4
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 6.7	3.6	± 1.100	4
Sulfate (mg/L)			↑120		20	to 48	35	± 6.100	4
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	4
Alkalinity (CaCO3) (mg/L)			↑300		160	to 290	240	± 28.000	4
Alkalinity (CaCO3) (field) (mg/L)	350	325	200	200	150	to 475	280	± 8.000	56
Organic Carbon (mg/L)			↑6.5		2.4	to 3.8	3.3	± 0.310	4
Chloride (mg/L)			↑37		1 U	to 2.2	1.4	± 0.280	4
Bromide (mg/L)			↑0.57		0.1 U	to 0.1 U	0.1	± 0.000	4
Turbidity (field) (NTU)	5.6	4.3	↑54.9	9.6	0.2	to 47.8	5	± 0.810	65
Methane (ug/L)			↑270		48	to 240	170	± 45.000	4

underlined/bold - values exceed a regulatory standard listed below.

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↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

*Field parameters measured monthly by NEWSME.

Q1= 1 - 2024 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2024

Q3= 7 - 2024

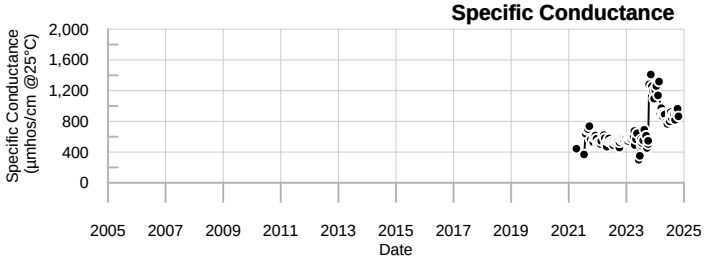
Q4= 10 - 2024

Data Group: 245

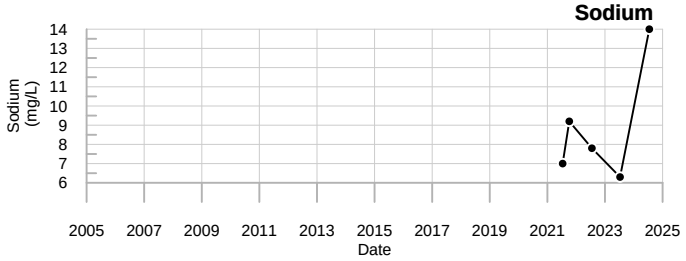
Printed: 4/16/2025 11:25

SME
SEVEE & MAHER ENGINEERS

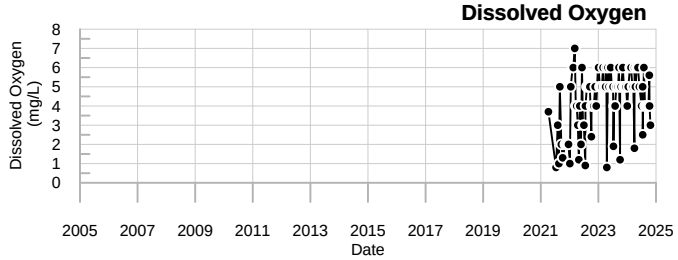
Specific Conductance



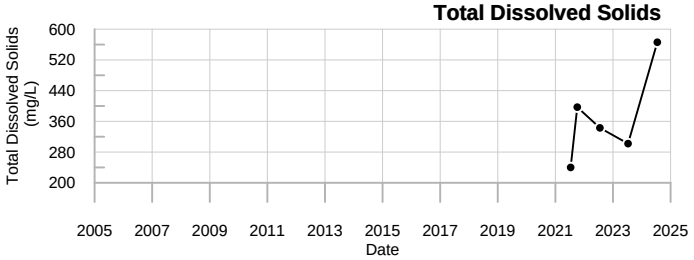
Sodium



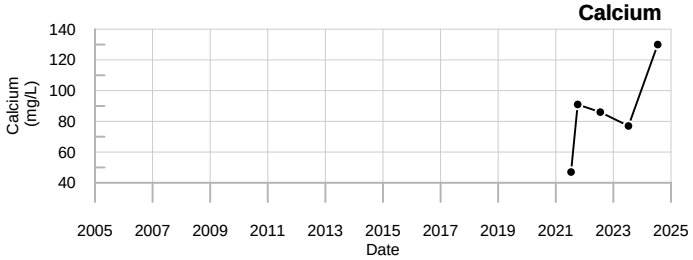
Dissolved Oxygen



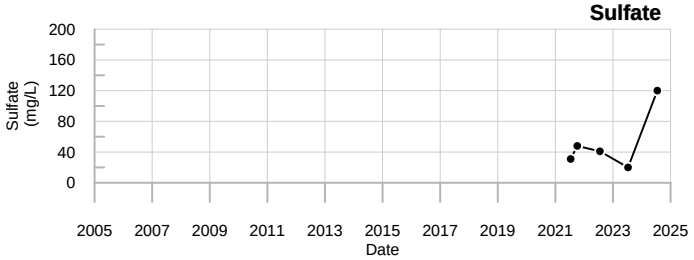
Total Dissolved Solids



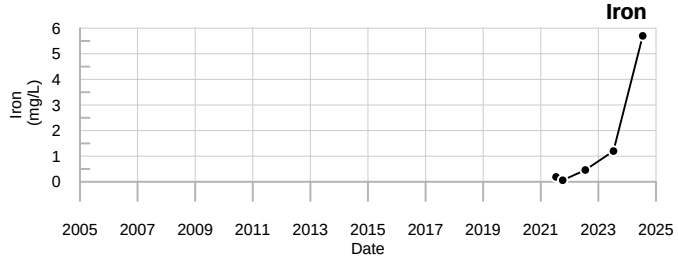
Calcium



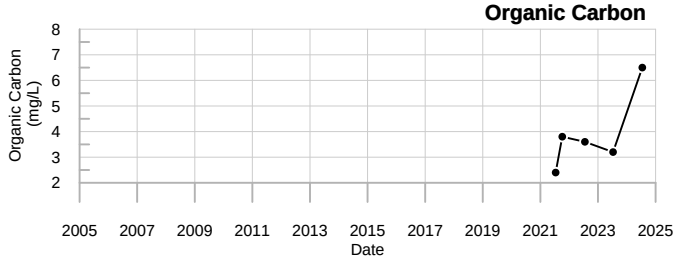
Sulfate



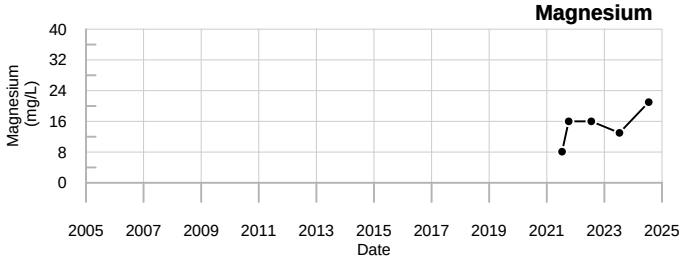
Iron



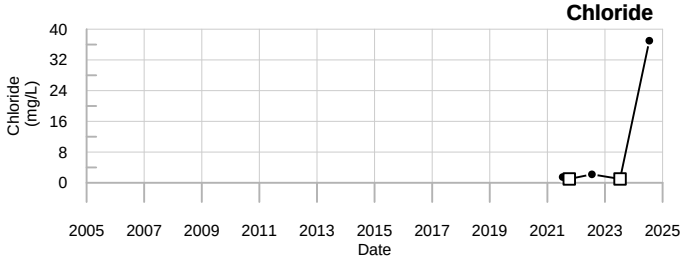
Organic Carbon



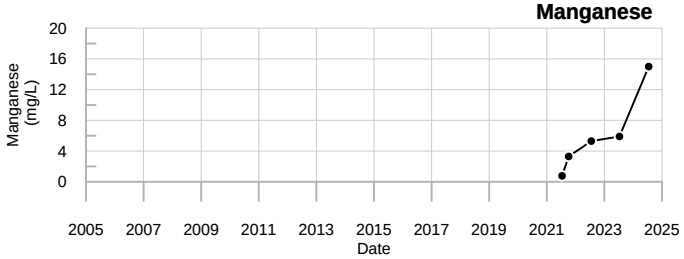
Magnesium



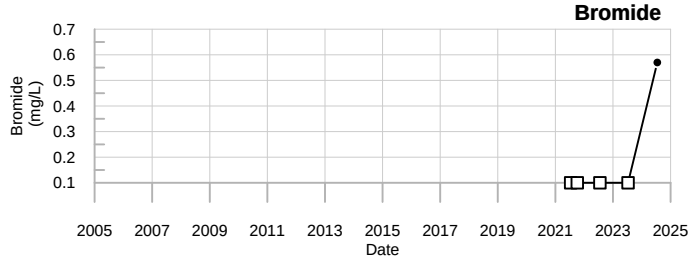
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

LF-LD-12
Juniper Ridge Landfill

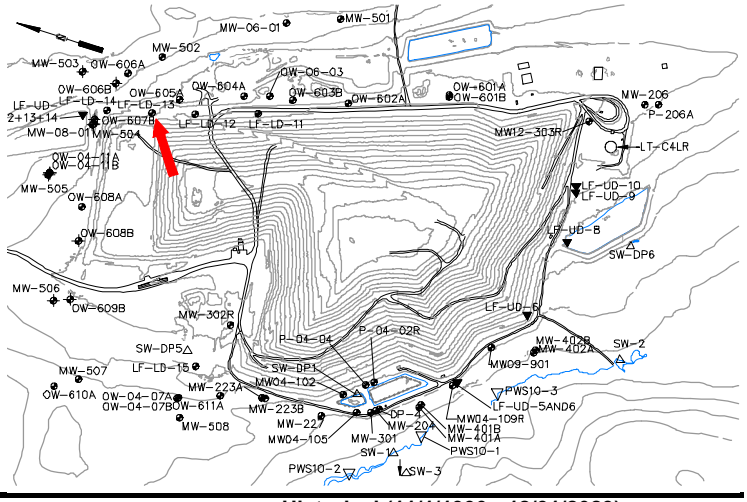
Well Description

LF-LD-13 monitors the leak detection system for Cell 13 from the Cell 13 leak detection system pump station.

Sampled: **Annually in summer***

Sampled Since: **9/14/2021**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	↑690	↑582	↑568	↑626	185	to 557	340	± 10.000	61
pH (STU)	6.8	6.9	6.6	6.8	6.1	to 23.7	6.9	± 0.280	61
Temperature (Deg C)	20.9	24.9	25.4	23.2	6.8	to 27.9	20	± 0.430	61
Eh (mV)	277	314	↑714	338	115	to 404	280	± 7.900	61
Dissolved Oxygen (mg/L)	6	5	5	6.3	1.3	to 9	5.2	± 0.180	59
Flow Rate (cfs)		0.0147	0.0147	↓0.0111	0.0131	to 0.0158	0.015	± 0.000	5
Total Flow (gallons)		↑12898	↑13094	↑15693	11967	to 12162	12000	± 57.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	2
Calcium (mg/L)			↑66		43	to 61	52	± 9.000	2
Copper (mg/L)			↑0.0031		0.003 U	to 0.003 U	0.003	± 0.000	2
Iron (mg/L)			↑0.52		0.05 U	to 0.13	0.09	± 0.040	2
Magnesium (mg/L)			↑14		9	to 13	11	± 2.000	2
Manganese (mg/L)			↑4.6		0.48	to 2.5	1.5	± 1.000	2
Potassium (mg/L)			4.6		4.1	to 4.7	4.4	± 0.300	2
Sodium (mg/L)			↑9.6		6.4	to 8.6	7.5	± 1.100	2
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	2
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	2
Nitrite/Nitrate - (N) (mg/L)			↓0.05 U		0.066	to 0.07	0.068	± 0.002	2
Total Dissolved Solids (mg/L)			↑333		207	to 265	240	± 29.000	2
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 2.5 U	2.5	± 0.000	2
Sulfate (mg/L)			↑51		28	to 29	29	± 0.500	2
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	2
Alkalinity (CaCO3) (mg/L)			↑210		130	to 190	160	± 30.000	2
Alkalinity (CaCO3) (field) (mg/L)	250	200	175	150	70	to 250	140	± 6.200	55
Organic Carbon (mg/L)			↑4.1		2.7	to 3.3	3	± 0.300	2
Chloride (mg/L)			↑12		1.7	to 2.2	2	± 0.250	2
Bromide (mg/L)			↑0.32		0.1	to 0.15	0.13	± 0.025	2
Turbidity (field) (NTU)	7.5	9	7.2	1.6	0.3	to 209	6.4	± 3.400	61
Methane (ug/L)			↑300		39	to 53	46	± 7.000	2

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

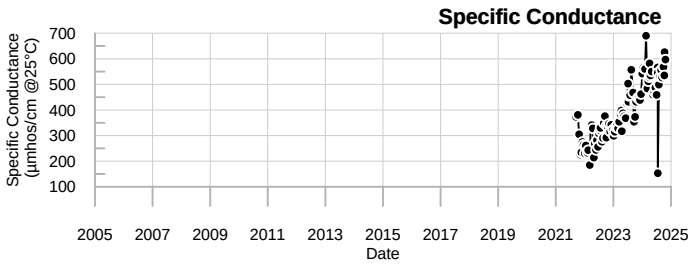
↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

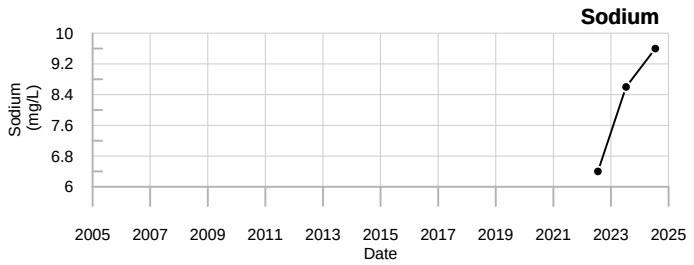
Comments

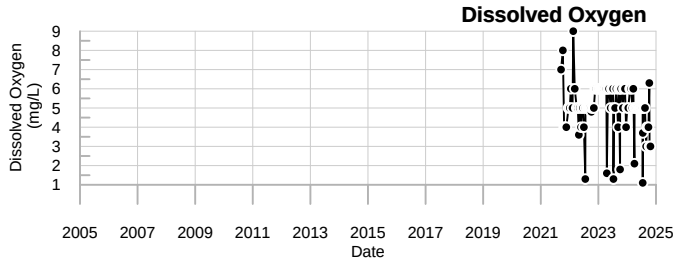
*Field parameters measured monthly by NEWSME.
Q1= 1 - 2024 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

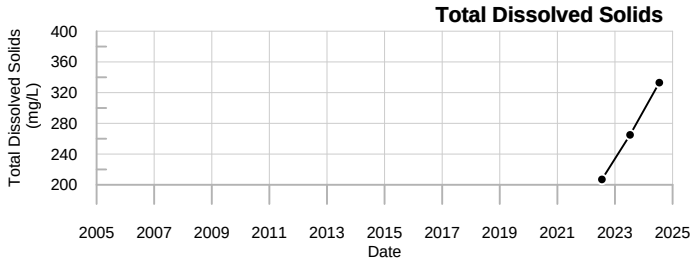
Data Group: 245
Printed: 4/16/2025 11:25

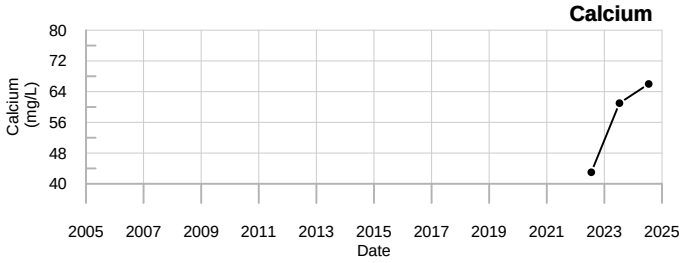
SME SEVEE & MAHER ENGINEERS

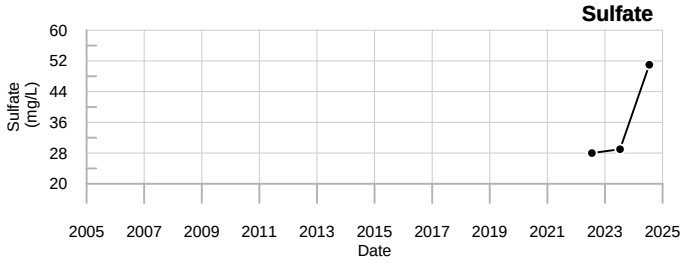


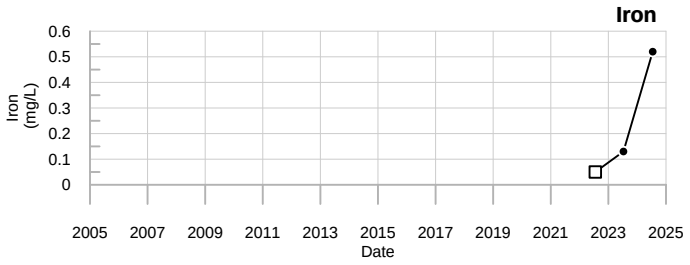


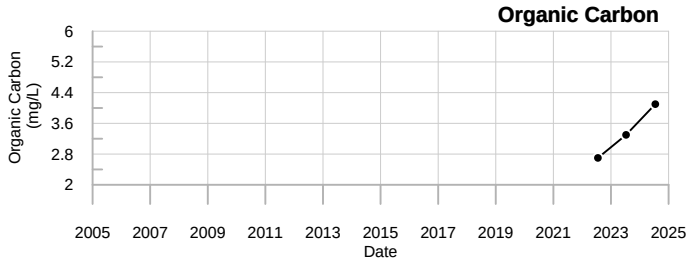


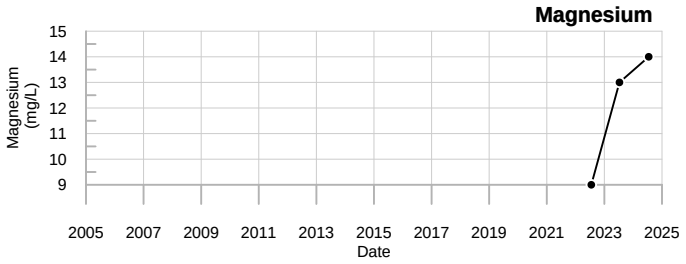


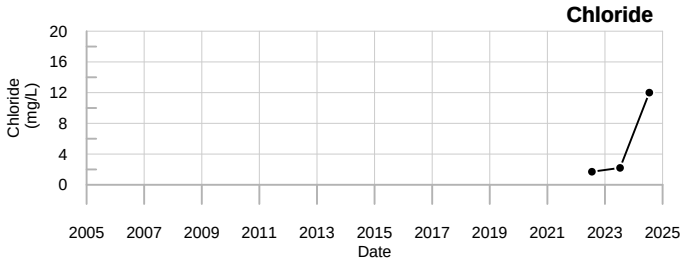


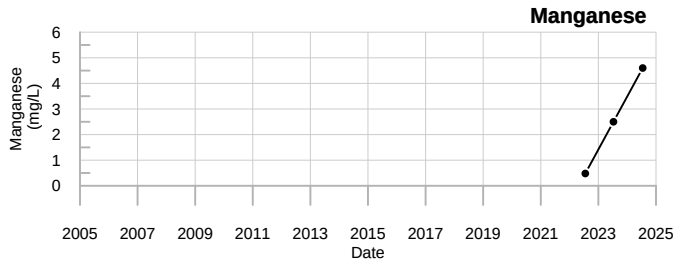


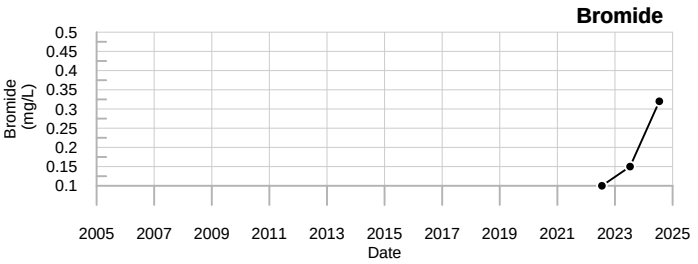












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

LF-LD-13
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

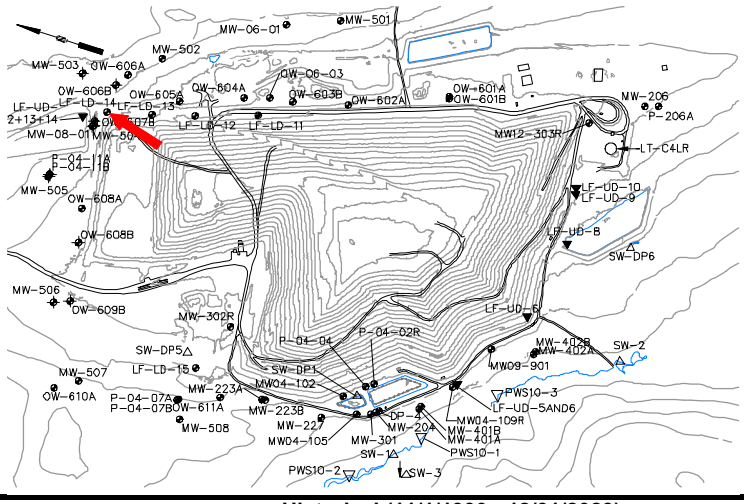
Well Description

LF-LD-14 monitors the leak detection system for Cell 14 from the Cell 14 leak detection system pump station.

Sampled: **Annually in summer***

Sampled Since: **7/26/2022**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	798	↑892	↑854	↑836	319	to 803	550	± 18.000	39
pH (STU)	7	7.1	6.9	6.9	6.5	to 7.4	7	± 0.044	39
Temperature (Deg C)	20.6	25.4	24.5	22.8	14.3	to 27.6	20	± 0.510	39
Eh (mV)	209	313	345	345	137	to 399	270	± 9.700	39
Dissolved Oxygen (mg/L)	6	6	5	↑6.4	1.8	to 6	5.4	± 0.160	39
Flow Rate (cfs)		↓0.0022	0.0129	↑0.105	0.0045	to 0.0147	0.011	± 0.003	3
Total Flow (gallons)		↑208320	↑243945	↑267369	32626	to 32626	33000	± 0.000	1
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	1
Calcium (mg/L)			↑120		96	to 96	96	± 0.000	1
Copper (mg/L)			0.003		0.003 U	to 0.003 U	0.003	± 0.000	1
Iron (mg/L)			↑1.6		0.72	to 0.72	0.72	± 0.000	1
Magnesium (mg/L)			↑25		22	to 22	22	± 0.000	1
Manganese (mg/L)			↑4.7		1.3	to 1.3	1.3	± 0.000	1
Potassium (mg/L)			↓6.7		7	to 7	7	± 0.000	1
Sodium (mg/L)			7.8		7.8	to 7.8	7.8	± 0.000	1
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	1
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	1
Nitrite/Nitrate - (N) (mg/L)			↓0.05 U		0.088	to 0.088	0.088	± 0.000	1
Total Dissolved Solids (mg/L)			↑474		368	to 368	370	± 0.000	1
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 2.5 U	2.5	± 0.000	1
Sulfate (mg/L)			↑24		19	to 19	19	± 0.000	1
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	1
Alkalinity (CaCO3) (mg/L)			↑410		310	to 310	310	± 0.000	1
Alkalinity (CaCO3) (field) (mg/L)	400	400	250	250	150	to 400	270	± 11.000	35
Organic Carbon (mg/L)			↑3.9		3.6	to 3.6	3.6	± 0.000	1
Chloride (mg/L)			↓1.1		2.2	to 2.2	2.2	± 0.000	1
Bromide (mg/L)			↑0.11		0.1	to 0.1	0.1	± 0.000	1
Turbidity (field) (NTU)	9.1	24.2	6.2	↑93.9	0.2	to 44.6	11	± 1.300	39
Methane (ug/L)			↑600		79	to 79	79	± 0.000	1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

*Field parameters measured monthly by NEWSME.
Q1= 1 - 2024 U = Not Detected above the laboratory reporting limit.
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

Data Group: 245
Printed: 4/16/2025 11:25

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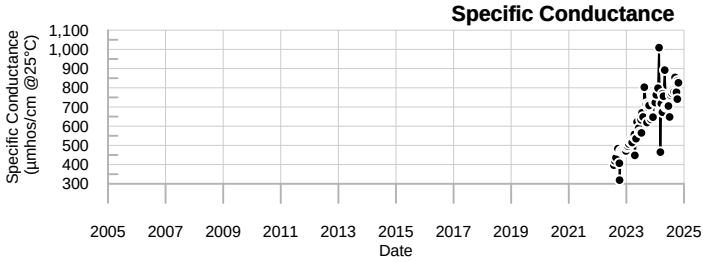

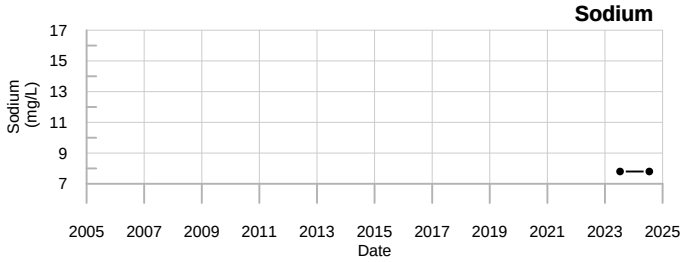

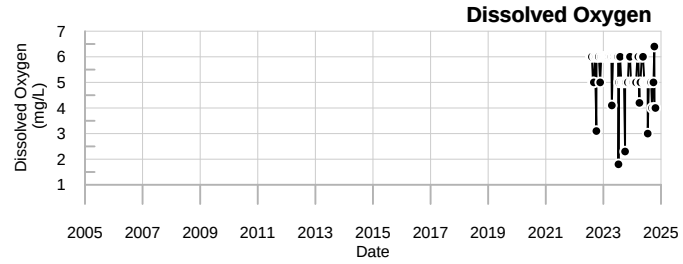

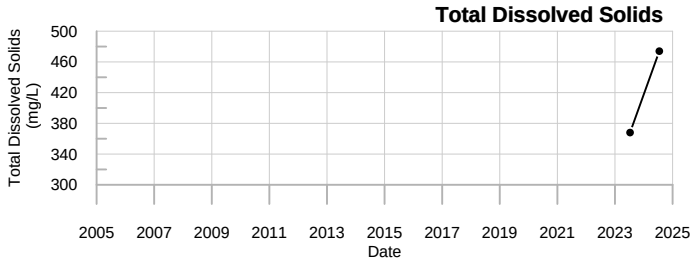

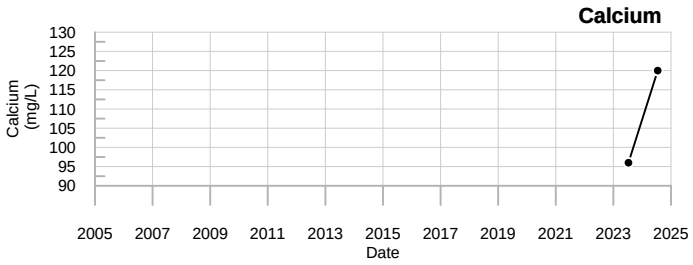

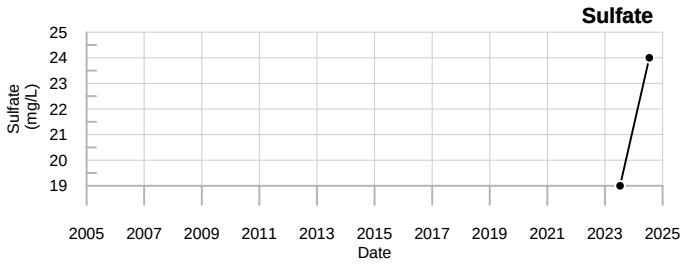

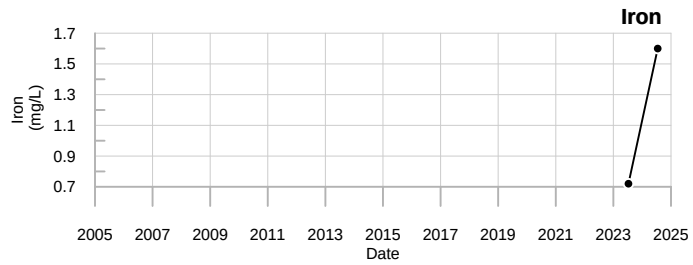

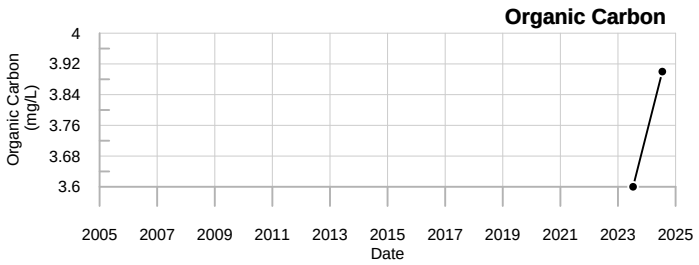

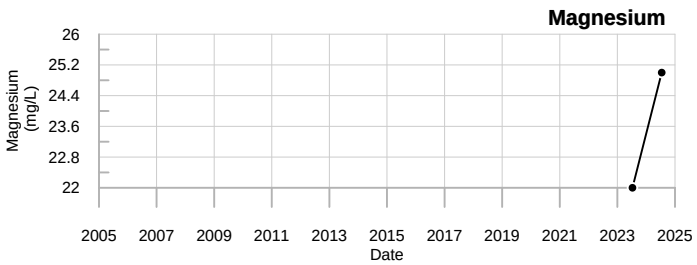

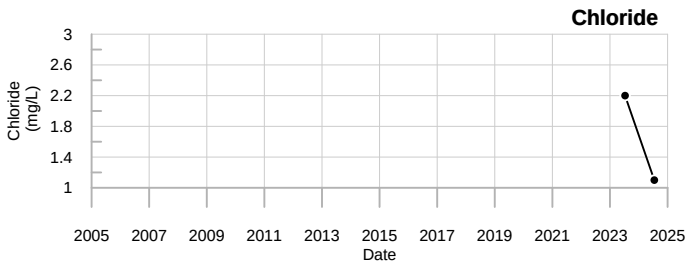

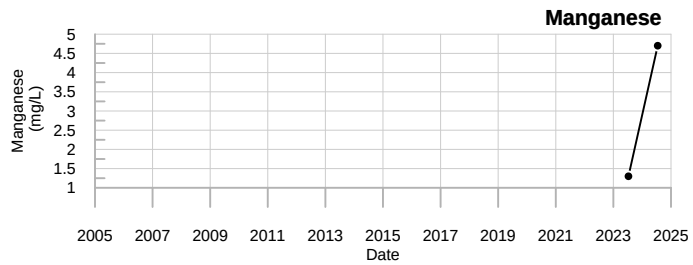

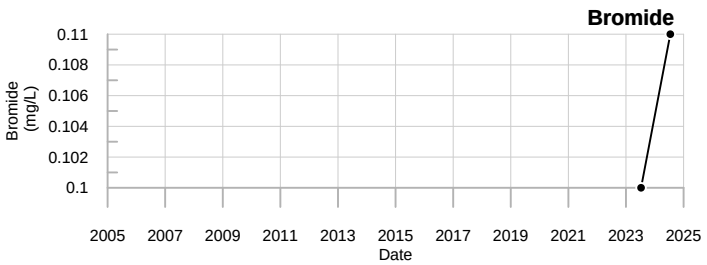

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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LF-LD-14
Juniper Ridge Landfill

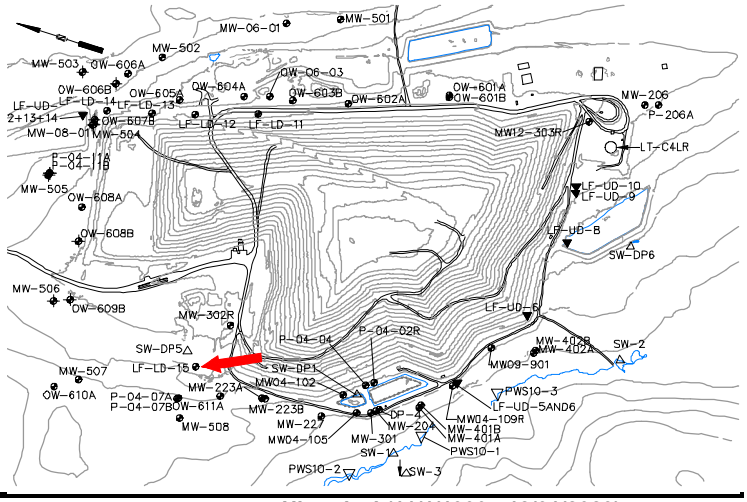
Well Description

LF-LD-15 monitors the leak detection system for Cell 15 from the Cell 15 leak detection pump station.

Sampled: **Annually in summer***

Sampled Since: **7/18/2023**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	738	↑788	↑925	↑981	307	to 761	500	± 46.000	9
pH (STU)	7.6	7.3	7.1	7.1	7	to 7.8	7.5	± 0.073	9
Temperature (Deg C)	↓17.8	24.9	21.7	22.6	18.6	to 25.3	21	± 0.810	9
Eh (mV)	259	321	↑373	↑494	63	to 353	220	± 32.000	9
Dissolved Oxygen (mg/L)	6	6	↑7.6	↑6.4	4.2	to 6	5.5	± 0.230	9
Flow Rate (cfs)		↓0.0022	↑0.015	↑0.01493	0.0145	to 0.0145	0.015	± 0.000	1
Arsenic (mg/L)			0.005 U	0.005 U	No historical data for Arsenic.				
Calcium (mg/L)			160	130	No historical data for Calcium.				
Copper (mg/L)			0.0032	0.003 U	No historical data for Copper.				
Iron (mg/L)			0.17	0.062	No historical data for Iron.				
Magnesium (mg/L)			27	26	No historical data for Magnesium.				
Manganese (mg/L)			5.1	3.3	No historical data for Manganese.				
Potassium (mg/L)			8.5	7.2	No historical data for Potassium.				
Sodium (mg/L)			9.7	9.1	No historical data for Sodium.				
Boron (mg/L)			0.05 U	0.05 U	No historical data for Boron.				
Ammonia (N) (mg/L)			0.5 U	0.5 U	No historical data for Ammonia (N).				
Nitrite/Nitrate - (N) (mg/L)			0.05 U	0.05 U	No historical data for Nitrite/Nitrate - (N).				
Total Dissolved Solids (mg/L)			565	536	No historical data for Total Dissolved Solids.				
Total Suspended Solids (mg/L)			8.3 U	8.3 U	No historical data for Total Suspended Solids.				
Sulfate (mg/L)			13	16	No historical data for Sulfate.				
Sulfide (mg/L)			0.1 U	0.1 U	No historical data for Sulfide.				
Alkalinity (CaCO3) (mg/L)			510	500	No historical data for Alkalinity (CaCO3).				
Alkalinity (CaCO3) (field) (mg/L)	↑350	↑350	250	200	150	to 250	200	± 14.000	8
Organic Carbon (mg/L)			1.5	1.4	No historical data for Organic Carbon.				
Chloride (mg/L)			1 U	3.6	No historical data for Chloride.				
Bromide (mg/L)			0.1 U	0.1 U	No historical data for Bromide.				
Turbidity (field) (NTU)	7.7	7	7.5	9.9	0.4	to 22.9	9.6	± 2.100	9
Methane (ug/L)			570	1400	No historical data for Methane.				

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

*Field parameters measured monthly by NEWSME.

Q1= 1 - 2024 U = Not Detected above the laboratory reporting limit.

Q2= 4 - 2024

Q3= 7 - 2024

Q4= 10 - 2024

Data Group: 245

Printed: 4/16/2025 11:25

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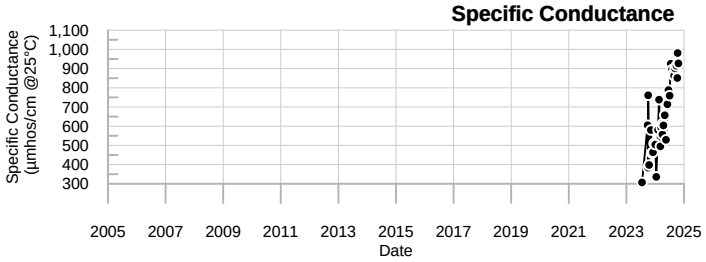
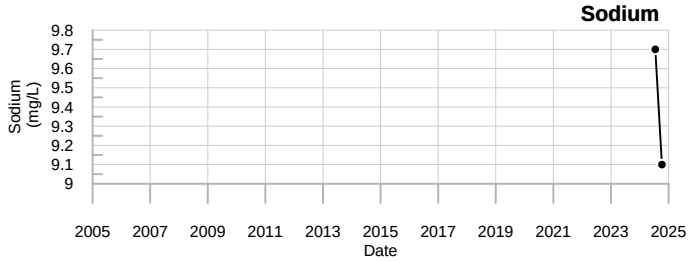
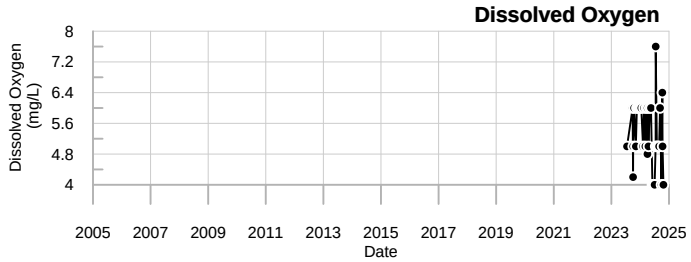
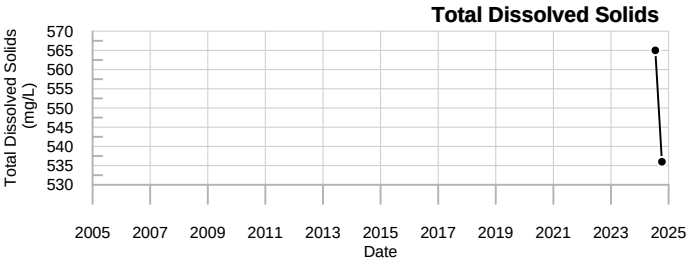
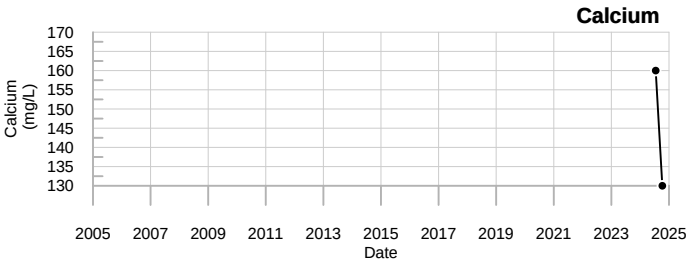
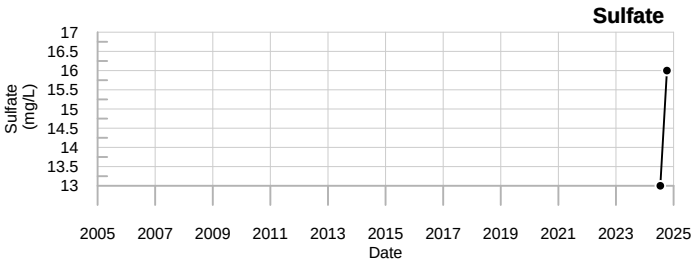


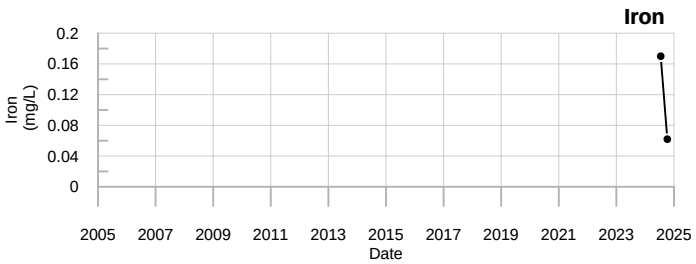


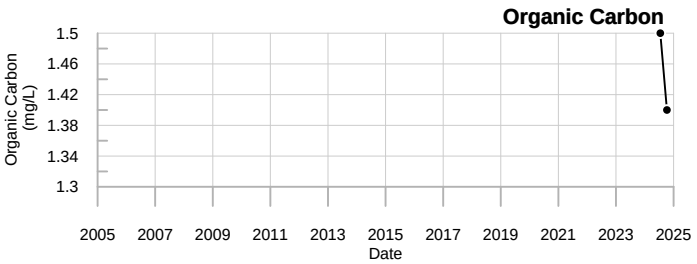


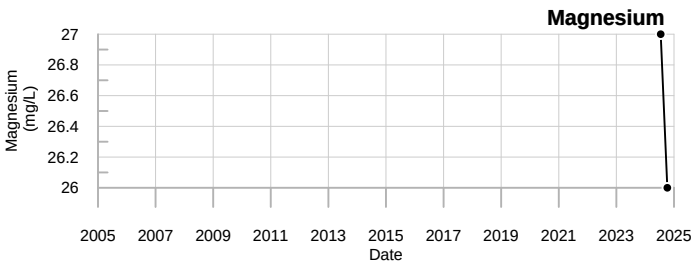


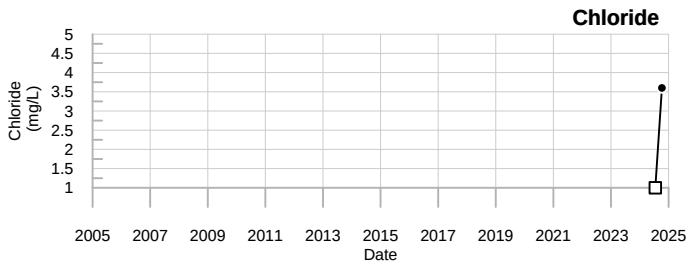


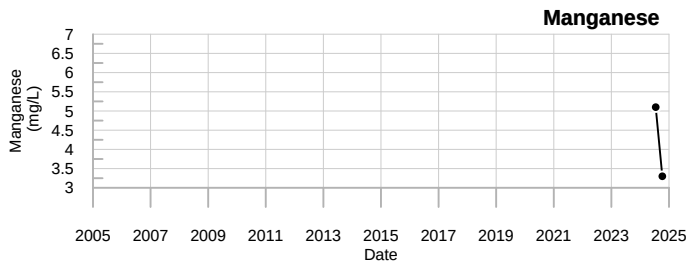


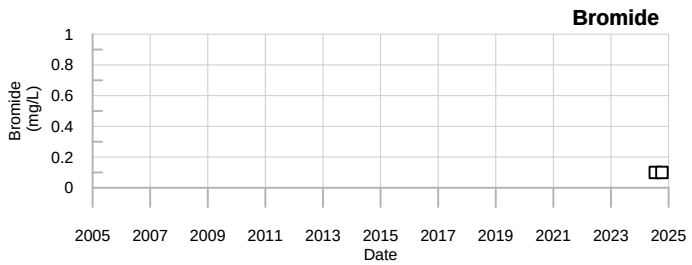












LEGEND

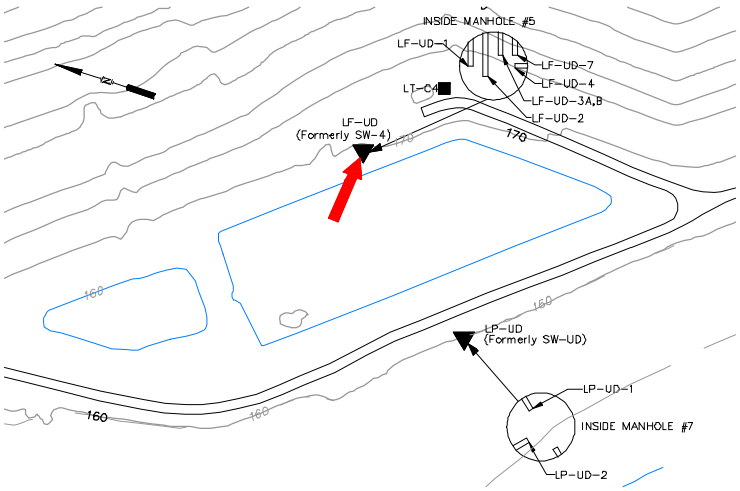
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

LF-LD-15
Juniper Ridge Landfill

Well Description

LF-UD-1 monitors the landfill underdrain from Cell #1 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	102	611	330	6.000	139
pH (STU)	H8	H8	H8	H8	6.3	8.4	7.3	0.042	139
Temperature (Deg C)	H8	H8	H8	H8	0.6	25.9	14	0.440	139
Eh (mV)	H8	H8	H8	H8	173	524	340	5.300	139
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	2	11	6.6	0.140	138
Flow Rate (cfs)	H8	H8	H8	H8	0.00002	0.0067	0.0012	0.000	119
Arsenic (mg/L)		D	F6	F6	0.001	0.015	0.0058	0.001	30
Calcium (mg/L)		D	F6	F6	25	58	43	1.700	30
Iron (mg/L)		D	F6	F6	0.02 U	4.57	0.22	0.150	30
Magnesium (mg/L)		D	F6	F6	7.4	14	10	0.290	30
Manganese (mg/L)		D	F6	F6	0.02 U	0.1	0.034	0.004	30
Potassium (mg/L)		D	F6	F6	1.8	4.1	3	0.140	30
Sodium (mg/L)		D	F6	F6	5.8	10	8	0.190	30
Nitrite/Nitrate - (N) (mg/L)		D	F6	F6	0.07	2 U	0.52	0.250	7
Total Phosphorus Mixed Forms (PO4 and		D	F6	F6	0.01 U	0.33	0.039	0.011	30
Total Dissolved Solids (mg/L)		D	F6	F6	130	290	200	7.100	30
Total Suspended Solids (mg/L)		D	F6	F6	2.5 U	394	23	13.000	30
Sulfate (mg/L)		D	F6	F6	4.1	35	9.6	1.200	30
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	F6	F6	110	179	150	4.200	30
Alkalinity (CaCO3) (field) (mg/L)			H8		40	485	140	4.200	132
Organic Carbon (mg/L)		D	F6	F6	0.5 U	6.4	1.9	0.190	30
Chloride (mg/L)		D	F6	F6	1.9	26	9.1	1.500	30
Bromide (mg/L)		D	F6	F6	0.1 U	0.21	0.15	0.014	11
Turbidity (field) (NTU)	H8	H8	H8	H8	0	8.1	1.1	0.110	138

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

H8 = No flow from pipe. See LF-COMP for readings
H2 = Water level higher than pipes. See LF-COMP for readings
F6 = No flow. Sample not taken.
D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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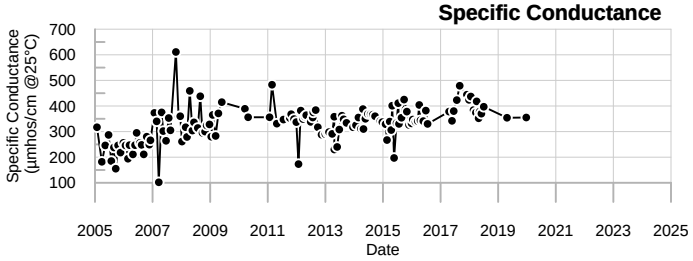
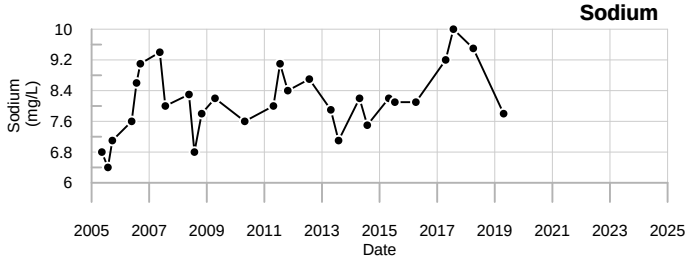
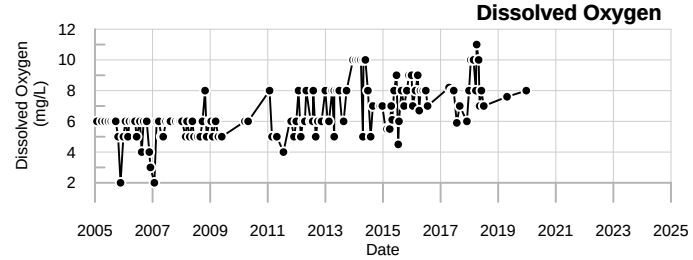
Specific Conductance



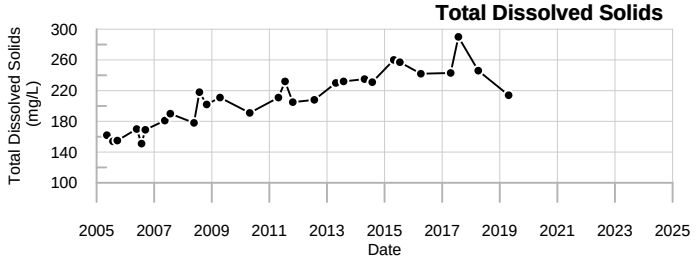
Sodium



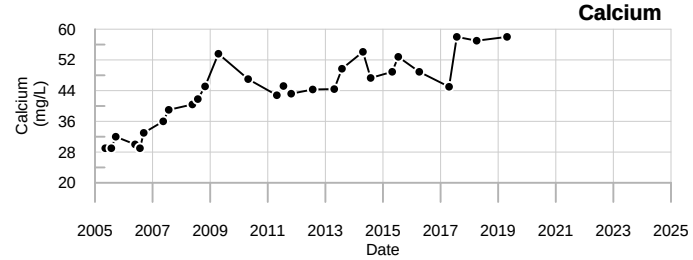
Dissolved Oxygen



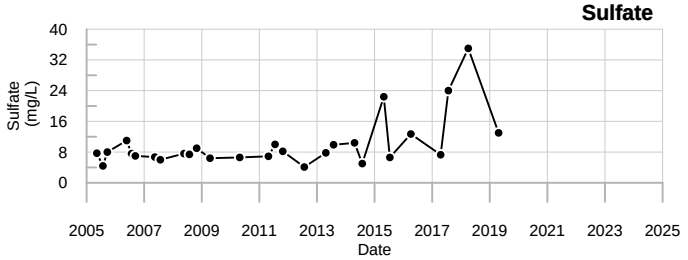
Total Dissolved Solids



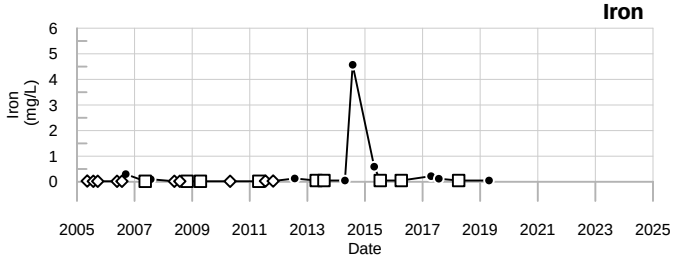
Calcium



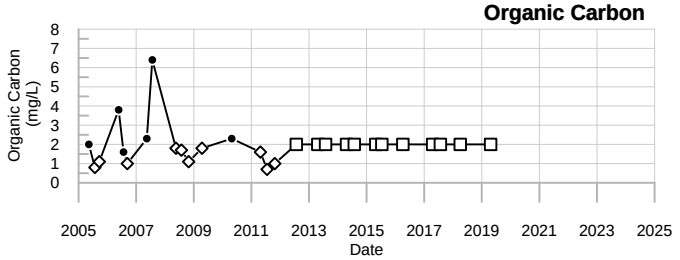
Sulfate



Iron



Organic Carbon



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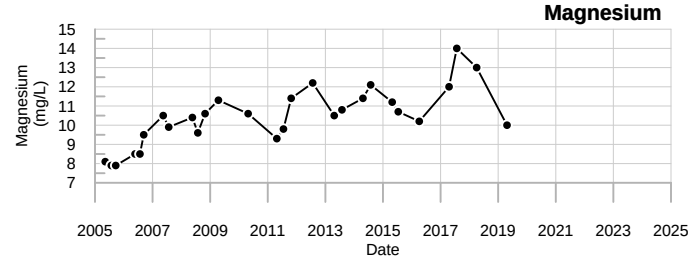
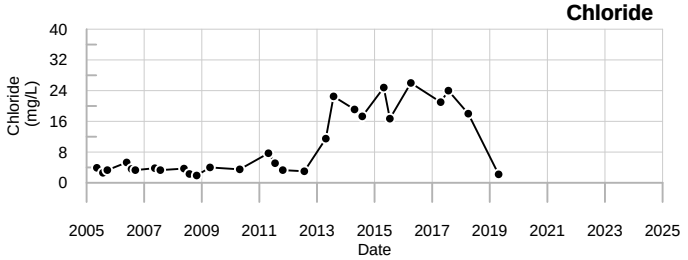
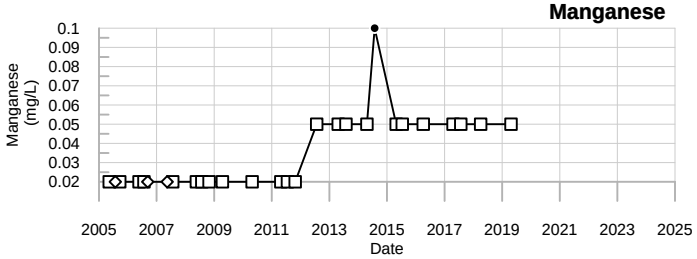


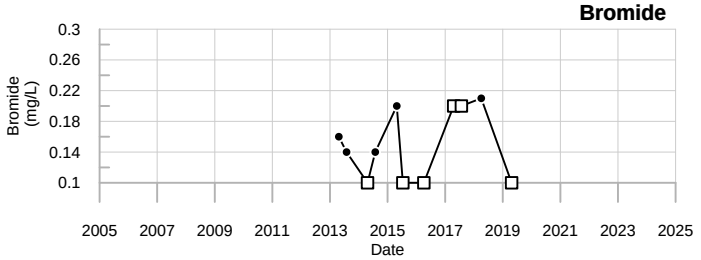
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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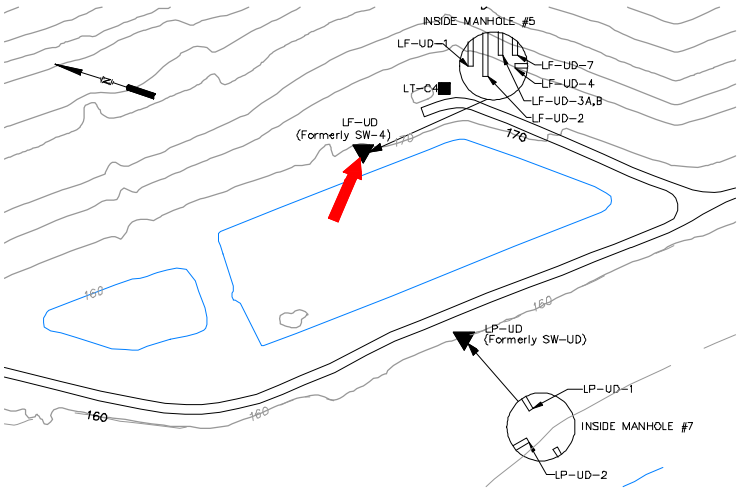
LF-UD-1
Juniper Ridge Landfill

Well Description

LF-UD-2 monitors the landfill underdrain from Cell #2 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	134	709	330	6.200	202
pH (STU)	H8	H8	H8	H8	6	8.5	7.5	0.036	202
Temperature (Deg C)	H8	H8	H8	H8	2.2	28.4	16	0.360	202
Eh (mV)	H8	H8	H8	H8	168	554	340	4.800	202
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	2	10.2	6.4	0.095	200
Flow Rate (cfs)	H8	H8	H8	H8	0.00002	0.0223	0.0022	0.000	184
Arsenic (mg/L)		D	D	F6	0.001 U	0.024	0.007	0.001	46
Calcium (mg/L)		D	D	F6	20	71.5	45	2.100	46
Iron (mg/L)		D	D	F6	0.02 U	2.5	0.14	0.057	46
Magnesium (mg/L)		D	D	F6	6.1	15	10	0.350	46
Manganese (mg/L)		D	D	F6	0.02 U	0.13	0.038	0.003	46
Potassium (mg/L)		D	D	F6	1.9	5.4	3.2	0.120	46
Sodium (mg/L)		D	D	F6	5.2	18.1	7.9	0.400	46
Nitrite/Nitrate - (N) (mg/L)		D	D	F6	0.05 U	2 U	0.35	0.110	17
Total Phosphorus Mixed Forms (PO4 and		D	D	F6	0.01 U	0.66	0.049	0.014	46
Total Dissolved Solids (mg/L)		D	D	F6	132	307	220	8.000	46
Total Suspended Solids (mg/L)		D	D	F6	2.5 U	370	18	8.100	46
Sulfate (mg/L)		D	D	F6	2 U	56	8.9	1.400	46
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	F6	92	230	150	5.700	46
Alkalinity (CaCO3) (field) (mg/L)			H2		35	350	140	3.100	183
Organic Carbon (mg/L)		D	D	F6	0.6	43	2.8	0.930	46
Chloride (mg/L)		D	D	F6	1.7	41.2	12	1.600	46
Bromide (mg/L)		D	D	F6	0.1 U	0.2	0.15	0.009	23
Turbidity (field) (NTU)	H8	H8	H8	H8	0	8.7	0.97	0.100	201

underlined/bold - values exceed a regulatory standard listed below.

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Comments

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Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

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H2 = Water level higher than pipes. See LF-COMP for readings
F6 = No flow. Sample not taken.
D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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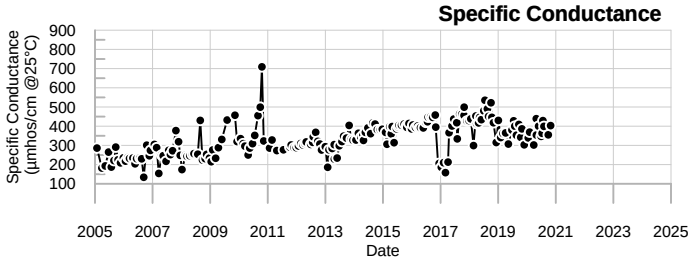

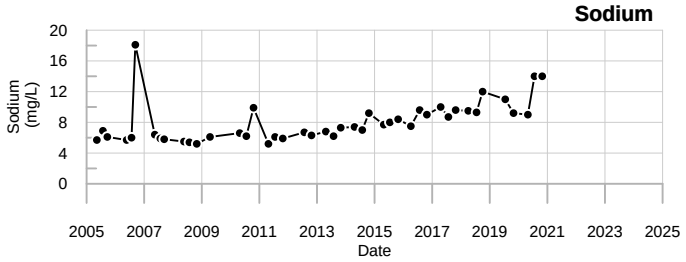

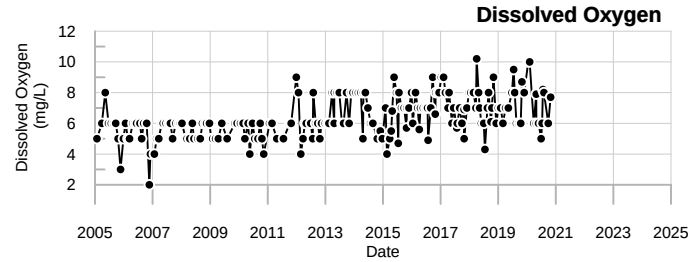

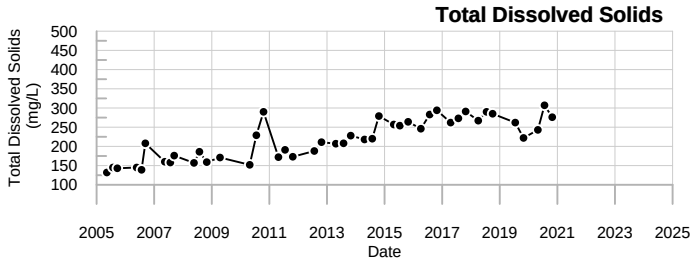

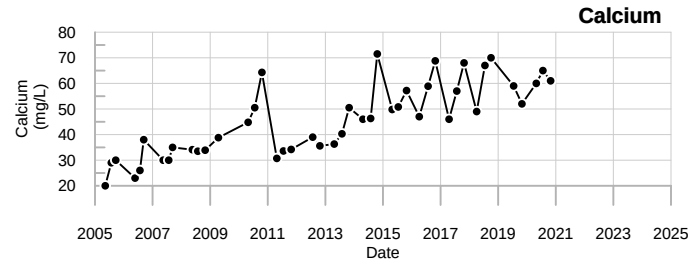

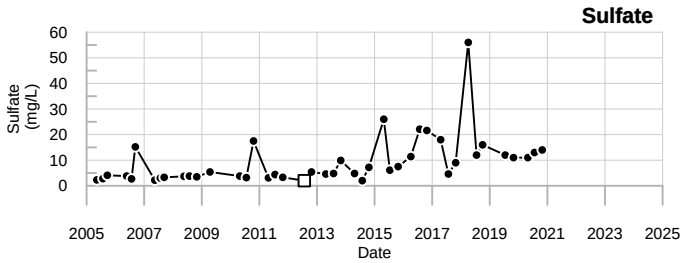

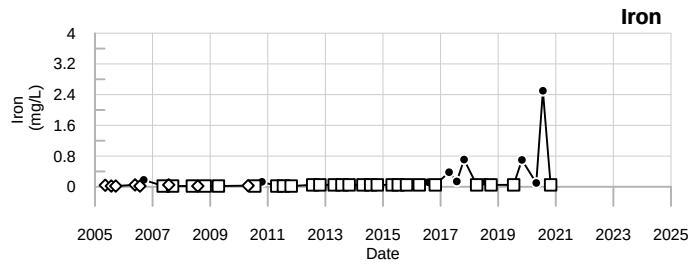

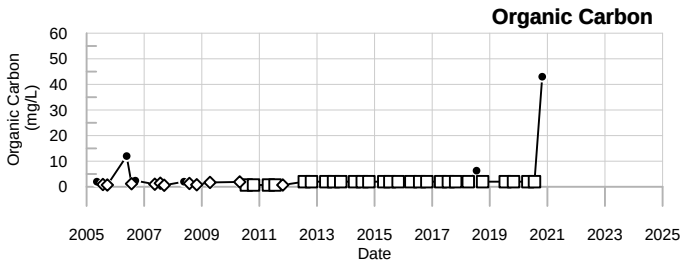

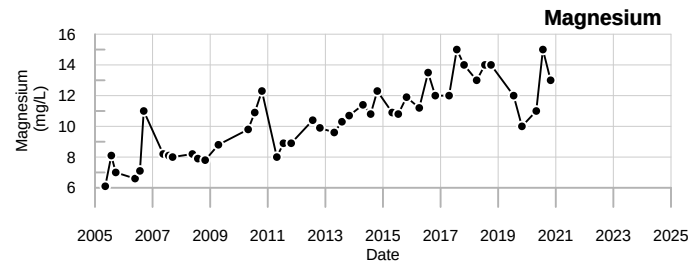

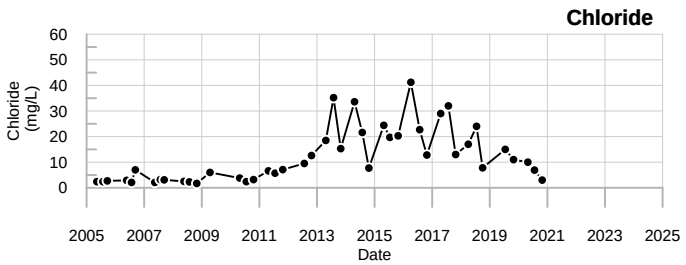

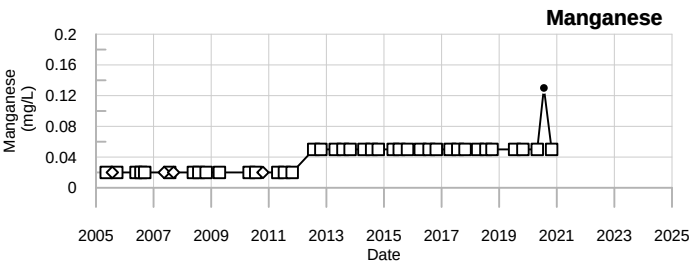

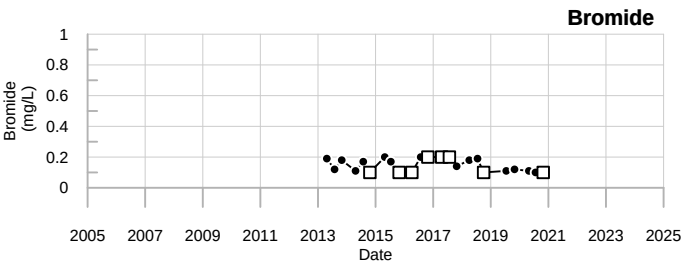

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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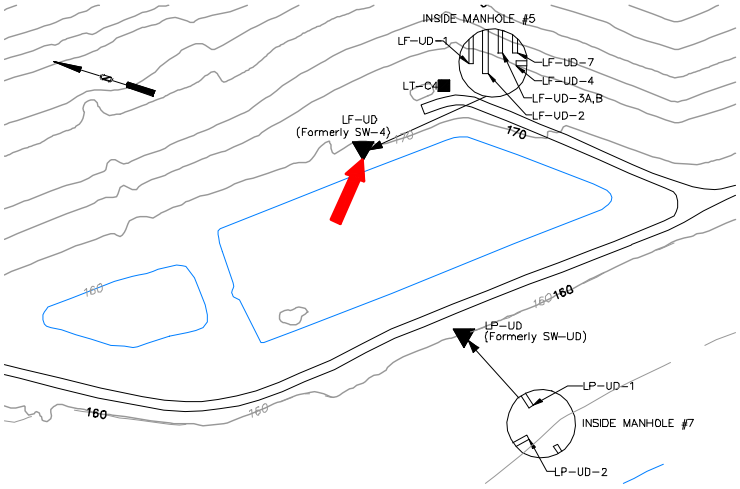
ENGINEERS

LF-UD-2
Juniper Ridge Landfill

Well Description

LF-UD-3A, B monitors the landfill underdrains from cell 3A and cell 3B at Manhole #5.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **July 2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	126	565	370	19.000	27
pH (STU)	H8	H8	H8	H8	6.2	8.4	7.6	0.120	27
Temperature (Deg C)	H8	H8	H8	H8	5	19.8	13	0.820	27
Eh (mV)	H8	H8	H8	H8	94	447	290	13.000	27
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	4	8	5.6	0.140	27
Flow Rate (cfs)	H8	H8	H8	H8	0.0003	0.0067	0.0033	0.000	27
Arsenic (mg/L)		D	D	F6	0.003 U	0.01	0.0048	0.001	5
Calcium (mg/L)		D	D	F6	46.4	69.9	56	4.400	5
Iron (mg/L)		D	D	F6	0.02 U	0.02 U	0.02	0.000	5
Magnesium (mg/L)		D	D	F6	8.2	12.5	10	0.810	5
Manganese (mg/L)		D	D	F6	0.02 U	0.12	0.048	0.020	5
Potassium (mg/L)		D	D	F6	1.8	3.3	2.4	0.310	5
Sodium (mg/L)		D	D	F6	6	9.5	8	0.630	5
Nitrite/Nitrate - (N) (mg/L)		D	D	F6	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and		D	D	F6	0.01 U	0.01	0.01	0.000	5
Total Dissolved Solids (mg/L)		D	D	F6	163	263	230	17.000	5
Total Suspended Solids (mg/L)		D	D	F6	4 U	4 U	4	0.000	5
Sulfate (mg/L)		D	D	F6	8.3	16.3	13	1.300	5
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	F6	123	201	160	15.000	5
Alkalinity (CaCO3) (field) (mg/L)			H2		85	475	180	17.000	27
Organic Carbon (mg/L)		D	D	F6	1.2	4.8	3.4	0.660	5
Chloride (mg/L)		D	D	F6	2.4	12.6	7.8	1.700	5
Bromide (mg/L)		D	D	F6	No historical data for Bromide.				
Turbidity (field) (NTU)	H8	H8	H8	H8	0	5	0.9	0.200	27

underlined/bold - values exceed a regulatory standard listed below.

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Comments

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Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

H8 = No flow from pipe. See LF-COMP for readings
H2 = Water level higher than pipes. See LF-COMP for readings
F6 = No flow. Sample not taken.
D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

SME
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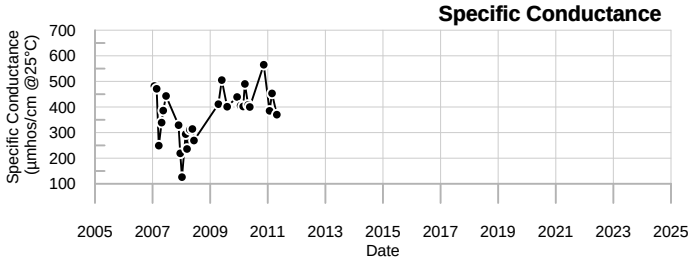

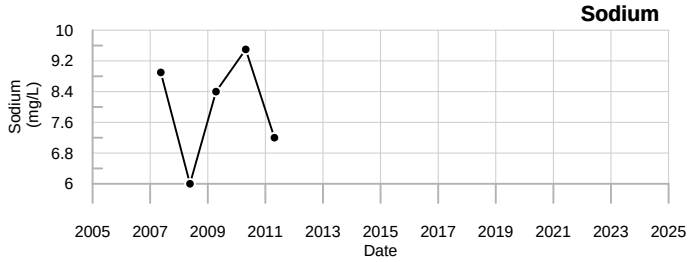

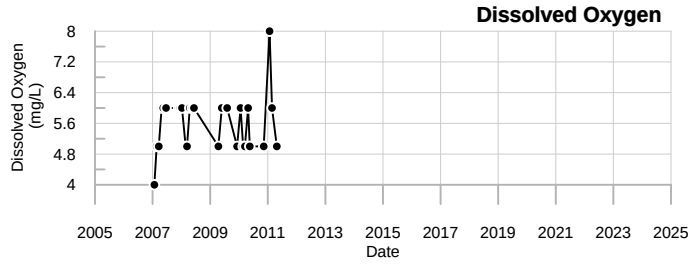

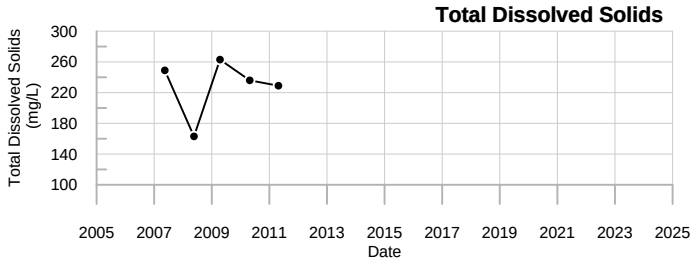

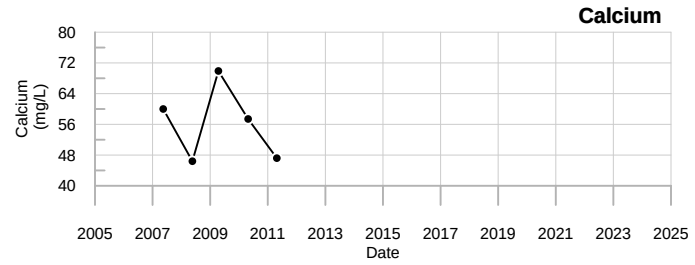

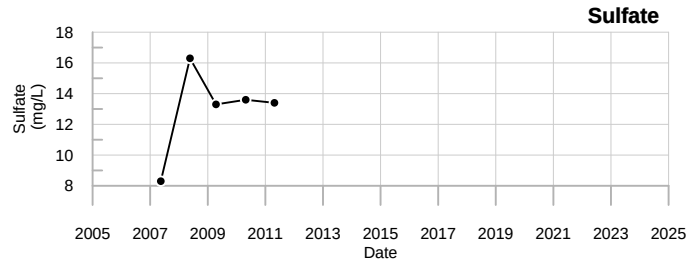

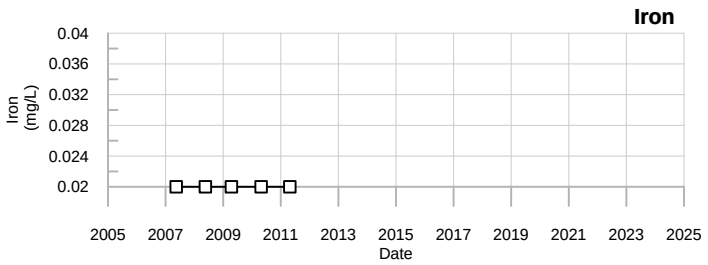

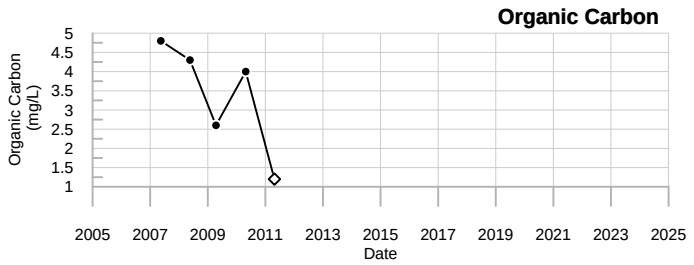

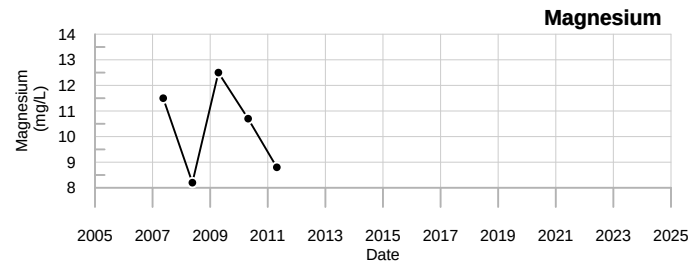

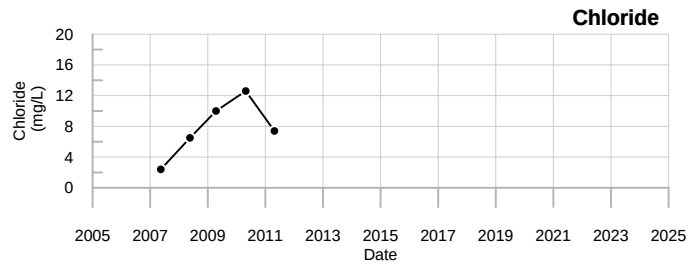

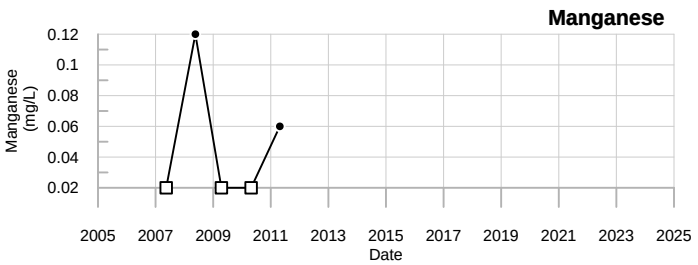

No Data Found for Bromide

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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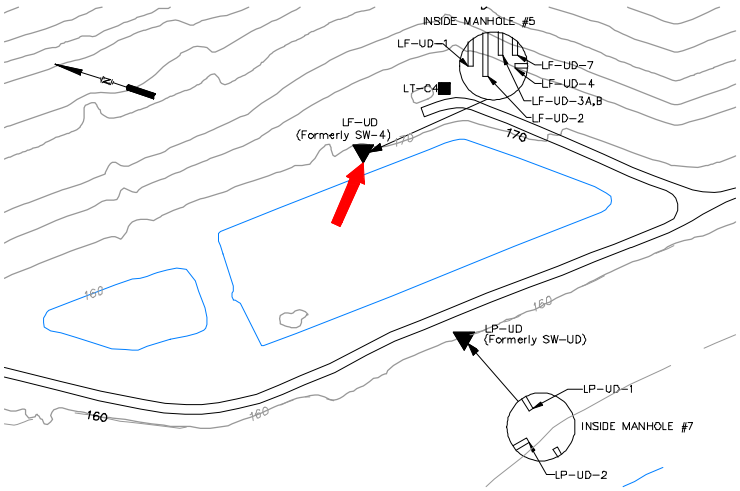
LF-UD-3A,B
Juniper Ridge Landfill

LF-UD-4
Annual Stats

Well Description

LF-UD-4 monitors the landfill underdrain from Cell #4 at Manhole #5.



Sampled: **Monthly & 3 Times Annually**

Sampled Since: **03/11/2009**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	153	562	410	9.900	43
pH (STU)	H8	H8	H8	H8	6.9	8.3	7.5	0.065	43
Temperature (Deg C)	H8	H8	H8	H8	4.5	30.7	16	0.750	43
Eh (mV)	H8	H8	H8	H8	212	571	350	12.000	43
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	4	10.3	6.4	0.250	43
Flow Rate (cfs)	H8	H8	H8	H8	0.0001	0.0078	0.0015	0.000	40
Arsenic (mg/L)		D	F6	F6	0.002	0.014	0.0067	0.001	16
Calcium (mg/L)		D	F6	F6	44.8	75.7	57	2.100	16
Iron (mg/L)		D	F6	F6	0.02 U	1.4	0.2	0.086	16
Magnesium (mg/L)		D	F6	F6	9.4	14	12	0.400	16
Manganese (mg/L)		D	F6	F6	0.02 U	0.16	0.055	0.007	16
Potassium (mg/L)		D	F6	F6	3.4	5.8	4.1	0.160	16
Sodium (mg/L)		D	F6	F6	7.4	11	9.4	0.270	16
Nitrite/Nitrate - (N) (mg/L)		D	F6	F6	0.13	0.42	0.25	0.031	10
Total Phosphorus Mixed Forms (PO4 and		D	F6	F6	0.01 U	0.18	0.051	0.009	16
Total Dissolved Solids (mg/L)		D	F6	F6	206	298	250	6.200	16
Total Suspended Solids (mg/L)		D	F6	F6	2.5 U	210	29	14.000	16
Sulfate (mg/L)		D	F6	F6	2 U	27	14	1.800	16
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	F6	F6	136	210	180	5.000	16
Alkalinity (CaCO3) (field) (mg/L)			H2		92	300	180	8.400	33
Organic Carbon (mg/L)		D	F6	F6	1 U	5.1	2.1	0.220	16
Chloride (mg/L)		D	F6	F6	1 U	24	9.7	2.000	16
Bromide (mg/L)		D	F6	F6	0.1 U	0.2	0.14	0.013	13
Turbidity (field) (NTU)	H8	H8	H8	H8	0	9.1	0.91	0.220	43

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the

↑ indicates a value greater than the historical maximum value; ↓

Comments

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

H8 = No flow from pipe. See LF-COMP for readings

H2 = Water level higher than pipes. See LF-COMP for readings

F6 = No flow. Sample not taken.

D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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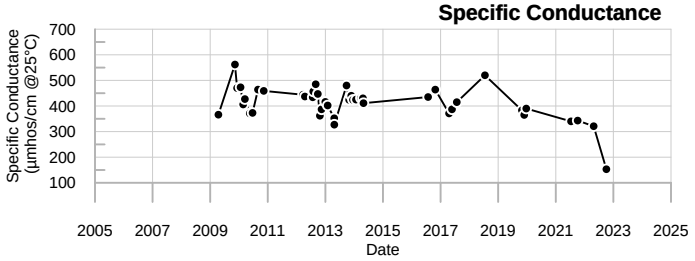
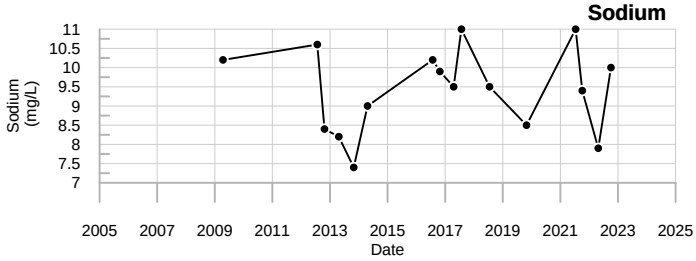
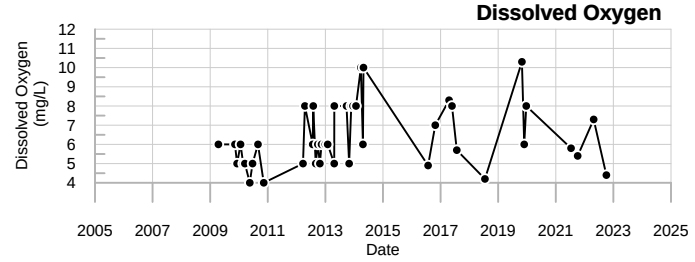
Specific Conductance



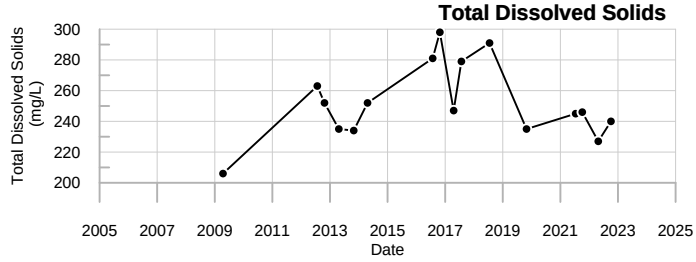
Sodium



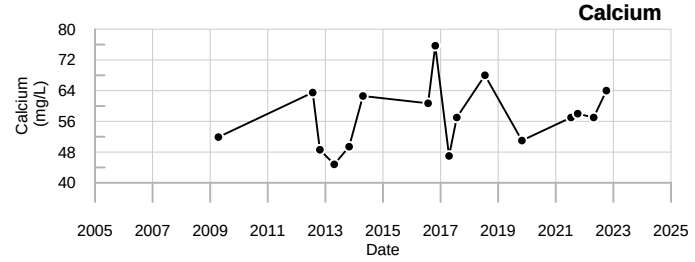
Dissolved Oxygen



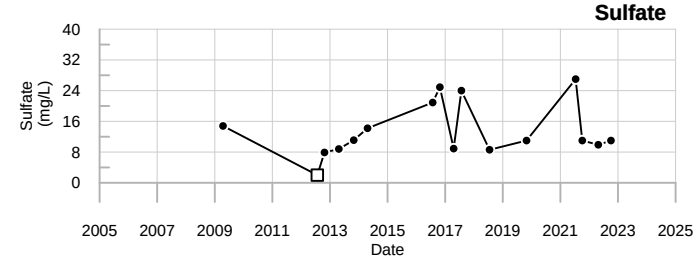
Total Dissolved Solids



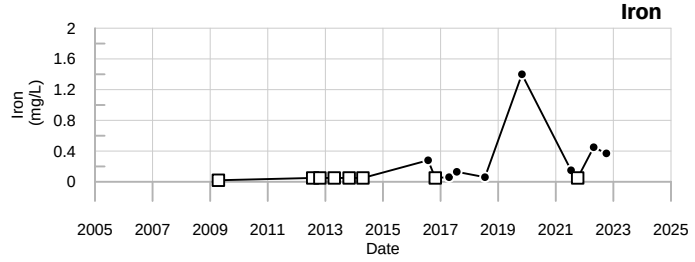
Calcium



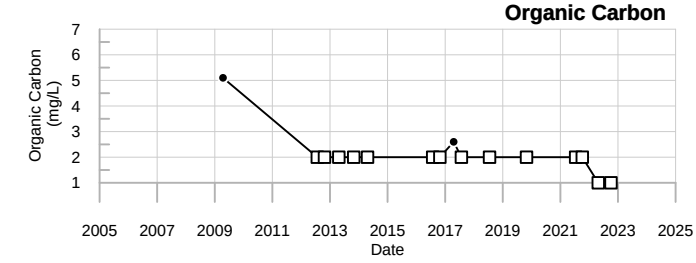
Sulfate



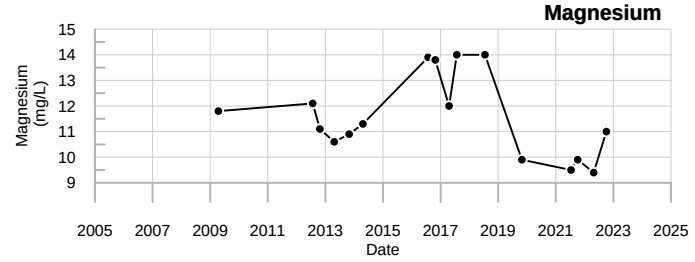
Iron



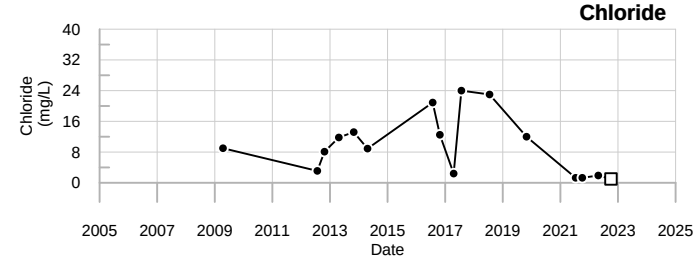
Organic Carbon



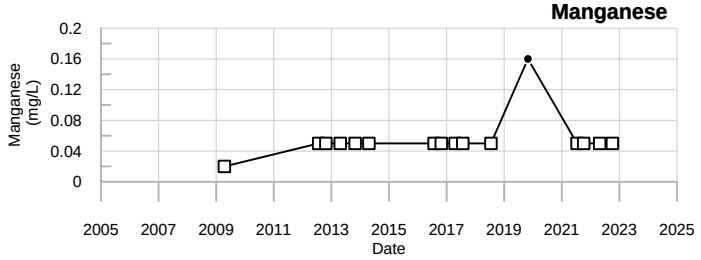
Magnesium



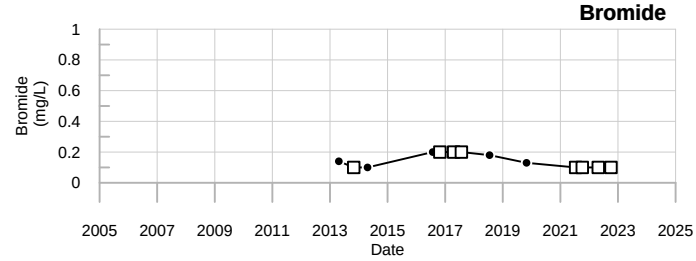
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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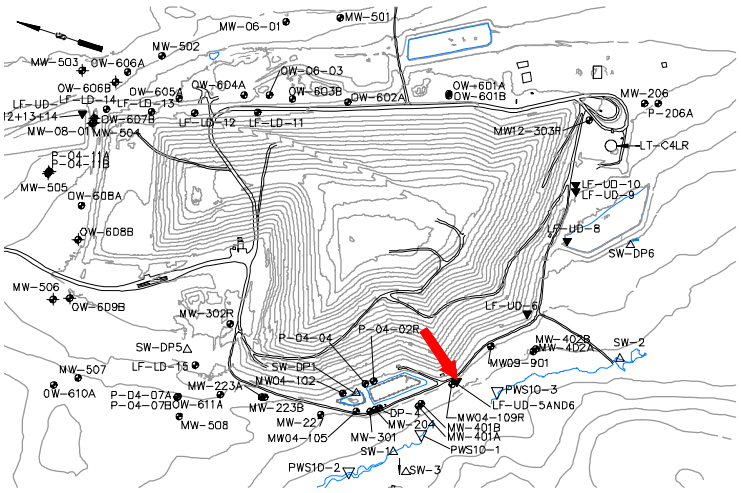
LF-UD-4
Juniper Ridge Landfill

Well Description

LF-UD-5and6 monitors the landfill underdrain from Cell #5 and Cell #6(composite). This underdrain pipe is located southeast of MW04-109R.



Sampled: **3 Times Annually and Monthly**

Sampled Since: **July 2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	342	352	323	371	117	to 652	360	± 5.900	180
pH (STU)	7.9	8	7.5	8.3	6.7	to 8.5	7.8	± 0.031	180
Temperature (Deg C)	13.4	9	21.5	19.6	4.2	to 26.5	16	± 0.350	180
Eh (mV)	351	439	410	331	70	to 532	350	± 4.300	179
Dissolved Oxygen (mg/L)	6	8.8	8	8	4	to 12.8	7.2	± 0.120	178
Flow Rate (cfs)	0.0001	0.0022	0.0006	F6	0.00003	to 0.0053	0.00058	± 0.000	158
Arsenic (mg/L)		0.005 U	0.005 U	F6	0.005 U	to 0.024	0.0085	± 0.001	37
Calcium (mg/L)		35	39	F6	34	to 71.3	52	± 1.500	37
Iron (mg/L)		0.11	0.16	F6	0.02 U	to 11.3	0.44	± 0.300	37
Magnesium (mg/L)		8.7	9.7	F6	8.2	to 15.4	11	± 0.260	37
Manganese (mg/L)		0.05 U	0.05 U	F6	0.02 U	to 0.25	0.053	± 0.006	37
Potassium (mg/L)		2.2	2.2	F6	1.8	to 7	3.5	± 0.200	37
Sodium (mg/L)		7.9	8.6	F6	6.2	to 10.2	8.3	± 0.160	37
Nitrite/Nitrate - (N) (mg/L)		0.21	0.1	F6	0.05 U	to 0.5 U	0.18	± 0.023	24
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	F6	0.01	to 0.16	0.045	± 0.004	37
Total Dissolved Solids (mg/L)		↓172	188	F6	183	to 332	230	± 6.000	37
Total Suspended Solids (mg/L)		8.3 U	8.3 U	F6	2.5 U	to 154	16	± 5.400	37
Sulfate (mg/L)		8.6	9.4	F6	8.3	to 39	13	± 0.970	37
Bicarbonate Alkalinity (CaCO3) (mg/L)		↓140	150	F6	150	to 238	180	± 4.200	37
Alkalinity (CaCO3) (field) (mg/L)	175	180	80	175	35	to 435	170	± 4.100	151
Organic Carbon (mg/L)		1.4	1 U	F6	1 U	to 2.5	1.8	± 0.067	37
Chloride (mg/L)		3.7	3.7	F6	1.5	to 6.2	2.8	± 0.140	37
Bromide (mg/L)		0.14	0.13	F6	0.1 U	to 0.2 U	0.13	± 0.007	29
Turbidity (field) (NTU)	7.4	6.4	2.7	8.3	0	to 57.7	4.2	± 0.640	179

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

I = The sampling location yielded insufficient quantity to collect a sample.

F6 = No flow. Sample not taken.

Data Group: 245
Printed: 4/16/2025 11:25

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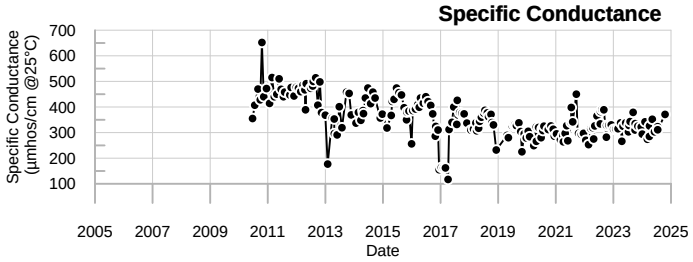

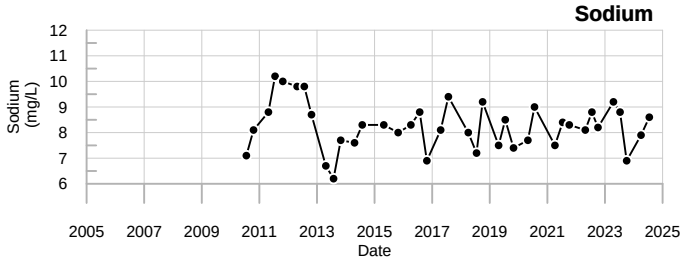

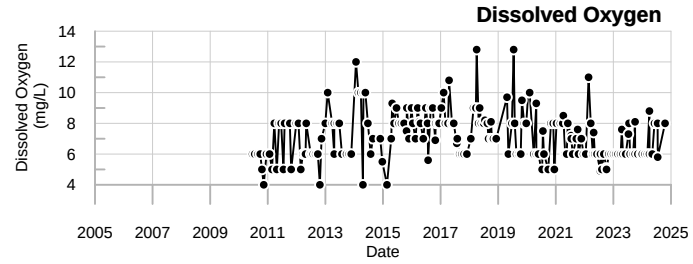

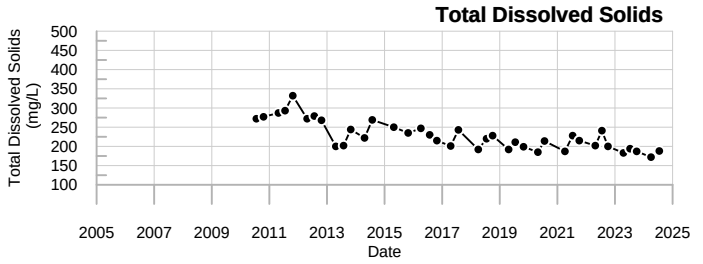

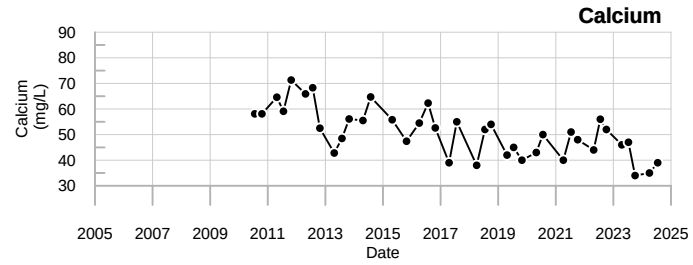

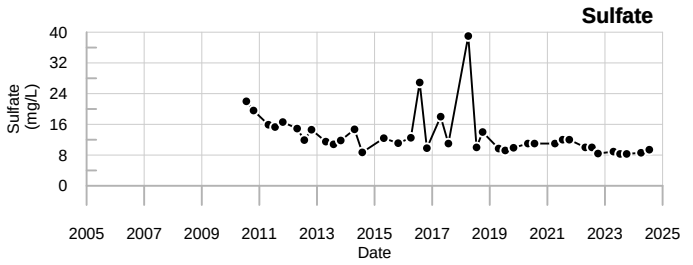

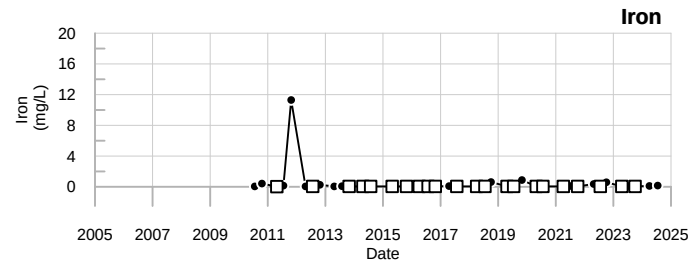

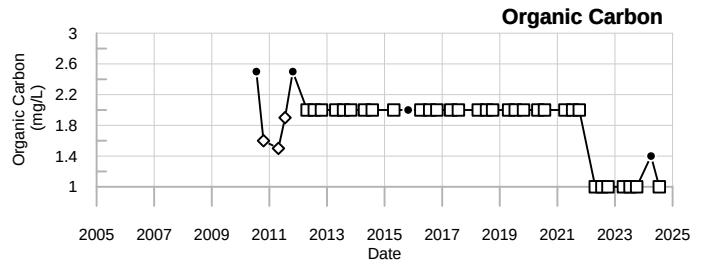

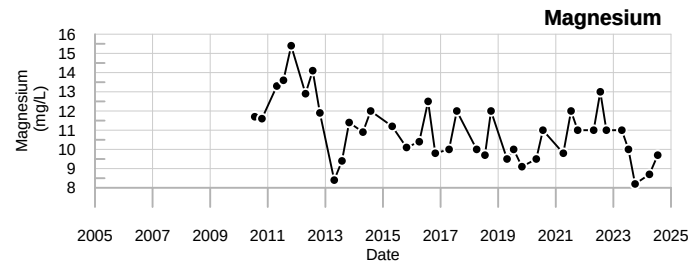

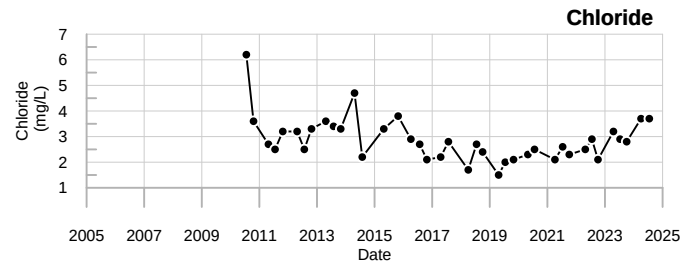

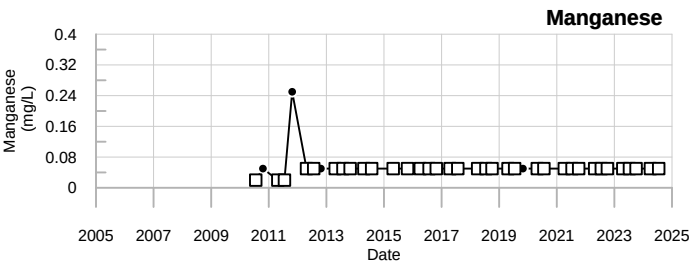

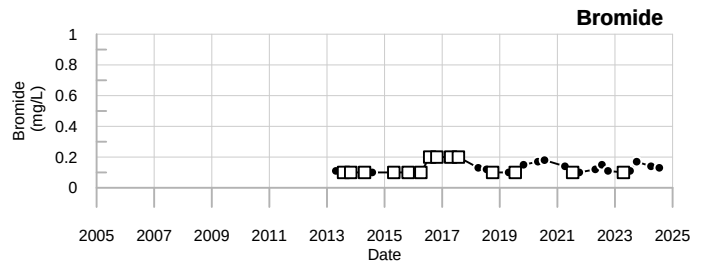

LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

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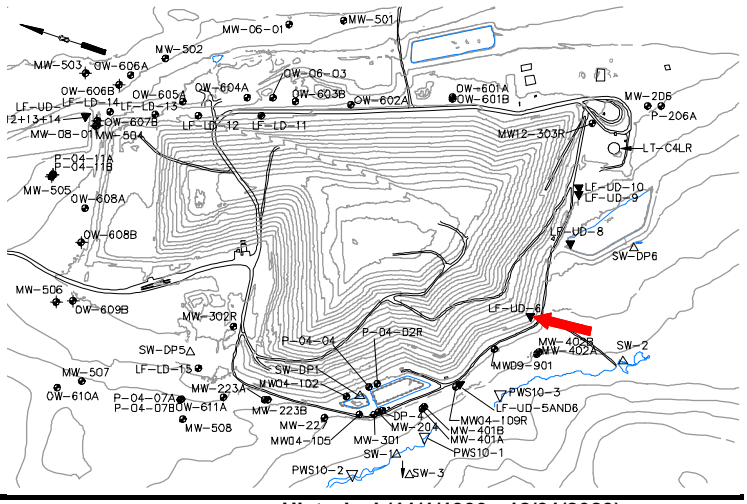
LF-UD-5and6
Juniper Ridge Landfill

Well Description

LF-UD-6 monitors the landfill underdrain from Cell #6. This underdrain pipe is located along the south perimeter of the landfill.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **02/03/2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	F6	F6	70	to 1365	570	± 23.000	115
pH (STU)	F6	F6	F6	F6	3.8	to 8.5	7.1	± 0.087	114
Temperature (Deg C)	F6	F6	F6	F6	7.6	to 24.8	17	± 0.360	115
Eh (mV)	F6	F6	F6	F6	140	to 605	380	± 5.900	114
Dissolved Oxygen (mg/L)	F6	F6	F6	F6	3.6	to 10	6.4	± 0.130	113
Flow Rate (cfs)	F6	F6	F6	F6	0.00002	to 0.0045	0.0018	± 0.000	28
Arsenic (mg/L)			D	D	0.003	to 0.026	0.013	± 0.002	27
Calcium (mg/L)			D	D	24	to 160	73	± 5.100	27
Iron (mg/L)			D	D	0.02 U	to 6.28	0.29	± 0.230	27
Magnesium (mg/L)			D	D	2.9	to 25.4	15	± 1.500	27
Manganese (mg/L)			D	D	0.02 U	to 5.5	0.47	± 0.240	27
Potassium (mg/L)			D	D	1.7	to 20	4.7	± 0.630	27
Sodium (mg/L)			D	D	0.5	to 74.3	31	± 5.800	27
Nitrite/Nitrate - (N) (mg/L)			D	D	1.4	to 130	20	± 8.800	15
Total Phosphorus Mixed Forms (PO4 and			D	D	0.01	to 5.7	0.49	± 0.260	27
Total Dissolved Solids (mg/L)			D	D	149	to 1255	420	± 42.000	27
Total Suspended Solids (mg/L)			D	D	2.5 U	to 150	15	± 6.500	27
Sulfate (mg/L)			D	D	2 U	to 143	51	± 9.000	27
Bicarbonate Alkalinity (CaCO3) (mg/L)			D	D	1.5 U	to 359	220	± 24.000	27
Alkalinity (CaCO3) (field) (mg/L)			D		35	to 490	210	± 11.000	92
Organic Carbon (mg/L)			D	D	2 U	to 5	2.7	± 0.140	27
Chloride (mg/L)			D	D	1 U	to 18.2	7.5	± 1.100	27
Bromide (mg/L)			D	D	0.1 U	to 0.5 U	0.13	± 0.020	21
Turbidity (field) (NTU)	F6	F6	F6	F6	0.1	to 126.9	5.7	± 1.300	114

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

F6 = No flow. Sample not taken.

D = The sampling location was dry.

!1 = The sampling location was damaged or destroyed, and has been discontinued.

Data Group: 245
Printed: 4/16/2025 11:25

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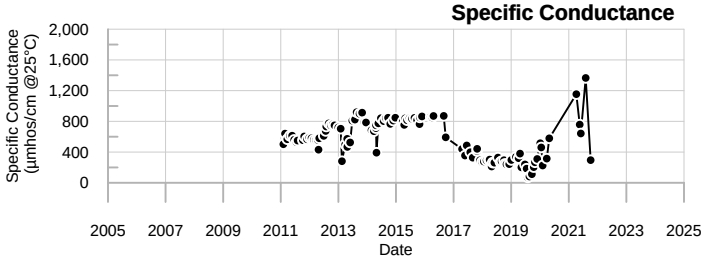
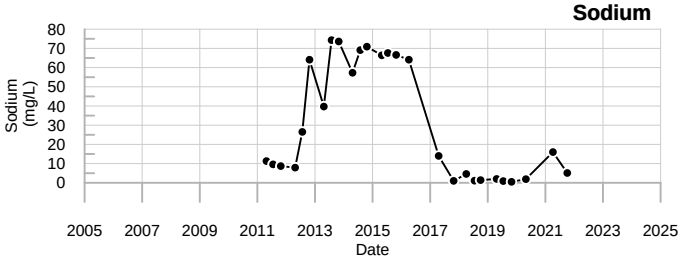
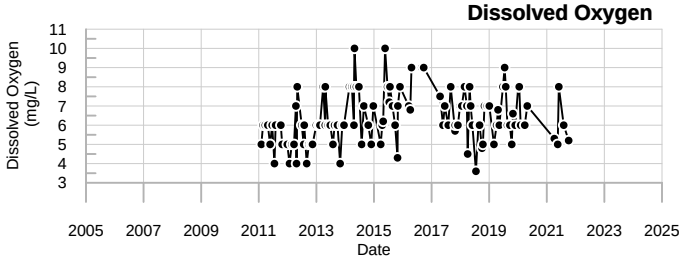
Specific Conductance



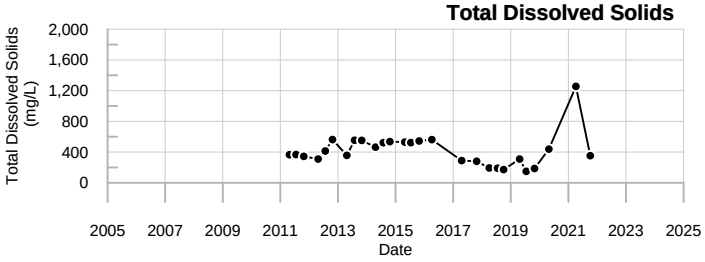
Sodium



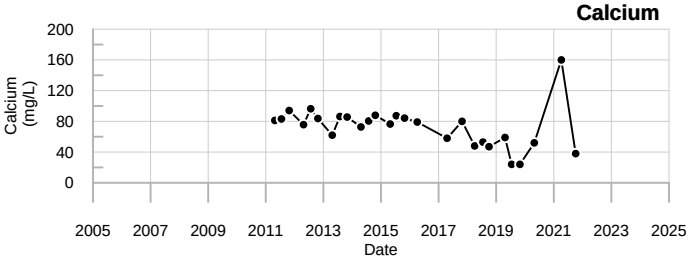
Dissolved Oxygen



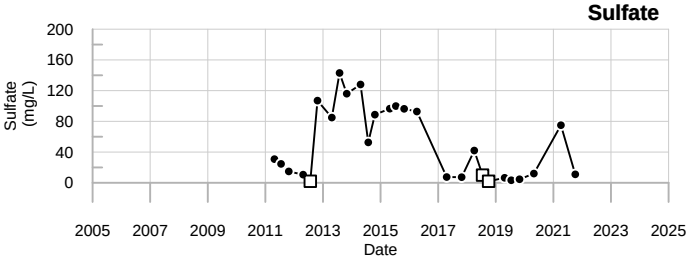
Total Dissolved Solids



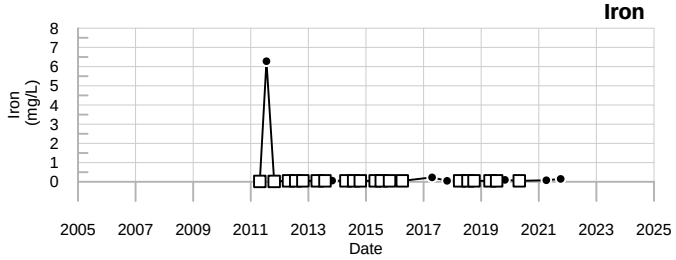
Calcium



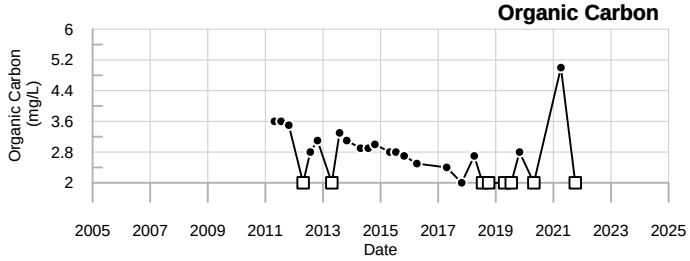
Sulfate



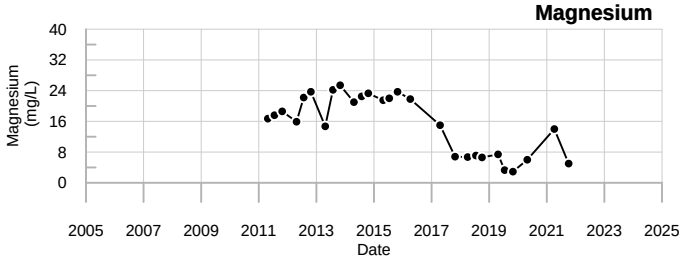
Iron



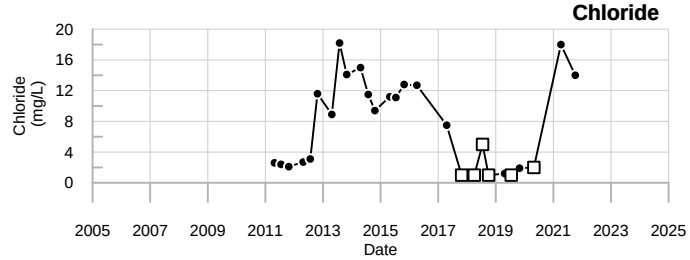
Organic Carbon



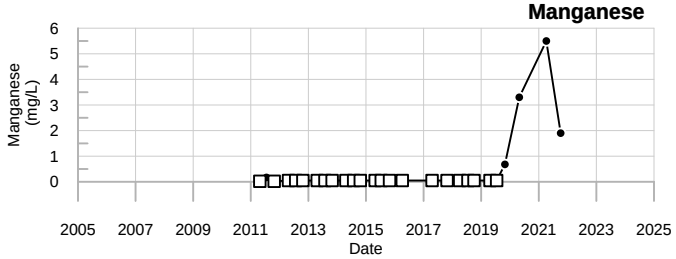
Magnesium



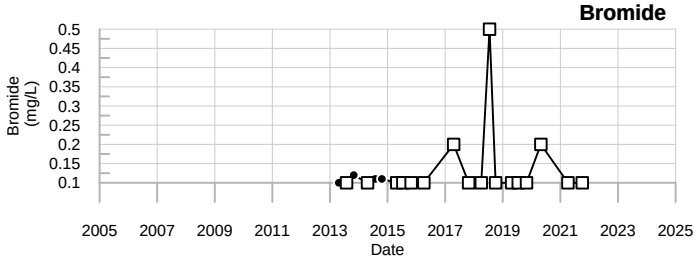
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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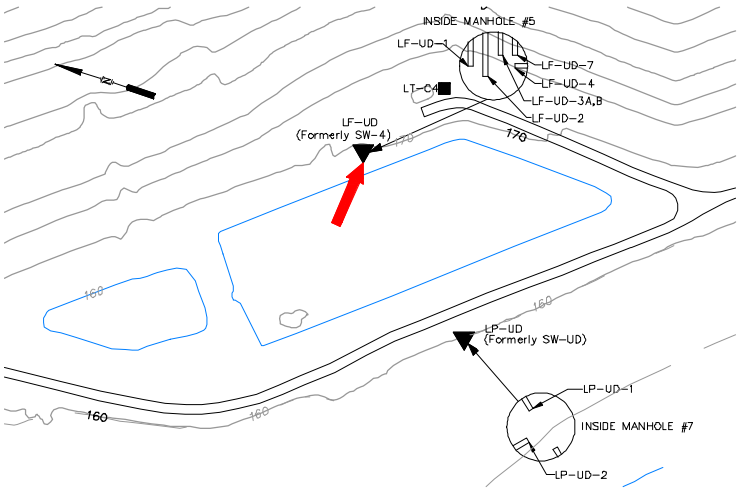
LF-UD-6
Juniper Ridge Landfill

Well Description

LF-UD-7 monitors the landfill underdrain from Cell #7 and Manhole #5.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **11/30/2011**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (-) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H8	H8	H8	H8	No historical data for Specific Conductance.				
pH (STU)	H8	H8	H8	H8	No historical data for pH.				
Temperature (Deg C)	H8	H8	H8	H8	No historical data for Temperature.				
Eh (mV)	H8	H8	H8	H8	No historical data for Eh.				
Dissolved Oxygen (mg/L)	H8	H8	H8	H8	No historical data for Dissolved Oxygen.				
Flow Rate (cfs)	H8	H8	H8	H8	No historical data for Flow Rate.				
Arsenic (mg/L)		D	D	F6	No historical data for Arsenic.				
Calcium (mg/L)		D	D	F6	No historical data for Calcium.				
Iron (mg/L)		D	D	F6	No historical data for Iron.				
Magnesium (mg/L)		D	D	F6	No historical data for Magnesium.				
Manganese (mg/L)		D	D	F6	No historical data for Manganese.				
Potassium (mg/L)		D	D	F6	No historical data for Potassium.				
Sodium (mg/L)		D	D	F6	No historical data for Sodium.				
Nitrite/Nitrate - (N) (mg/L)		D	D	F6	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and		D	D	F6	ıta for Total Phosphorus Mixed Forms (PO4 and Organic) /				
Total Dissolved Solids (mg/L)		D	D	F6	No historical data for Total Dissolved Solids.				
Total Suspended Solids (mg/L)		D	D	F6	No historical data for Total Suspended Solids.				
Sulfate (mg/L)		D	D	F6	No historical data for Sulfate.				
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	F6	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (field) (mg/L)			H2		No historical data for Alkalinity (CaCO3) (field).				
Organic Carbon (mg/L)		D	D	F6	No historical data for Organic Carbon.				
Chloride (mg/L)		D	D	F6	No historical data for Chloride.				
Bromide (mg/L)		D	D	F6	No historical data for Bromide.				
Turbidity (field) (NTU)	H8	H8	H8	H8	No historical data for Turbidity (field).				

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

H8 = No flow from pipe. See LF-COMP for readings
H2 = Water level higher than pipes. See LF-COMP for readings
F6 = No flow. Sample not taken.
D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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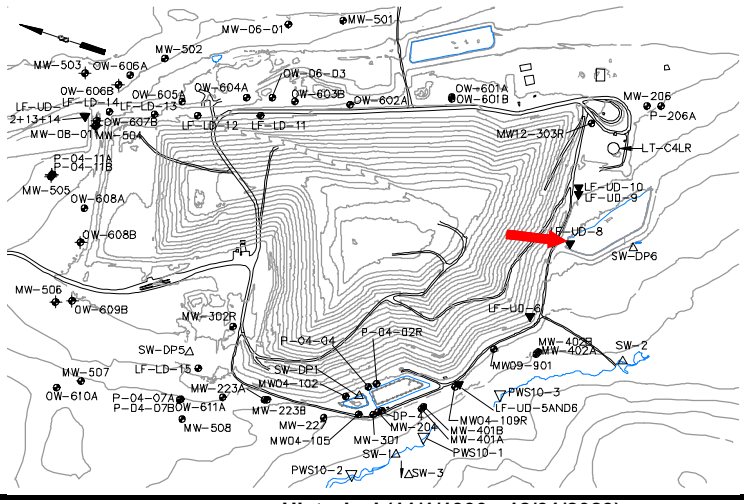
Well Description

LF-UD-8 monitors the landfill underdrain from Cell #8. This underdrain pipe is located along the southern perimeter of the landfill.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **4/23/2013**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	F6	F6	64	to 407	200	± 32.000	17
pH (STU)	F6	F6	F6	F6	6.8	to 8.5	7.5	± 0.130	17
Temperature (Deg C)	F6	F6	F6	F6	2.8	to 26.9	12	± 1.500	17
Eh (mV)	F6	F6	F6	F6	235	to 568	370	± 21.000	17
Dissolved Oxygen (mg/L)	F6	F6	F6	F6	5	to 10.9	7.6	± 0.520	17
Flow Rate (cfs)	F6	F6	F6	F6	0.00003	to 0.0045	0.0014	± 0.000	14
Arsenic (mg/L)		D	D	D	0.005 U	to 0.014	0.0069	± 0.001	11
Calcium (mg/L)		D	D	D	4.8	to 50.1	19	± 5.400	11
Iron (mg/L)		D	D	D	0.05 U	to 1.5	0.57	± 0.140	11
Magnesium (mg/L)		D	D	D	0.8	to 11.1	3.6	± 1.300	11
Manganese (mg/L)		D	D	D	0.05 U	to 0.15	0.069	± 0.010	11
Potassium (mg/L)		D	D	D	0.8	to 3.7	1.9	± 0.360	11
Sodium (mg/L)		D	D	D	1.3	to 7.3	3.8	± 0.670	11
Nitrite/Nitrate - (N) (mg/L)		D	D	D	0.05 U	to 0.5 U	0.14	± 0.073	6
Total Phosphorus Mixed Forms (PO4 and		D	D	D	0.04 U	to 0.1	0.05	± 0.006	11
Total Dissolved Solids (mg/L)		D	D	D	42	to 222	100	± 21.000	11
Total Suspended Solids (mg/L)		D	D	D	4 U	to 43	9.2	± 3.500	11
Sulfate (mg/L)		D	D	D	4.6	to 49	14	± 3.600	11
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	D	6	to 180	58	± 22.000	11
Alkalinity (CaCO3) (field) (mg/L)			F6		15	to 185	120	± 18.000	11
Organic Carbon (mg/L)		D	D	D	2 U	to 6.3	3.9	± 0.480	11
Chloride (mg/L)		D	D	D	2	to 14	5.2	± 1.000	11
Bromide (mg/L)		D	D	D	0.1 U	to 0.2 U	0.11	± 0.009	11
Turbidity (field) (NTU)	F6	F6	F6	F6	0.04	to 24.35	2.6	± 1.400	17

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

F6 = No flow. Sample not taken.

D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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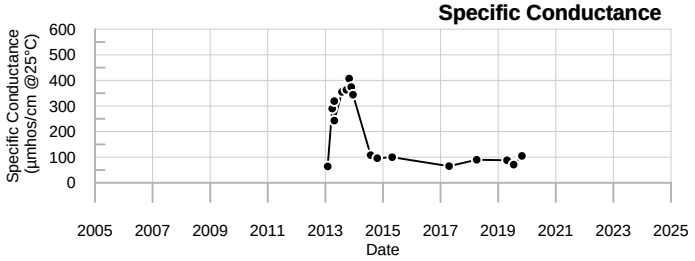
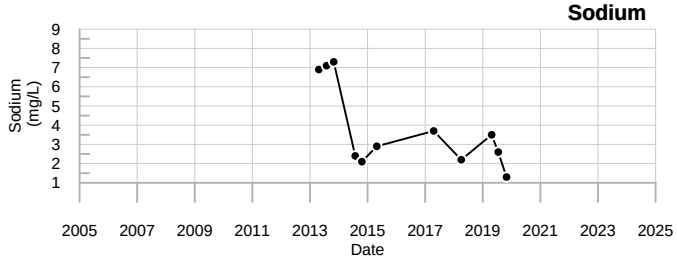
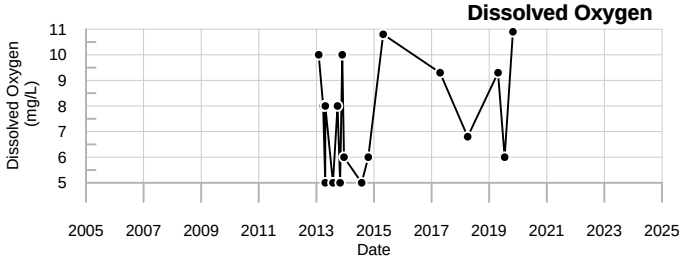
Specific Conductance



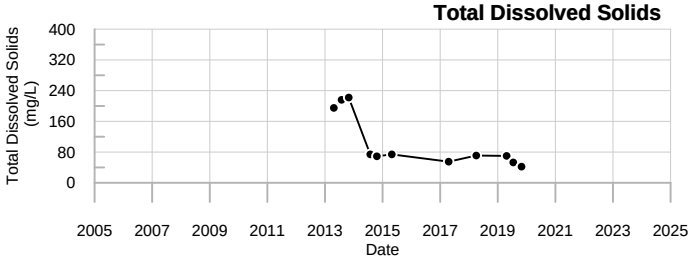
Sodium



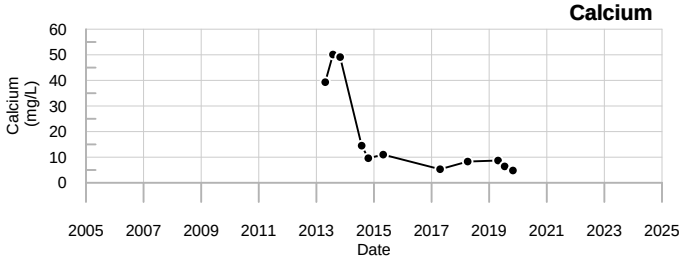
Dissolved Oxygen



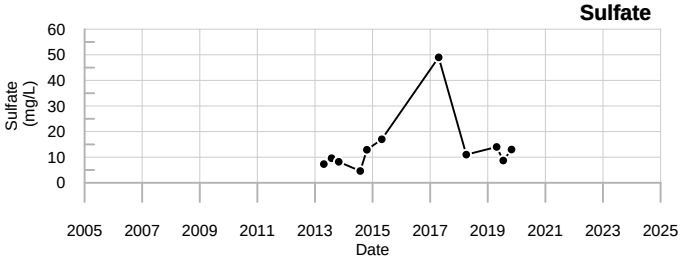
Total Dissolved Solids



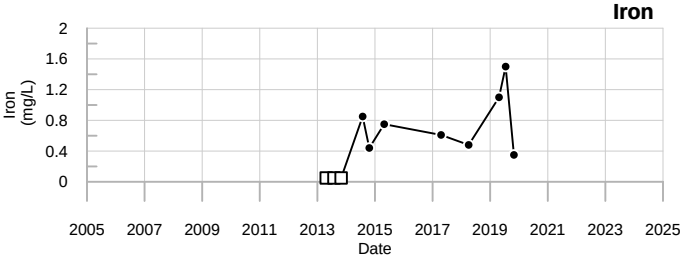
Calcium



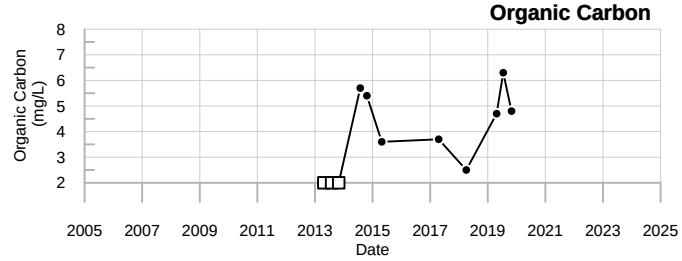
Sulfate



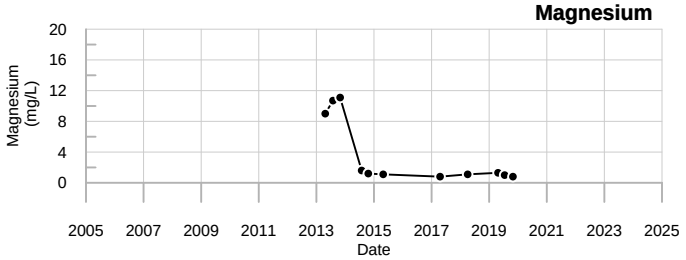
Iron



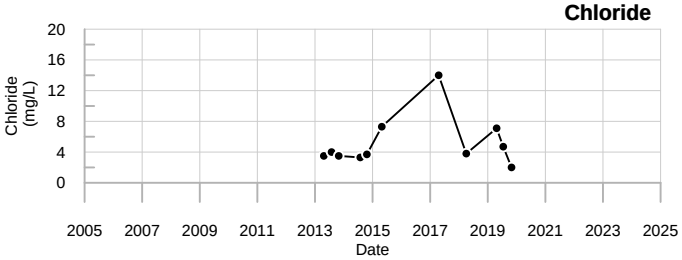
Organic Carbon



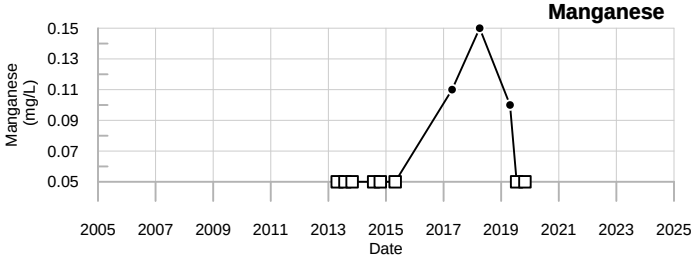
Magnesium



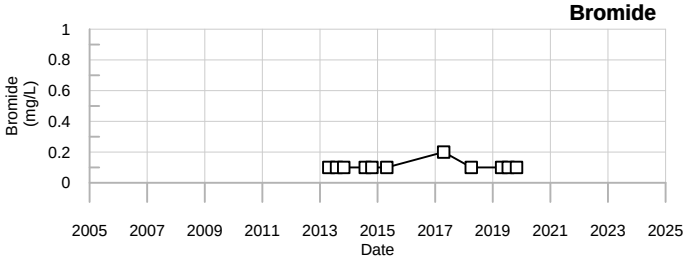
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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LF-UD-8
Juniper Ridge Landfill

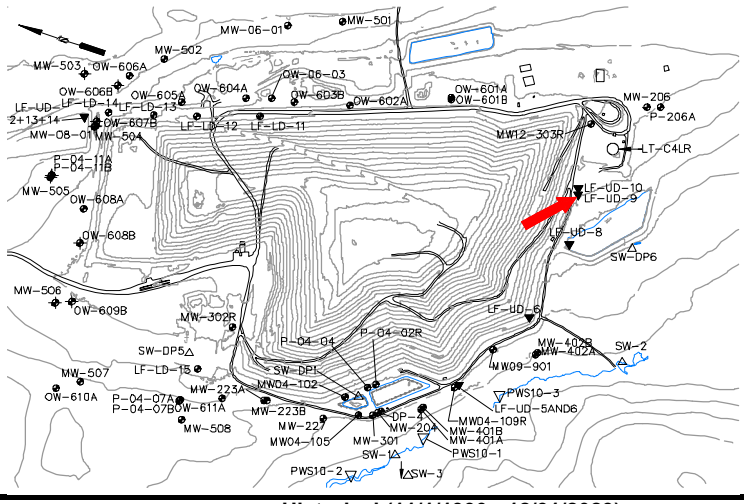
Well Description

LF-UD-9 monitors the landfill underdrain from Cell #9. This underdrain pipe is located along the southern perimeter of the landfill.

Sampled: **Monthly and 3 Times Annually**

Sampled Since: **April 2016**

Sampling Method: **Grab**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	L	H11	135	to 292	200	± 33.000	4
pH (STU)	F6	F6	L	H11	6.6	to 7.6	7.2	± 0.210	4
Temperature (Deg C)	F6	F6	L	H11	7.1	to 15.1	10	± 1.800	4
Eh (mV)	F6	F6	L	H11	278	to 458	370	± 37.000	4
Dissolved Oxygen (mg/L)	F6	F6	L	H11	7	to 10.8	8.5	± 0.910	4
Flow Rate (cfs)	F6	F6	L	H11	0.0004	to 0.0045	0.0023	± 0.001	4
Arsenic (mg/L)		D	D	D	0.007	to 0.007	0.007	± 0.000	1
Calcium (mg/L)		D	D	D	55	to 55	55	± 0.000	1
Iron (mg/L)		D	D	D	1.4	to 1.4	1.4	± 0.000	1
Magnesium (mg/L)		D	D	D	6.8	to 6.8	6.8	± 0.000	1
Manganese (mg/L)		D	D	D	0.06	to 0.06	0.06	± 0.000	1
Potassium (mg/L)		D	D	D	4.3	to 4.3	4.3	± 0.000	1
Sodium (mg/L)		D	D	D	6.5	to 6.5	6.5	± 0.000	1
Nitrite/Nitrate - (N) (mg/L)		D	D	D	0.88	to 0.88	0.88	± 0.000	1
Total Phosphorus Mixed Forms (PO4 and		D	D	D	0.08	to 0.08	0.08	± 0.000	1
Total Dissolved Solids (mg/L)		D	D	D	224	to 224	220	± 0.000	1
Total Suspended Solids (mg/L)		D	D	D	57	to 57	57	± 0.000	1
Sulfate (mg/L)		D	D	D	11	to 11	11	± 0.000	1
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	D	90	to 90	90	± 0.000	1
Alkalinity (CaCO3) (field) (mg/L)			F6		25	to 50 U	35	± 7.600	3
Organic Carbon (mg/L)		D	D	D	2.7	to 2.7	2.7	± 0.000	1
Chloride (mg/L)		D	D	D	5.1	to 5.1	5.1	± 0.000	1
Bromide (mg/L)		D	D	D	0.2 U	to 0.2 U	0.2	± 0.000	1
Turbidity (field) (NTU)	F6	F6	L	H11	1.2	to 49.6	26	± 12.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

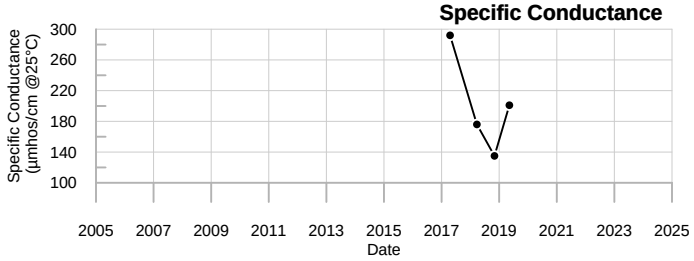
Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

L = Could not locate sampling location.
H11 = Could not locate pipe.
F6 = No flow. Sample not taken.
D = The sampling location was dry.

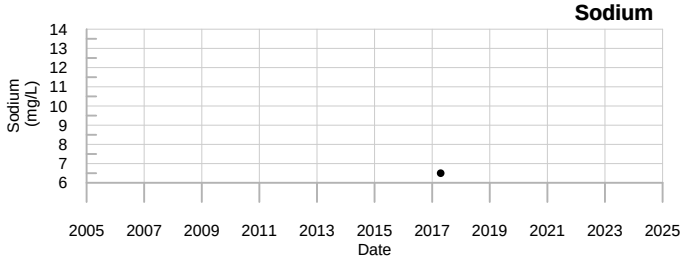
Data Group: 245
Printed: 4/16/2025 11:25

SME SEVEE & MAHER ENGINEERS

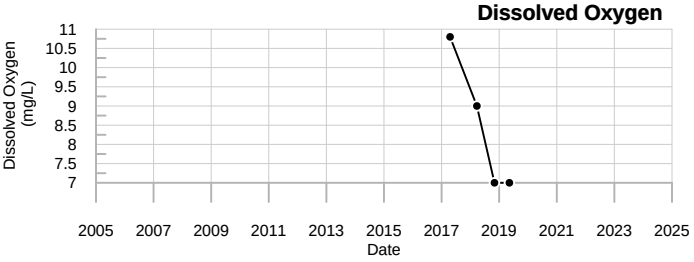
Specific Conductance



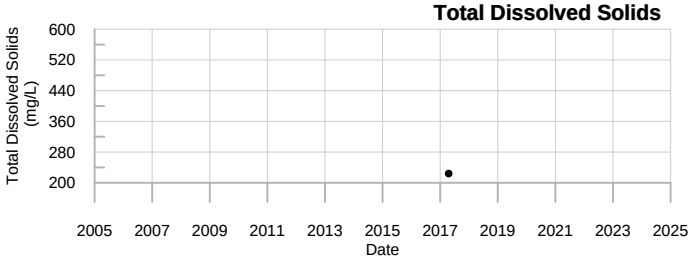
Sodium



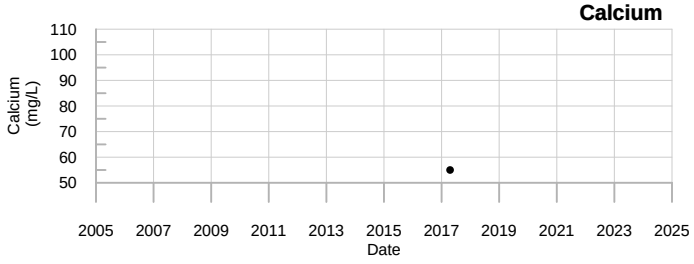
Dissolved Oxygen



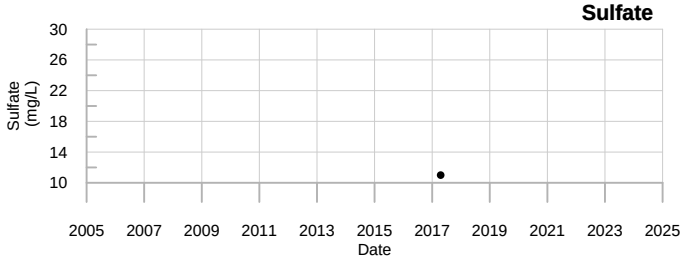
Total Dissolved Solids



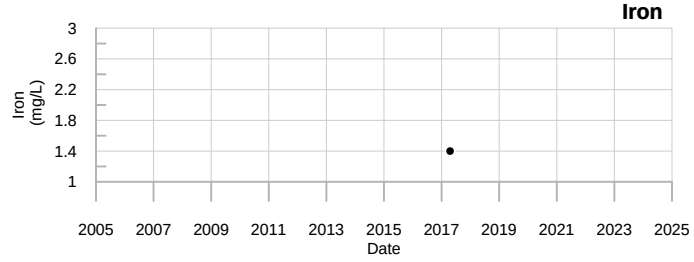
Calcium



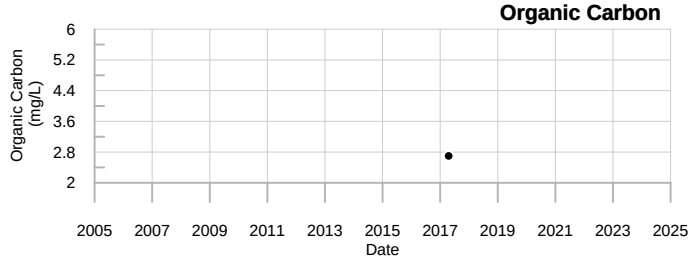
Sulfate



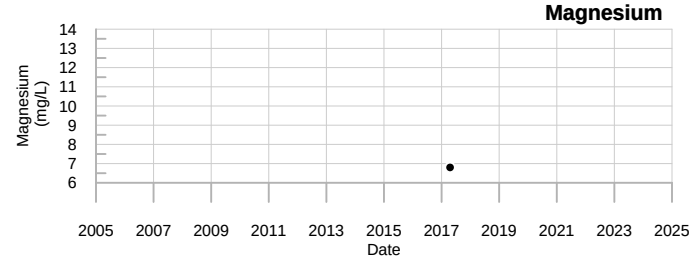
Iron



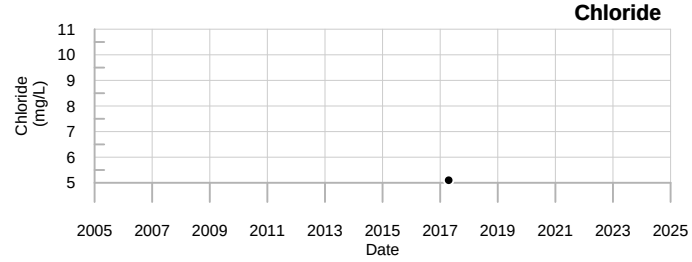
Organic Carbon



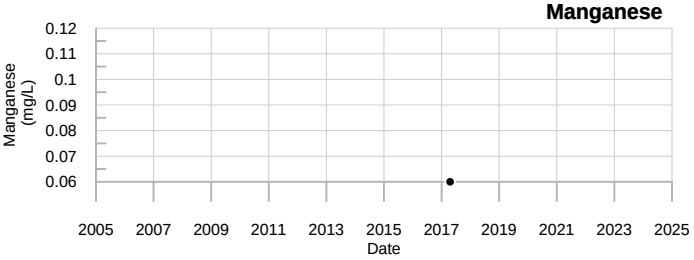
Magnesium



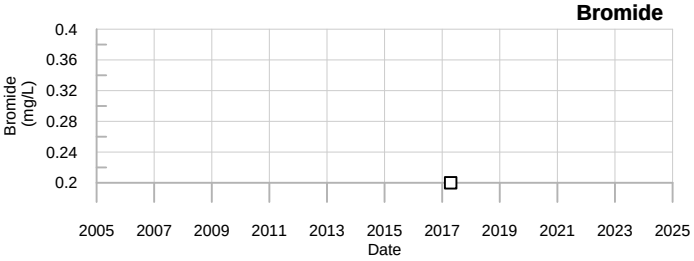
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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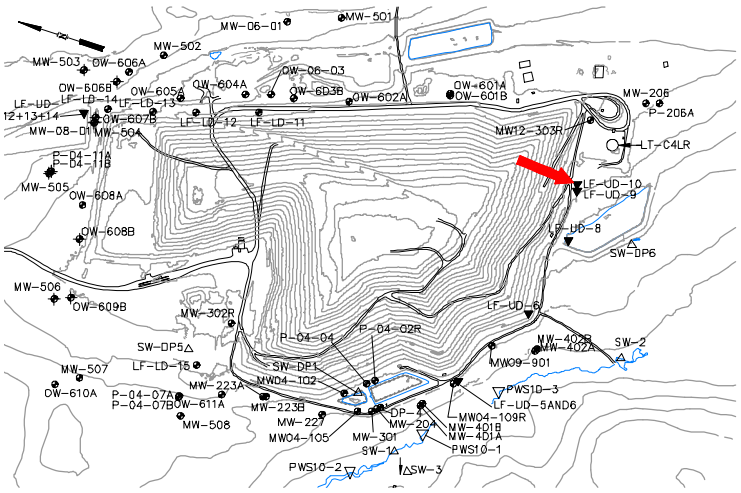
LF-UD-9
Juniper Ridge Landfill

Well Description

LF-UD-10 monitors the landfill underdrain from Cell #10. This underdrain pipe is located along the southern perimeter of the landfill.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **October 2017**

Sampling Method:

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	F6	F6	L	H11	111	to 175	130	± 14.000	4
pH (STU)	F6	F6	L	H11	6.8	to 7.3	7.1	± 0.120	4
Temperature (Deg C)	F6	F6	L	H11	5.1	to 14.9	9.9	± 2.000	4
Eh (mV)	F6	F6	L	H11	295	to 455	390	± 34.000	4
Dissolved Oxygen (mg/L)	F6	F6	L	H11	7	to 9	7.8	± 0.480	4
Flow Rate (cfs)	F6	F6	L	H11	0.00056	to 0.0178	0.0066	± 0.004	4
Arsenic (mg/L)		D	D	D	No historical data for Arsenic.				
Calcium (mg/L)		D	D	D	No historical data for Calcium.				
Iron (mg/L)		D	D	D	No historical data for Iron.				
Magnesium (mg/L)		D	D	D	No historical data for Magnesium.				
Manganese (mg/L)		D	D	D	No historical data for Manganese.				
Potassium (mg/L)		D	D	D	No historical data for Potassium.				
Sodium (mg/L)		D	D	D	No historical data for Sodium.				
Nitrite/Nitrate - (N) (mg/L)		D	D	D	No historical data for Nitrite/Nitrate - (N).				
Total Phosphorus Mixed Forms (PO4 and		D	D	D	ıta for Total Phosphorus Mixed Forms (PO4 and Organic) /				
Total Dissolved Solids (mg/L)		D	D	D	No historical data for Total Dissolved Solids.				
Total Suspended Solids (mg/L)		D	D	D	No historical data for Total Suspended Solids.				
Sulfate (mg/L)		D	D	D	No historical data for Sulfate.				
Bicarbonate Alkalinity (CaCO3) (mg/L)		D	D	D	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (field) (mg/L)			F6		0	to 50 U	25	± 14.000	3
Organic Carbon (mg/L)		D	D	D	No historical data for Organic Carbon.				
Chloride (mg/L)		D	D	D	No historical data for Chloride.				
Bromide (mg/L)		D	D	D	No historical data for Bromide.				
Turbidity (field) (NTU)	F6	F6	L	H11	12.9	to 49.6	39	± 8.800	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

L = Could not locate sampling location.
H11 = Could not locate pipe.
F6 = No flow. Sample not taken.
D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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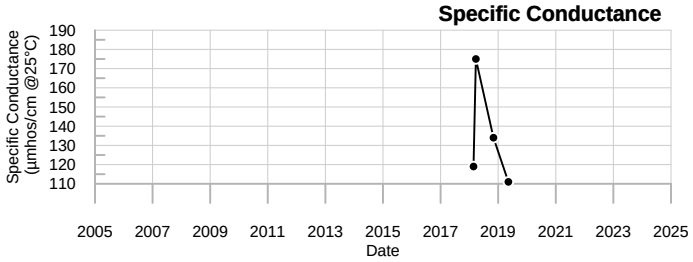
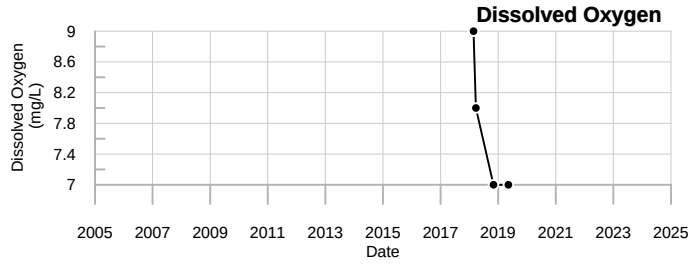


No Data Found for Sodium



No Data Found for Total Dissolved Solids

No Data Found for Calcium

No Data Found for Sulfate

No Data Found for Iron

No Data Found for Organic Carbon

No Data Found for Magnesium

No Data Found for Chloride

No Data Found for Manganese

No Data Found for Bromide

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

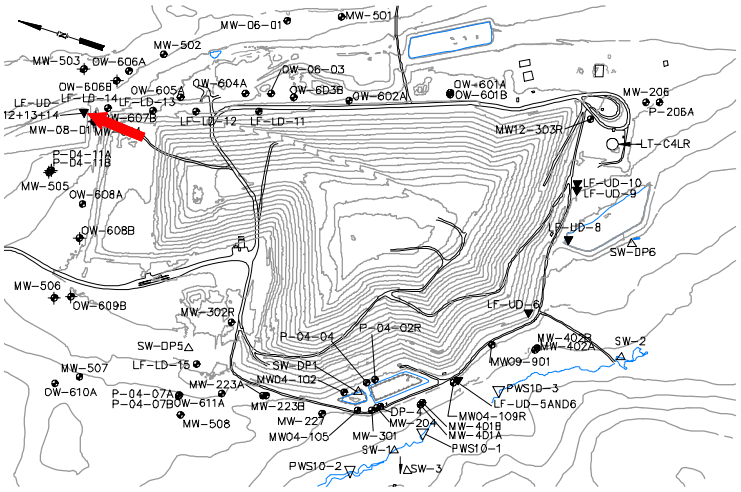
SME
SEVEE & MAHER ENGINEERS

LF-UD-10
Juniper Ridge Landfill

LF-UD-12+13+14
Annual Stats

Well Description

LF-UD-12+13+14 monitors the landfill underdrains from Cell #12, Cell #13, and Cell #14 (composite). This sample collection location is at the northeast corner of Cell 14.



Sampled: **3 Times Annually and Monthly**

Sampled Since: **4/6/2021**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	131	142	L	H11	100	to 756	240	± 100.000	6
pH (STU)	7.8	6.9	L	H11	6.2	to 7.9	7.5	± 0.270	6
Temperature (Deg C)	11.8	↓0.8	L	H11	9.4	to 23	14	± 2.400	6
Eh (mV)	318	↑442	L	H11	305	to 427	350	± 18.000	6
Dissolved Oxygen (mg/L)	6	8.4	L	H11	4.9	to 8.9	6.1	± 0.590	6
Flow Rate (cfs)	↑0.0017	0.0006	L	H11	0.0001	to 0.0011	0.00043	± 0.000	6
Total Flow (gallons)				F6	No historical data for Total Flow.				
Arsenic (mg/L)			D		0.005 U	to 0.005 U	0.005	± 0.000	1
Calcium (mg/L)			D		16	to 16	16	± 0.000	1
Copper (mg/L)			D		0.003 U	to 0.003 U	0.003	± 0.000	1
Iron (mg/L)			D		1.1	to 1.1	1.1	± 0.000	1
Magnesium (mg/L)			D		5.1	to 5.1	5.1	± 0.000	1
Manganese (mg/L)			D		0.071	to 0.071	0.071	± 0.000	1
Potassium (mg/L)			D		1.4	to 1.4	1.4	± 0.000	1
Sodium (mg/L)			D		5.4	to 5.4	5.4	± 0.000	1
Boron (mg/L)			D		0.05 U	to 0.05 U	0.05	± 0.000	1
Ammonia (N) (mg/L)			D		0.5 U	to 0.5 U	0.5	± 0.000	1
Nitrite/Nitrate - (N) (mg/L)			D		0.49	to 0.49	0.49	± 0.000	1
Total Dissolved Solids (mg/L)			D		111	to 111	110	± 0.000	1
Total Suspended Solids (mg/L)			D		63	to 63	63	± 0.000	1
Sulfate (mg/L)			D		6.5	to 6.5	6.5	± 0.000	1
Sulfide (mg/L)			D		0.1 U	to 0.1 U	0.1	± 0.000	1
Alkalinity (CaCO3) (mg/L)			D		50	to 50	50	± 0.000	1
Alkalinity (CaCO3) (field) (mg/L)	175		F6		50	to 500	200	± 100.000	4
Organic Carbon (mg/L)			D		1.5	to 1.5	1.5	± 0.000	1
Chloride (mg/L)			D		5.3	to 5.3	5.3	± 0.000	1
Bromide (mg/L)			D		0.1 U	to 0.1 U	0.1	± 0.000	1
Turbidity (field) (NTU)	89.1	0.6	L	H11	0.5	to 120.8	30	± 19.000	6
Methane (ug/L)			D		20 U	to 20 U	20	± 0.000	1

underlined/bold - values exceed a regulatory standard listed below.

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Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

L = Could not locate sampling location.
H11 = Could not locate pipe.
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D = The sampling location was dry.

Data Group: 245
Printed: 4/16/2025 11:25

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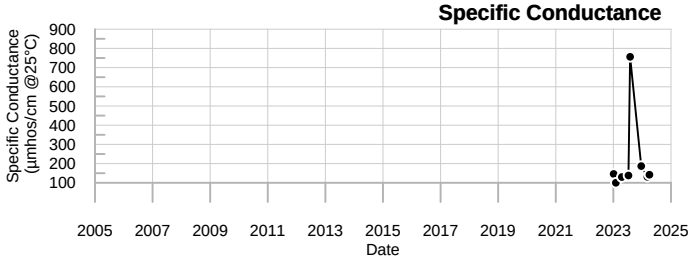
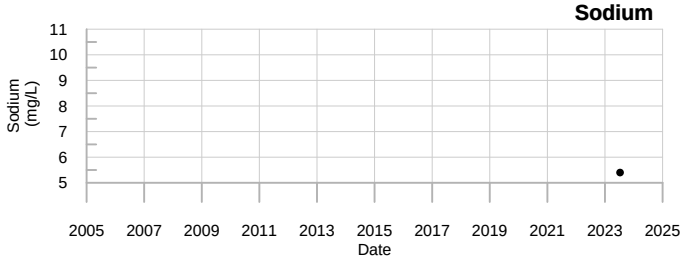
SEVEE & MAHER ENGINEERS

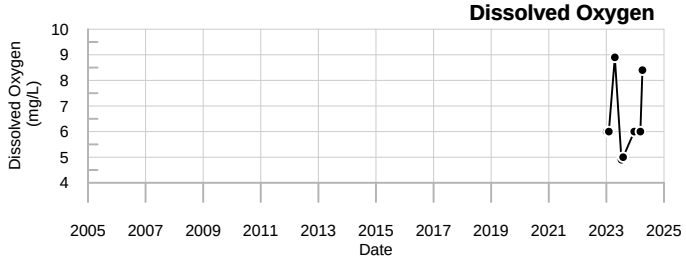
Specific Conductance



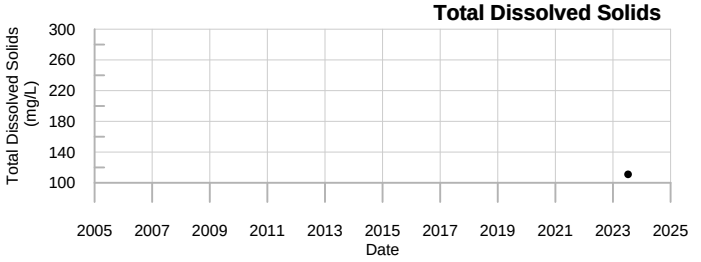
Sodium



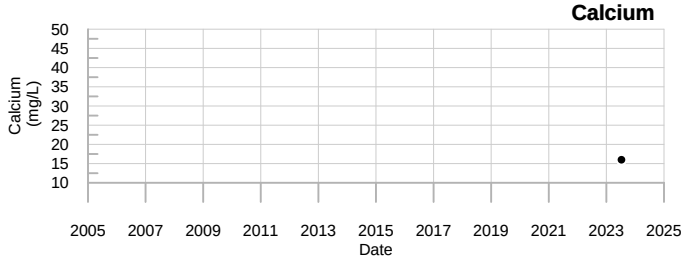
Dissolved Oxygen



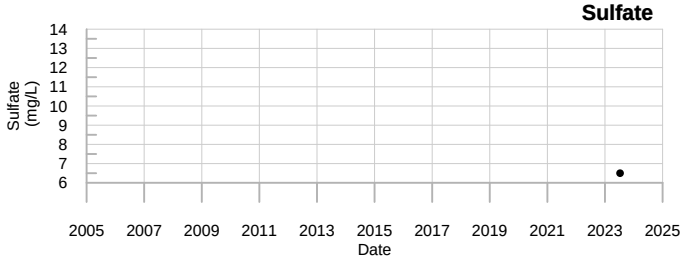
Total Dissolved Solids



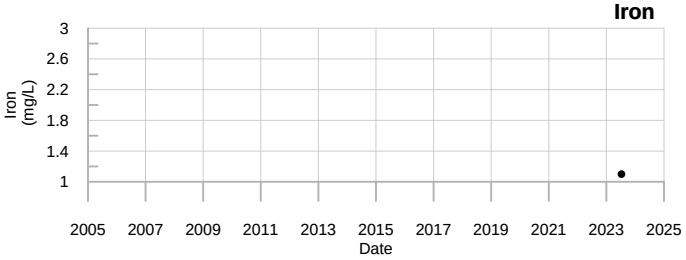
Calcium



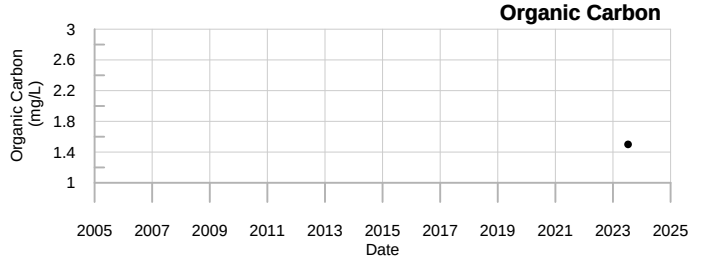
Sulfate



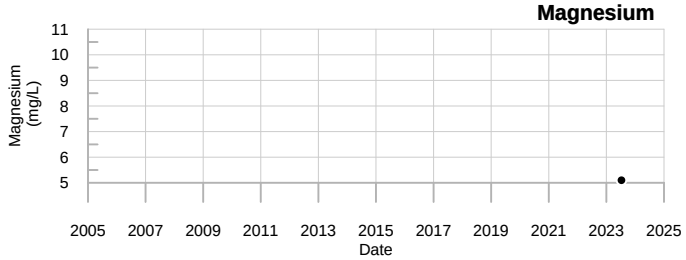
Iron



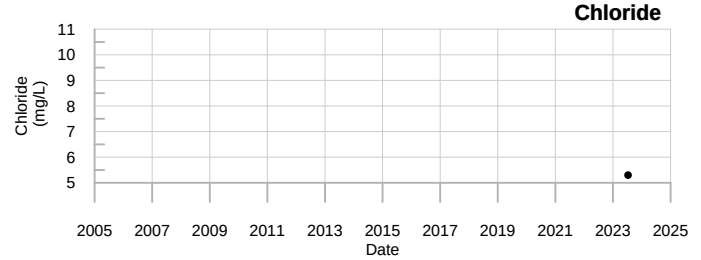
Organic Carbon



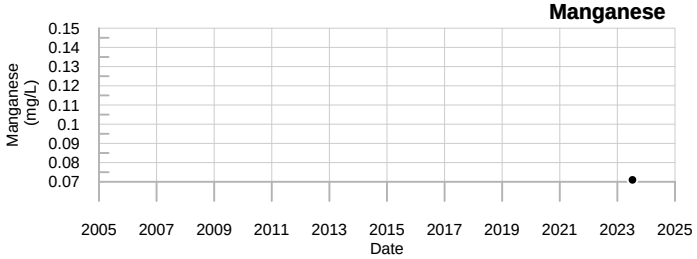
Magnesium



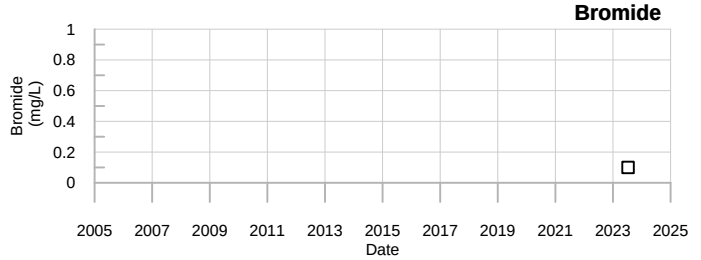
Chloride



Manganese



Bromide



LEGEND

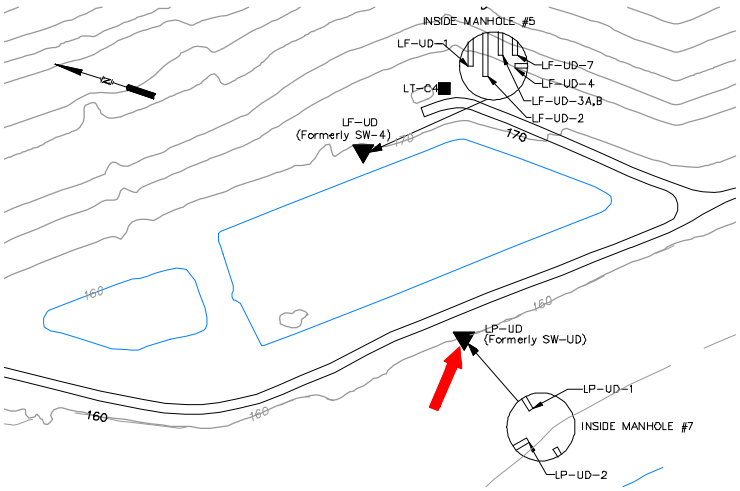
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

LF-UD-12+13+14
Juniper Ridge Landfill

Well Description

Manhole #7 composite sample



Sampled: **See comments below**

Sampled Since: **10/27/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	357	339	384	347	92	to 665	300	± 6.200	121
pH (STU)	7.4	7.3	7.2	7.6	2.2	to 8.4	7.1	± 0.052	121
Temperature (Deg C)	13.3	22.1	23.4	20.8	3.4	to 25.1	15	± 0.460	121
Eh (mV)	351	351	374	344	191	to 520	360	± 3.400	121
Dissolved Oxygen (mg/L)	6	8	8	8	3	to 10	6.9	± 0.140	119
Alkalinity (CaCO3) (field) (mg/L)	150	175	80	150	75	to 260	140	± 2.300	121
Turbidity (field) (NTU)	3.8	3.5	37.2	6.8	0	to 53.1	4	± 0.820	121

underlined/bold - values exceed a regulatory standard listed below.

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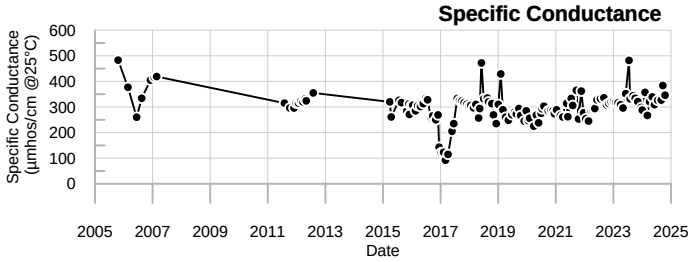
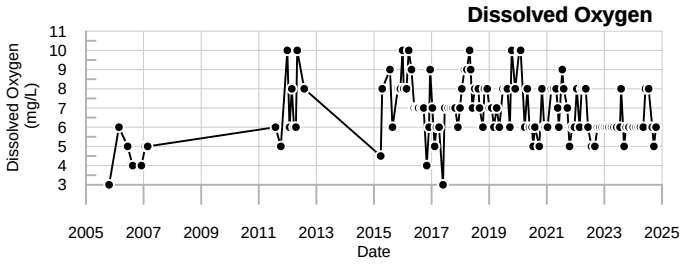
Comments

During times when LP-UD-1 and LP-UD-2 have not been able to be sampled seperately due to pipe submergence, LP-COMP has been collected from manhole #7. Field parameters are measured at this location during some monthly monitoring rounds by NEWSME.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024



No Data Found for Sodium



No Data Found for Total Dissolved Solids

No Data Found for Calcium

No Data Found for Sulfate

No Data Found for Iron

No Data Found for Organic Carbon

No Data Found for Magnesium

No Data Found for Chloride

No Data Found for Manganese

No Data Found for Bromide

LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

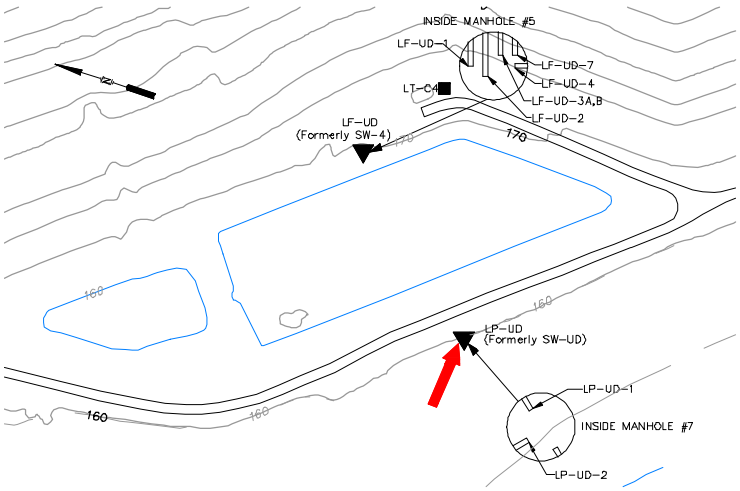
◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

LP-COMP
Juniper Ridge Landfill

Well Description

LP-UD-1 is located at Manhole #7 and monitors the leachate underdrain from the southern end of the former leachate pond.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	H9	H9	H9	H9	241	517	340	64.000	4
pH (STU)	H9	H9	H9	H9	6.7	7.1	6.9	0.085	4
Temperature (Deg C)	H9	H9	H9	H9	6.2	20.4	14	3.700	4
Eh (mV)	H9	H9	H9	H9	349	370	360	4.800	4
Dissolved Oxygen (mg/L)	H9	H9	H9	H9	2.5	6	4.9	0.830	4
Flow Rate (cfs)	H9	H9	H9	H9	0.0011	0.2152	0.12	0.063	3
Arsenic (mg/L)		F6	F6	F6	0.005 U	0.005 U	0.005	0.000	1
Calcium (mg/L)		F6	F6	F6	32	32	32	0.000	1
Iron (mg/L)		F6	F6	F6	0.05	0.05	0.05	0.000	1
Magnesium (mg/L)		F6	F6	F6	8.7	8.7	8.7	0.000	1
Manganese (mg/L)		F6	F6	F6	0.05 U	0.05 U	0.05	0.000	1
Potassium (mg/L)		F6	F6	F6	1.7	1.7	1.7	0.000	1
Sodium (mg/L)		F6	F6	F6	5.5	5.5	5.5	0.000	1
Nitrite/Nitrate - (N) (mg/L)		F6	F6	F6	0.31	0.31	0.31	0.000	1
Total Phosphorus Mixed Forms (PO4 and		F6	F6	F6	0.04 U	0.04 U	0.04	0.000	1
Total Dissolved Solids (mg/L)		F6	F6	F6	163	163	160	0.000	1
Total Suspended Solids (mg/L)		F6	F6	F6	2.5 U	2.5 U	2.5	0.000	1
Sulfate (mg/L)		F6	F6	F6	23	23	23	0.000	1
Bicarbonate Alkalinity (CaCO3) (mg/L)		F6	F6	F6	120	120	120	0.000	1
Alkalinity (CaCO3) (field) (mg/L)			H9		125	150	130	8.300	3
Organic Carbon (mg/L)		F6	F6	F6	2 U	2 U	2	0.000	1
Chloride (mg/L)		F6	F6	F6	3.1	3.1	3.1	0.000	1
Bromide (mg/L)		F6	F6	F6	0.1 U	0.1 U	0.1	0.000	1
Turbidity (field) (NTU)	H9	H9	H9	H9	0	11	4.1	2.600	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

H9 = No flow from pipe. See LP-COMP for readings

F6 = No flow. Sample not taken.

Data Group: 245
Printed: 4/16/2025 11:25

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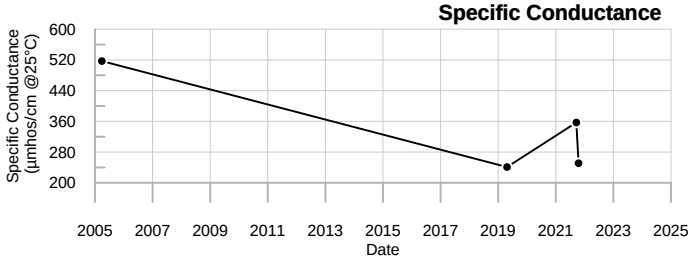
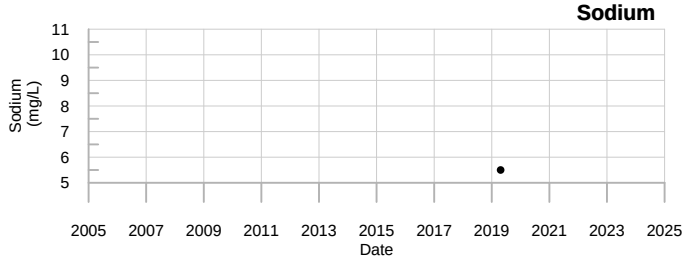
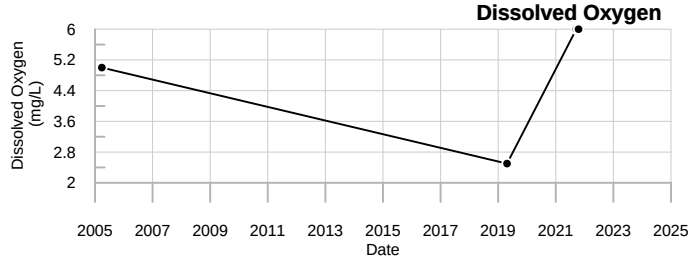
Specific Conductance



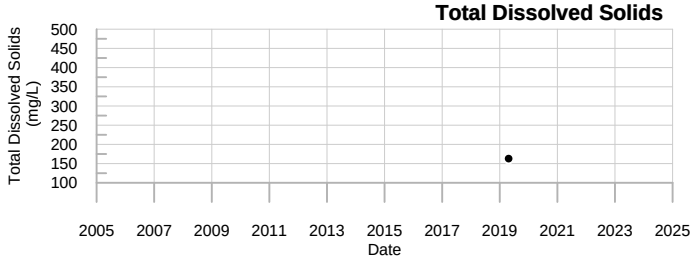
Sodium



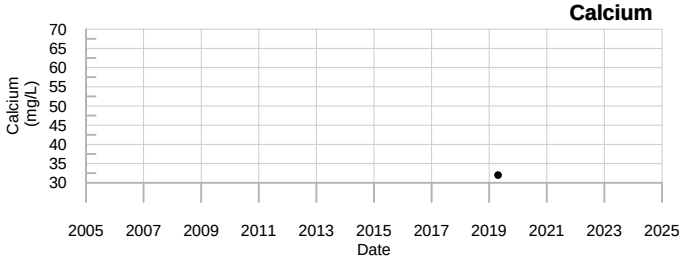
Dissolved Oxygen



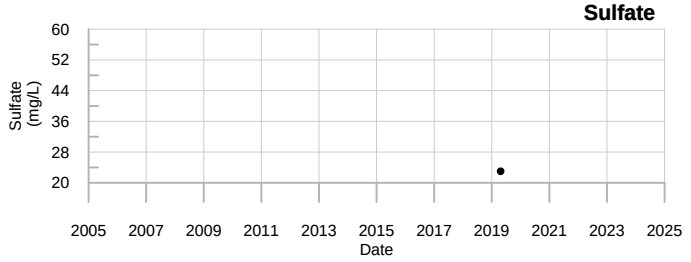
Total Dissolved Solids



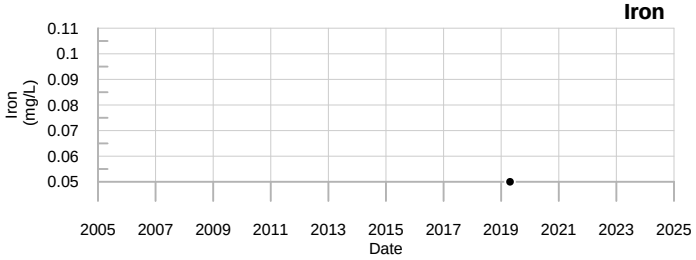
Calcium



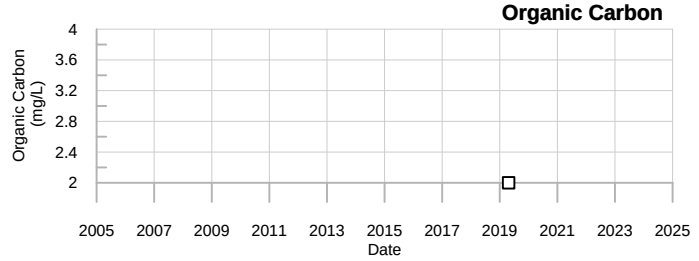
Sulfate



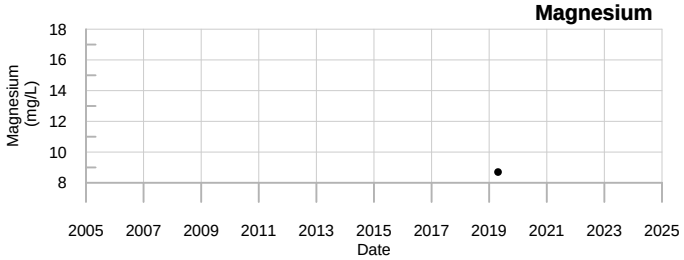
Iron



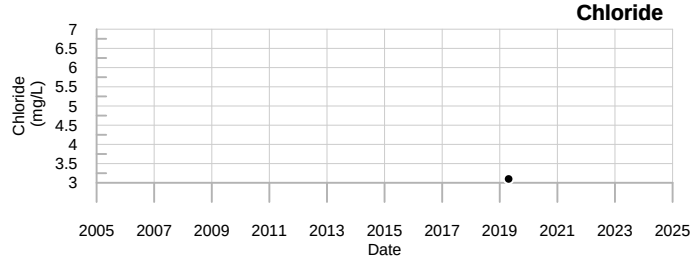
Organic Carbon



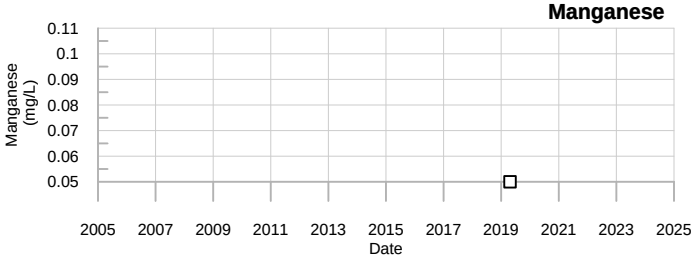
Magnesium



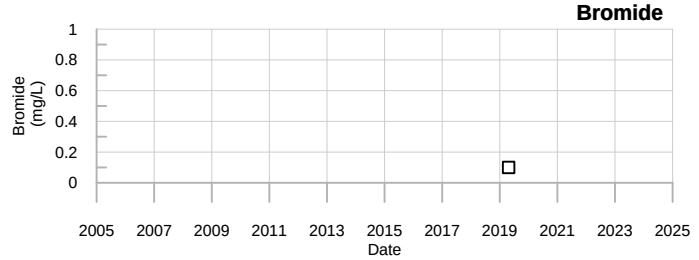
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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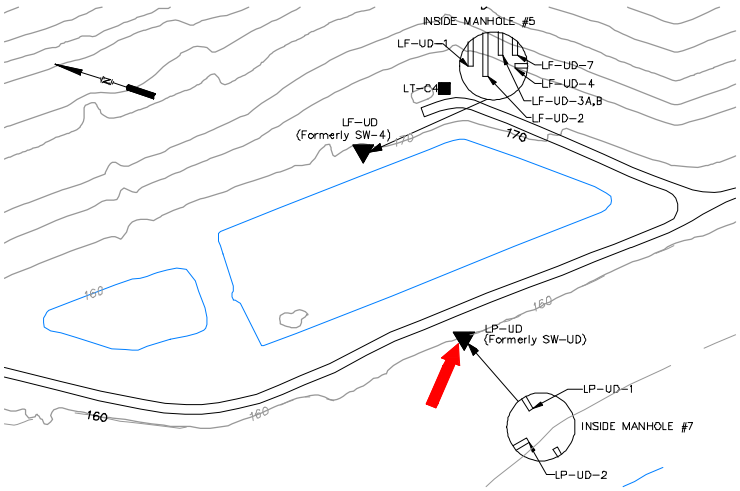
ENGINEERS

LP-UD-1
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

LP-UD-2 is located in Manhole #7 and monitors the water quality of the leachate underdrain on the north end of the former leachate pond.



Sampled: **Monthly and 3 Times Annually**

Sampled Since: **07/28/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)	522	531	339	319	110	to 834	330	± 5.100	235
pH (STU)	7.2	7	7.2	6.8	5.5	to 8.5	7.1	± 0.027	235
Temperature (Deg C)	14.7	6.9	22.1	15.1	1.3	to 25.2	14	± 0.330	235
Eh (mV)	361	444	393	440	157	to 520	350	± 3.900	234
Dissolved Oxygen (mg/L)	6	9.3	9.4	3.9	1	to 12	6.7	± 0.110	235
Flow Rate (cfs)	0.0007	0.0022	0.0027	0.0023	0.0002	to 0.0668	0.0021	± 0.000	193
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.024	0.006	± 0.001	59
Calcium (mg/L)		32	38	39	28.8	to 68.2	38	± 0.930	59
Iron (mg/L)		0.99	↑3.4	0.46	0.02 U	to 2.86	0.21	± 0.070	59
Magnesium (mg/L)		8.8	10	9.9	7.7	to 21	11	± 0.270	59
Manganese (mg/L)		0.05 U	0.1	0.05 U	0.02 U	to 0.8	0.064	± 0.014	59
Potassium (mg/L)		↓1.6	2.3	1.7	1.7	to 25	3.2	± 0.410	59
Sodium (mg/L)		↓5	6.3	5.5	5.5	to 58	10	± 1.000	59
Nitrite/Nitrate - (N) (mg/L)		0.3	0.24	0.27	0.085	to 2 U	0.35	± 0.068	27
Total Phosphorus Mixed Forms (PO4 and		0.08	0.2	0.04 U	0.01 U	to 0.35	0.04	± 0.006	59
Total Dissolved Solids (mg/L)		155	192	193	151	to 455	200	± 6.000	59
Total Suspended Solids (mg/L)		32	56	20	2.5 U	to 85	7.7	± 2.000	59
Sulfate (mg/L)		6.6	7.7	7.1	2 U	to 116	13	± 2.100	59
Bicarbonate Alkalinity (CaCO3) (mg/L)		130	150	160	90	to 229	140	± 3.100	59
Alkalinity (CaCO3) (field) (mg/L)	150	175	112.5		30	to 350	140	± 2.600	206
Organic Carbon (mg/L)		1.1	2.7	1 U	0.7 U	to 27	2.3	± 0.440	59
Chloride (mg/L)		2.4	2.2	2.9	2.1	to 31.1	6.9	± 0.590	59
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)	2.2	3	8.6	1.2	0	to 60	1.6	± 0.300	234

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

This location is monitored triannually for field and lab parameters and monthly for field parameters only.

Q1= 1 - 2024
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Data Group: 245
Printed: 4/16/2025 11:25

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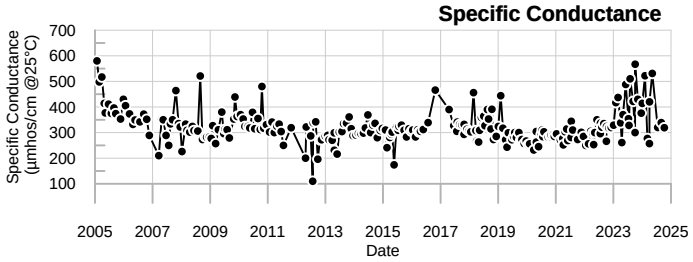

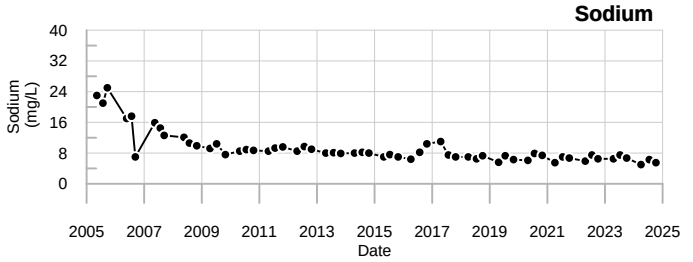

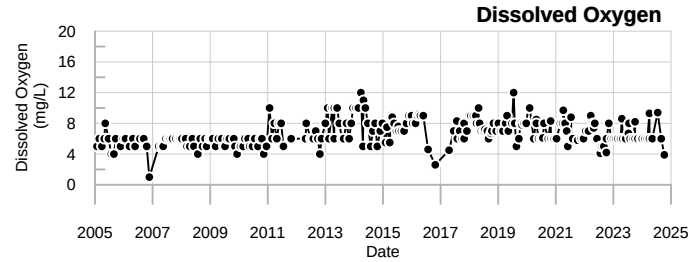

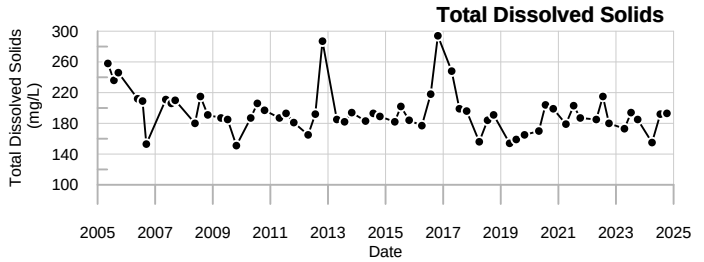

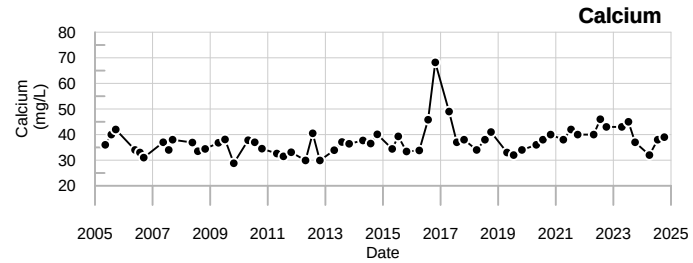

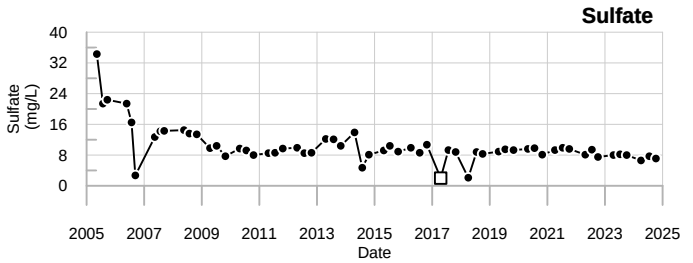

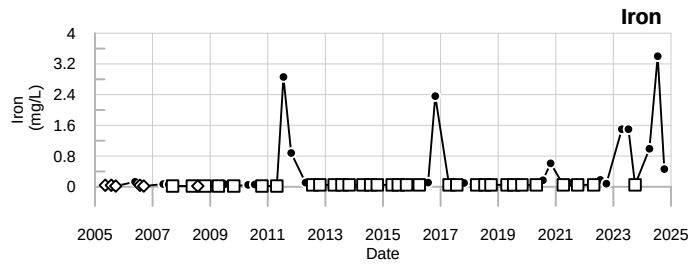

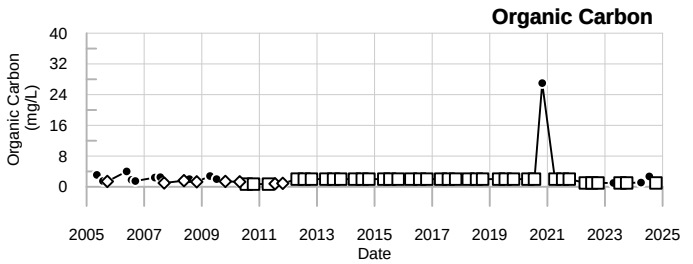

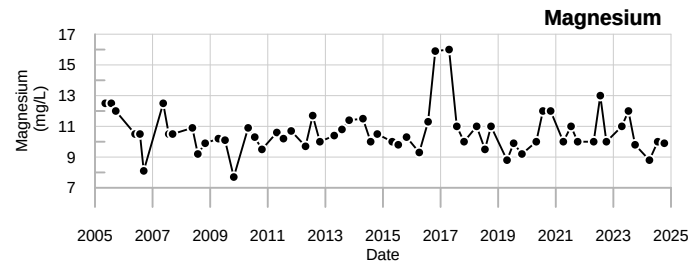

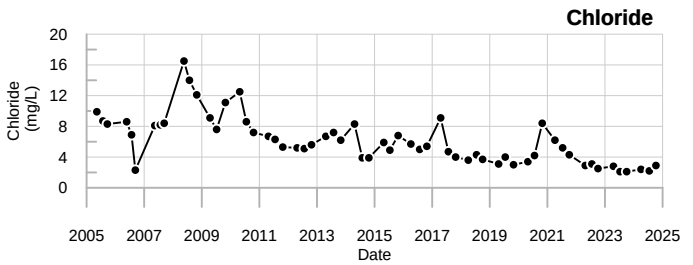

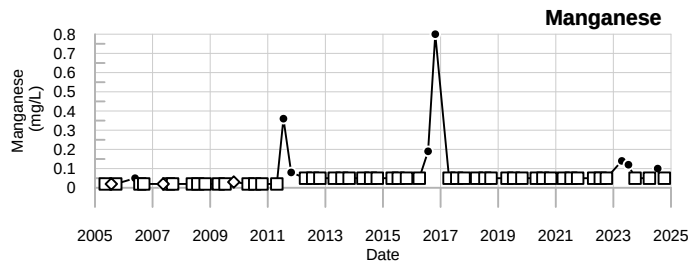

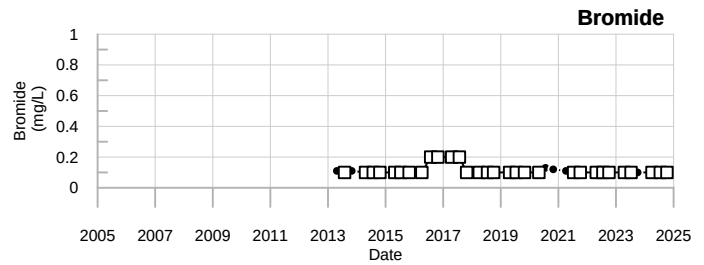

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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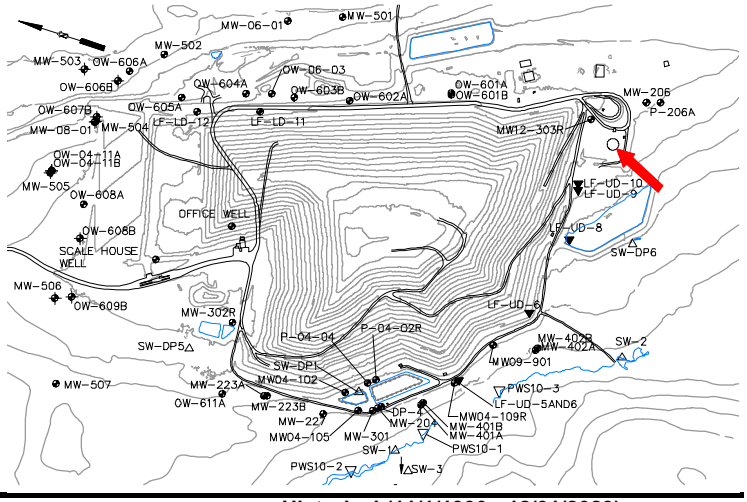
LP-UD-2
Juniper Ridge Landfill

Well Description

Leachate collection location at leachate storage tank.



Sampled: **3 Times Annually**

Sampled Since: **07/30/2013**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		12151	19800	22146	11470	to 30700	22000	± 700.000	45
pH (STU)		7.1	7	6.8	5.5	to 7.6	7	± 0.066	45
Temperature (Deg C)		13.5	↑31.9	19.6	9.4	to 29	19	± 0.810	45
Eh (mV)		-39	-50	-46	-311	to 238	-12	± 18.000	45
Dissolved Oxygen (mg/L)		0.4	0.5	0.1	0.1	to 8	2	± 0.510	19
Flow Rate (cfs)		0.0071	0.0071	0.0071	0.0071	to 0.0071	0.0071	± 0.000	4
Aluminum (mg/L)			0.53		0.201	to 1.4	0.52	± 0.081	15
Antimony (mg/L)			0.035		0.005 U	to 0.065	0.016	± 0.004	15
Arsenic (mg/L)		0.19	0.24	0.37	0.059	to 0.6	0.24	± 0.020	45
Barium (mg/L)			0.9		0.77	to 1.873	1.2	± 0.075	15
Beryllium (mg/L)			0.001 U		0.0002 U	to 0.0033	0.0013	± 0.000	15
Cadmium (mg/L)			0.0044		0.0006 U	to 0.025	0.0058	± 0.001	27
Calcium (mg/L)		370	260	200	200	to 1759	480	± 47.000	45
Chromium (mg/L)			0.22		0.024	to 0.29	0.093	± 0.019	15
Cobalt (mg/L)			0.01		0.01 U	to 0.05 U	0.024	± 0.004	15
Copper (mg/L)			0.0072		0.003 U	to 0.093	0.021	± 0.004	27
Iron (mg/L)		5.8	4.2	↓2.8	2.9	to 179	24	± 4.800	45
Lead (mg/L)			0.027		0.002	to 0.095	0.022	± 0.007	15
Magnesium (mg/L)		↓140	190	190	170	to 532	310	± 14.000	45
Manganese (mg/L)		3.6	2.2	1.3	1.3	to 26	6.1	± 0.980	45
Mercury (mg/L)			0.0005 U		0.0002 U	to 0.0005 U	0.00044	± 0.000	14
Nickel (mg/L)			0.054		0.022	to 0.304	0.093	± 0.012	27
Potassium (mg/L)		↓500	820	890	580	to 1982	1200	± 53.000	45
Selenium (mg/L)			0.0053		0.005 U	to 0.098	0.028	± 0.006	15
Silver (mg/L)			0.0013		0.0003	to 0.2	0.019	± 0.013	15
Sodium (mg/L)		1200	2000	2100	1024	to 8135	2400	± 160.000	45
Thallium (mg/L)			0.004 U		0.001 U	to 0.025	0.0093	± 0.002	15
Vanadium (mg/L)			0.062		0.01 U	to 0.1	0.036	± 0.006	15
Zinc (mg/L)			0.047		0.011	to 0.604	0.11	± 0.039	15
Tin (mg/L)			0.041		0.005 U	to 0.157	0.045	± 0.012	15
Total Kjeldahl Nitrogen (mg/L)		490	720	1100	290	to 1400	790	± 33.000	43
Ammonia (N) (mg/L)			630		74	to 840	590	± 35.000	27
Nitrate (N) (mg/L)			6 U		5 U	to 1210	120	± 47.000	27
Nitrite/Nitrate - (N) (mg/L)		0.082		0.3 U	0.05 U	to 10 U	0.9	± 0.560	18
Total Dissolved Solids (mg/L)		6930	9590	12710	13	to 19816	13000	± 540.000	45
Total Suspended Solids (mg/L)		8.3 U	25 U	8.3 U	2.5 U	to 625	63	± 15.000	45
Sulfate (mg/L)		330	70	32	10.4	to 2900	740	± 130.000	45
Sulfide (mg/L)			22		0.18	to 78	12	± 3.300	26

Data Group: 245
Printed: 4/16/2025 11:25

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LT-C4L & LT-C4LR

Juniper Ridge Landfill

Annual Stats

Ca-mg Hardness (CaCO3) (mg/L)		1400		1300 to 6212	2200 ± 310.000	15
Bicarbonate Alkalinity (CaCO3) (mg/L)	2400	3200	↓390	1370 to 4710	3000 ± 100.000	45
Alkalinity (CaCO3) (mg/L)		3200		1370 to 3700	2700 ± 180.000	15
Organic Carbon (mg/L)	580	420	490	110 to 2560	790 ± 94.000	45
Biochemical Oxygen Demand (mg/L)		160		39 to 4850	1200 ± 270.000	26
Chemical Oxygen Demand (mg/L)		2000		959 to 8110	3300 ± 400.000	27
Chloride (mg/L)	↓2500	4200	5700	2560 to 24300	10000 ± 770.000	45
Bromide (mg/L)	31	52	82	10 U to 188	67 ± 5.400	37
Cyanide (ug/L)		450		0.006 to 810	94 ± 58.000	15
Turbidity (field) (NTU)	D3	D3	D3	4.4 to 1733	420 ± 110.000	23

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

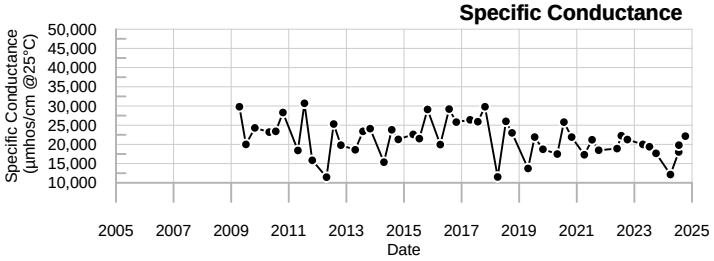
Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

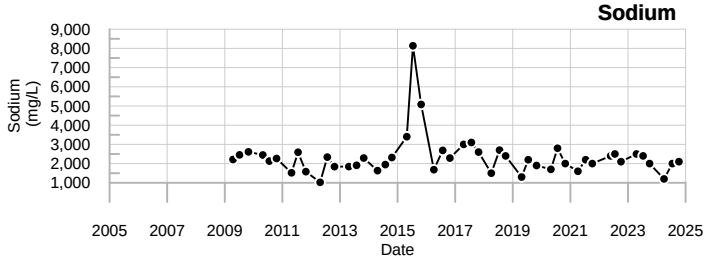
U = Not Detected above the laboratory reporting limit.

D3 = Sample too dark to take reading.

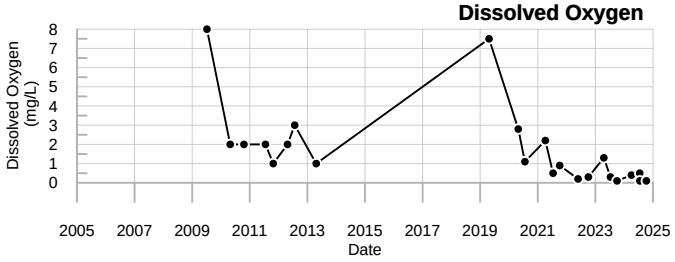
Specific Conductance



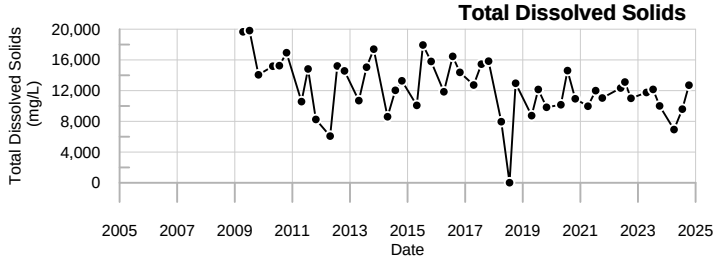
Sodium



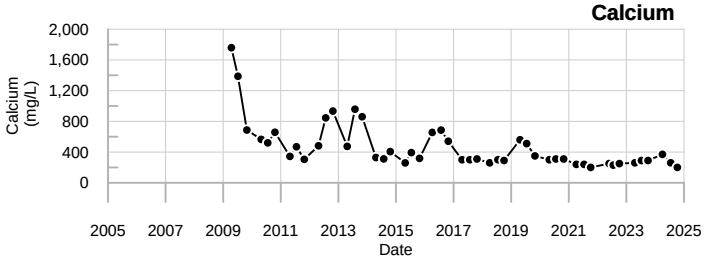
Dissolved Oxygen



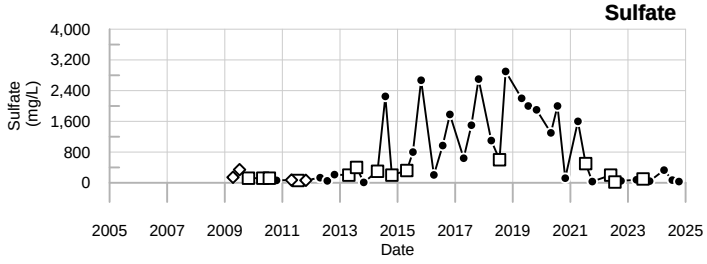
Total Dissolved Solids



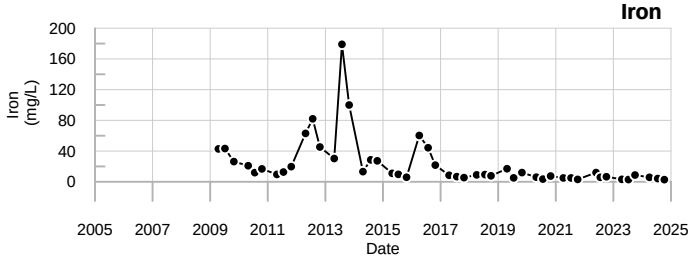
Calcium



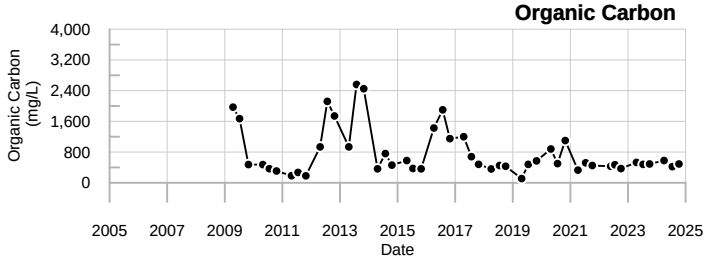
Sulfate



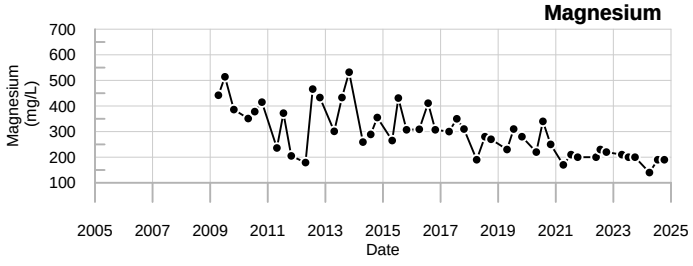
Iron



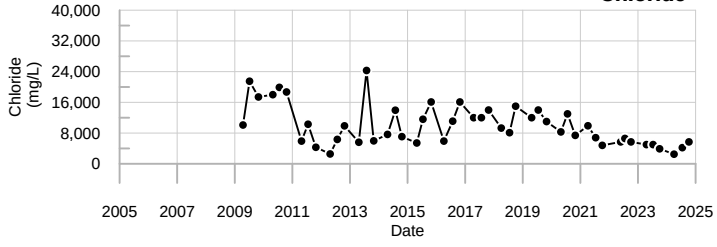
Organic Carbon



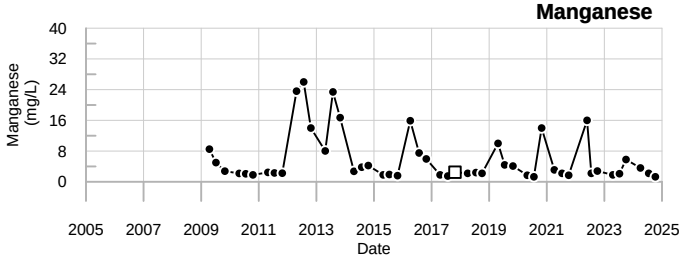
Magnesium



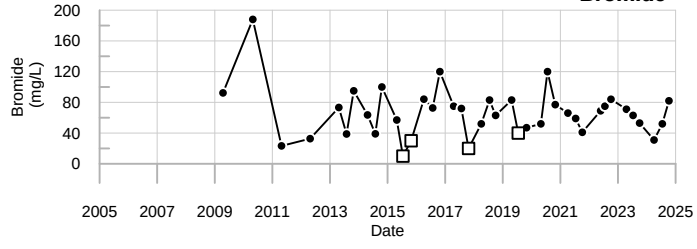
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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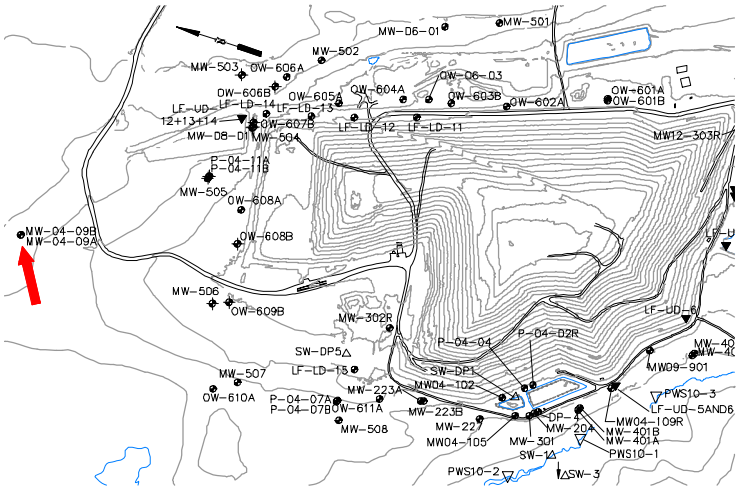
ENGINEERS

LT-C4L & LT-C4LR
Juniper Ridge Landfill

Well Description

MW-04-09A monitors bedrock groundwater downgradient and north of the landfill expansion.

Screen Interval:	**38 ft. to 39 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**Feb-20**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		270	269	249	187	to 389	320	± 18.000	12
pH (STU)		7.7	7.4	↓6.8	7	to 8.7	7.7	± 0.140	12
Temperature (Deg C)		7	12.8	8.9	6.5	to 14.9	9.6	± 0.740	12
Water Level Depth (Feet)		↓4.8	5.7	7.4	5.07	to 9.3	6.9	± 0.480	12
Water Level Elevation (Feet)		↑165.1	164.2	162.5	160.6	to 164.83	160	± 0.480	12
Water Level Reference Point (Feet)		169.9	169.9	169.9	169.9	to 169.9	170	± 0.000	12
Eh (mV)		223	274	318	26	to 370	140	± 30.000	12
Dissolved Oxygen (mg/L)		4.7	0.8	0.4	0.2	to 8.2	1.9	± 0.660	12
Well Depth (Feet)				42.1	42.1	to 42.38	42	± 0.093	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.008	0.0058	± 0.000	13
Calcium (mg/L)		20	22	20	19	to 26	22	± 0.540	13
Copper (mg/L)		↑0.01	0.0036	0.003 U	0.003 U	to 0.0054	0.0034	± 0.000	13
Iron (mg/L)		0.18	0.14	0.19	0.07	to 1.4	0.48	± 0.110	13
Magnesium (mg/L)		↓5.6	6.1	↓5.9	6.1	to 7.8	7	± 0.130	13
Manganese (mg/L)		0.2	0.21	0.27	0.14	to 0.33	0.25	± 0.016	13
Potassium (mg/L)		↓1.8	1.9	↓1.8	1.9	to 3.6	2.8	± 0.150	13
Sodium (mg/L)		**28**	**28**	**30**	19	to 53	33	± 2.700	13
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.53	0.25	± 0.027	12
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	12
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.14	0.058	± 0.008	12
Total Dissolved Solids (mg/L)		178	172	174	150	to 272	220	± 9.400	12
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 93	25	± 8.200	12
Sulfate (mg/L)		42	39	38	2 U	to 96	60	± 6.900	12
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.1	0.19	± 0.083	12
Alkalinity (CaCO3) (mg/L)		91	92	92	84	to 100	94	± 1.300	12
Organic Carbon (mg/L)		4.3	3	3	1.1	to 7.1	3.5	± 0.490	12
Chloride (mg/L)		4.4	4.2	↓3.9	4.1	to 5.9	4.8	± 0.200	12
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	12
Turbidity (field) (NTU)		2.6	0.8	0.8	0.6	to 81.2	9.6	± 6.500	12
Methane (ug/L)		↓6.6	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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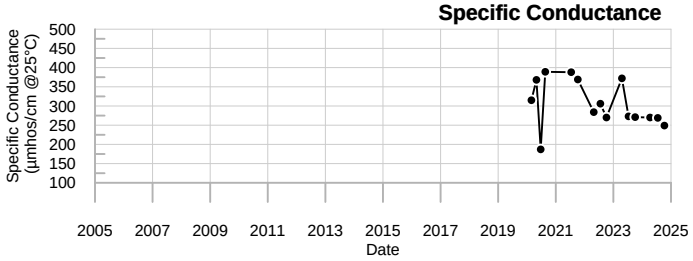
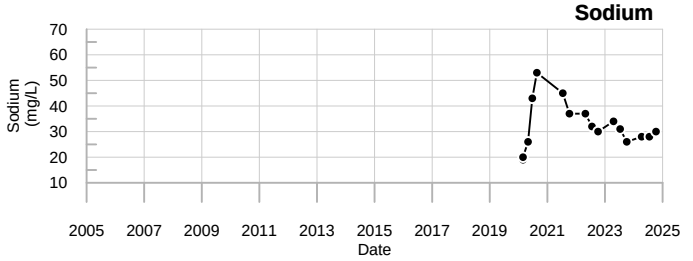
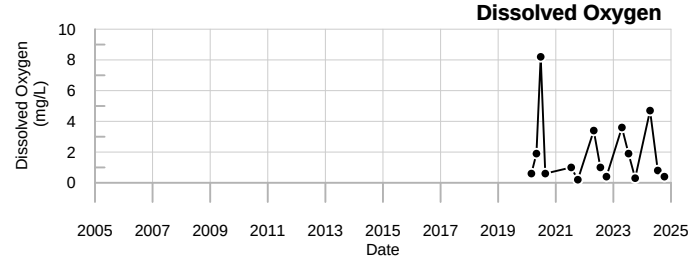
Specific Conductance



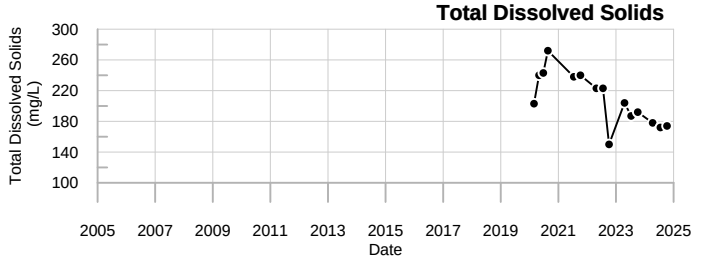
Sodium



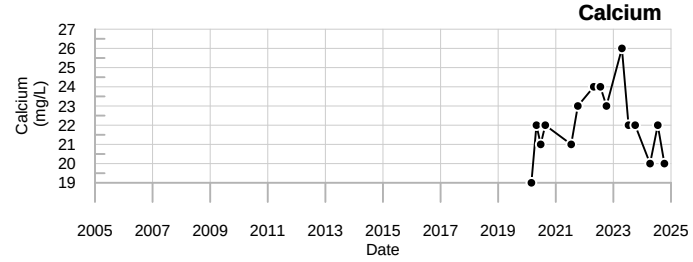
Dissolved Oxygen



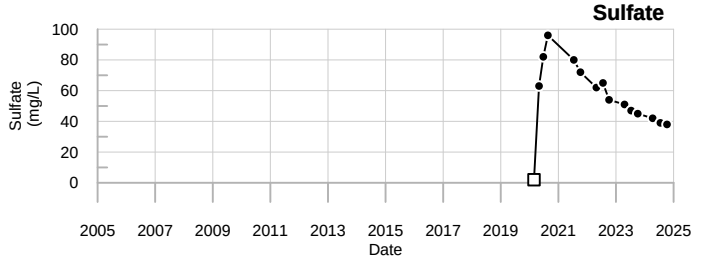
Total Dissolved Solids



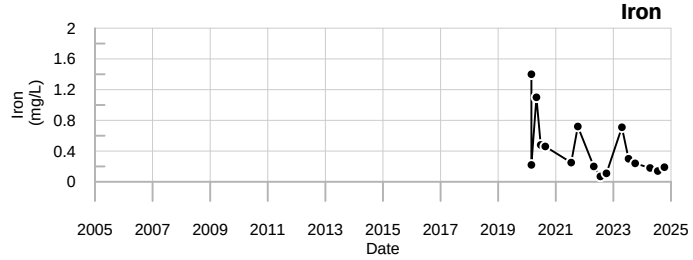
Calcium



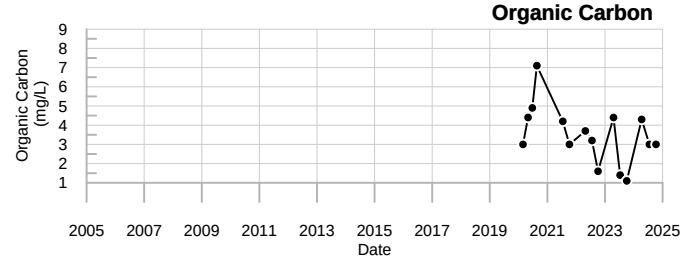
Sulfate



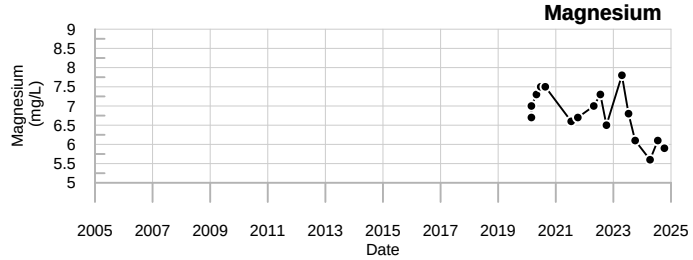
Iron



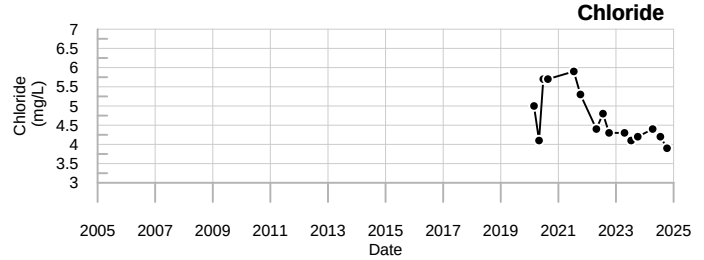
Organic Carbon



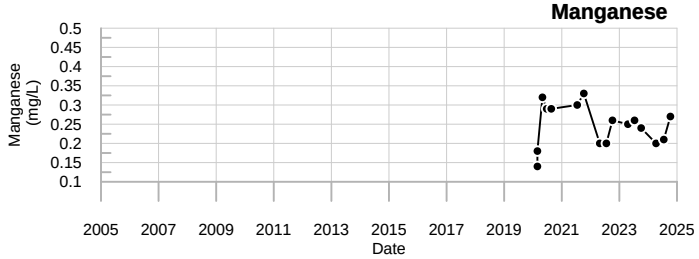
Magnesium



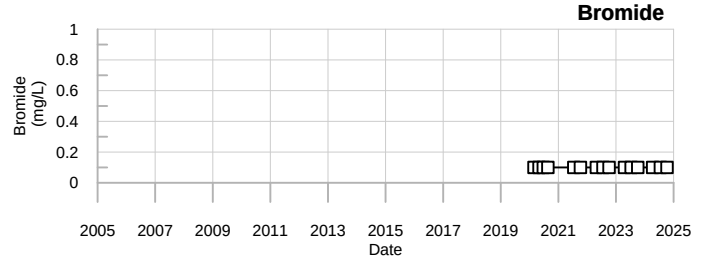
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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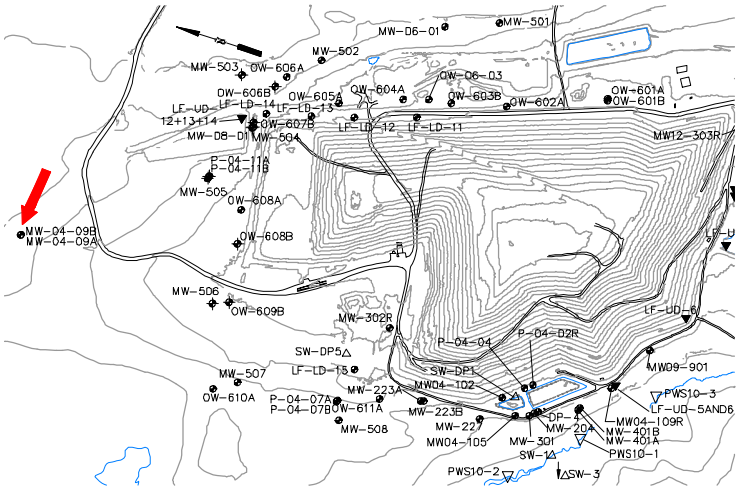
MW-04-09A
Juniper Ridge Landfill

Well Description

MW-04-09B monitors overburden groundwater downgradient and north of the landfill expansion



Screen Interval: **14 ft. to 15 ft.**

Sampled: **3 Times Annually**

Sampled Since: **Feb-20**

Material Screened: **Overburden**

Well Condition: **Good**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓79	96	102	89	to 164	110	± 6.400	12
pH (STU)		6.9	6.6	6.3	6.3	to 7.5	7	± 0.110	12
Temperature (Deg C)		5.5	↑12.8	10.6	5.3	to 12.7	9.7	± 0.850	12
Water Level Depth (Feet)		4.8	5.7	7.4	4.6	to 9.4	6.5	± 0.470	12
Water Level Elevation (Feet)		165.13	164.23	162.53	160.53	to 165.33	160	± 0.470	12
Water Level Reference Point (Feet)		169.93	169.93	169.93	169.93	to 169.93	170	± 0.000	12
Eh (mV)		301	304	346	211	to 417	300	± 17.000	12
Dissolved Oxygen (mg/L)		10.3	7.9	7.5	3.4	to 10.5	8.2	± 0.530	12
Well Depth (Feet)				19.64	19.64	to 19.64	20	± 0.000	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.005	0.005	± 0.000	12
Calcium (mg/L)		↓6.7	8.1	9.1	8.1	to 11	9.3	± 0.250	12
Copper (mg/L)		↑0.012	↑0.0061	0.003 U	0.003 U	to 0.003 U	0.003	± 0.000	12
Iron (mg/L)		0.12	0.13	0.08	0.07	to 0.32	0.19	± 0.022	12
Magnesium (mg/L)		↓2.6	3.1	3.7	3.1	to 4.1	3.7	± 0.075	12
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	12
Potassium (mg/L)		↓0.45	↓0.54	↓0.6	0.62	to 1.5	0.86	± 0.082	12
Sodium (mg/L)		↓3.8	↓3.9	4.1	4	to 5.6	4.8	± 0.150	12
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.57	0.25	± 0.030	12
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	12
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.051	0.05 U	to 0.17	0.084	± 0.011	12
Total Dissolved Solids (mg/L)		82	75	78	42	to 103	81	± 4.300	12
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4.5	3	± 0.230	12
Sulfate (mg/L)		3.4	3.2	3.5	2 U	to 7.3	4.2	± 0.430	12
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	12
Alkalinity (CaCO3) (mg/L)		↓29	37	43	34	to 52	42	± 1.500	12
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.150	12
Chloride (mg/L)		↑5.7	↑6	↑5.8	2.8	to 5.6	4.1	± 0.250	12
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	12
Turbidity (field) (NTU)		1.4	2.6	0.9	0.3	to 11.1	3.9	± 1.000	12
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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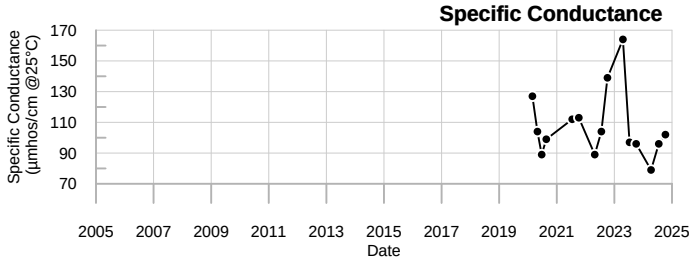
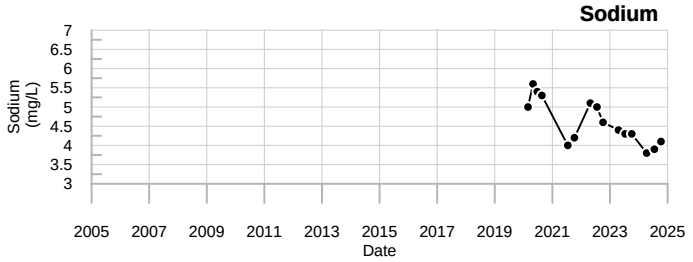
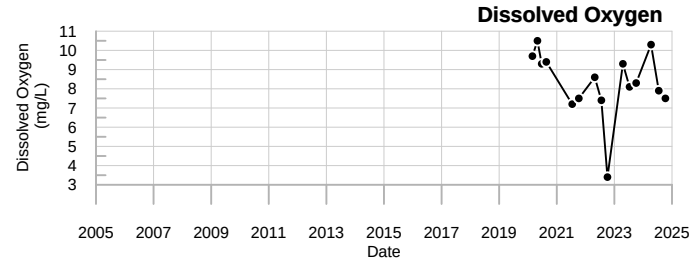
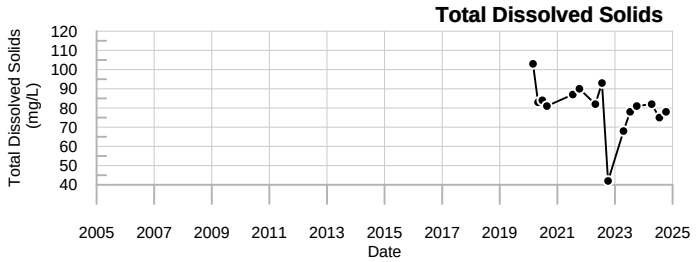
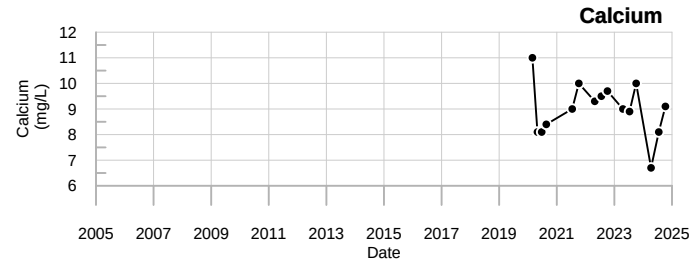
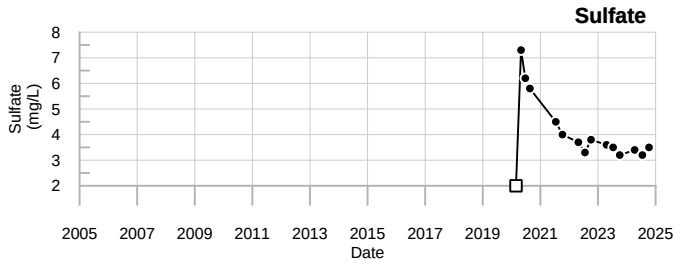


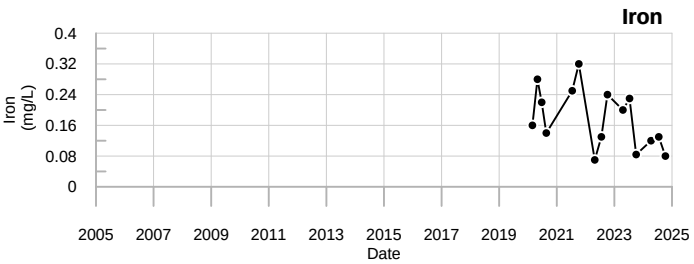


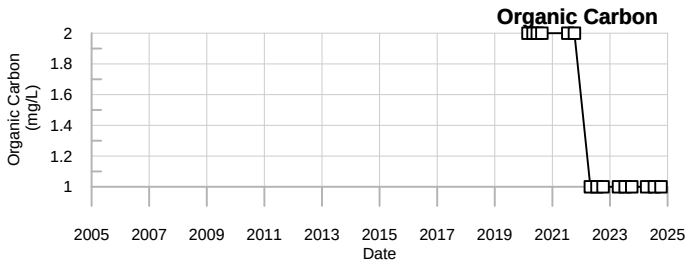


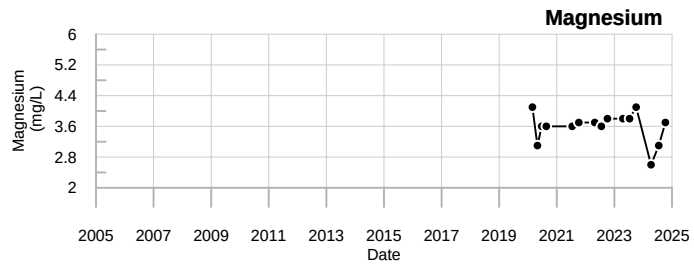


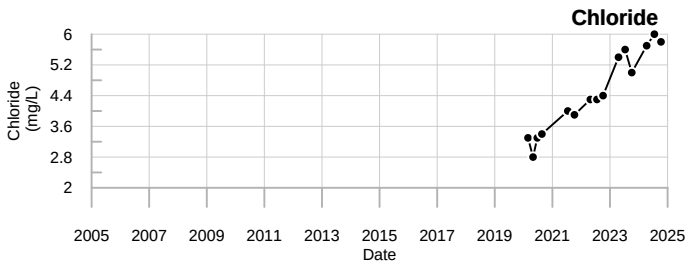


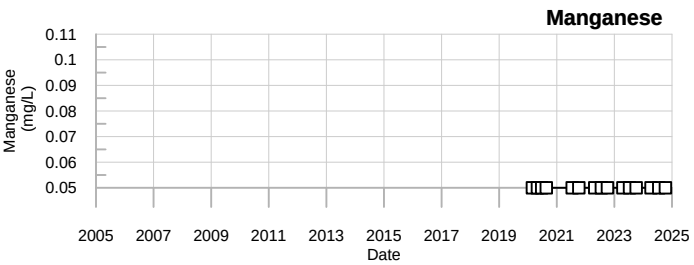


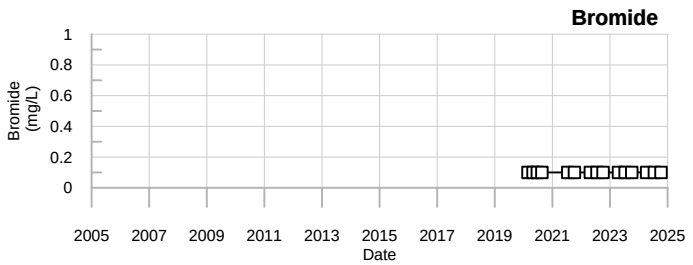












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

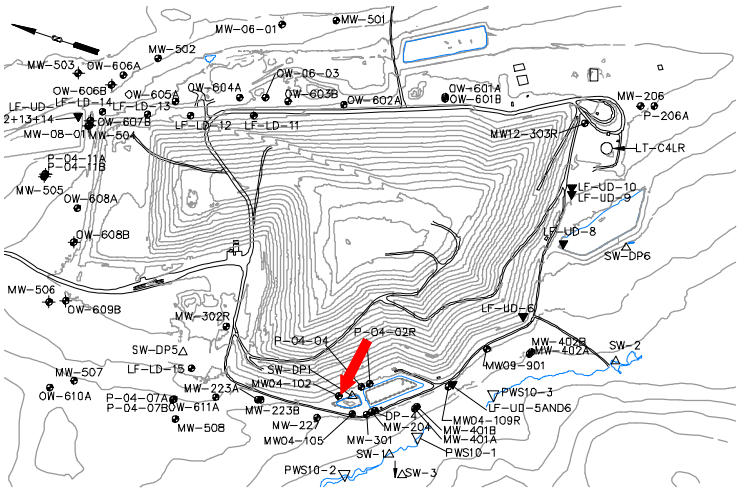
SME
SEVEE & MAHER ENGINEERS

MW-04-09B
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW04-102 monitors groundwater in the overburden downgradient of the landfill and upgradient of Stormwater Detention Pond-1.



Screen Interval:	**10 ft. to 15 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**01/18/2005**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		199	216	206	193	to 320	230	± 3.100	58
pH (STU)		8.3	7.7	7.4	6.2	to 8.4	7.8	± 0.055	58
Temperature (Deg C)		6.5	16.3	15.7	4	to 20.1	12	± 0.550	58
Water Level Depth (Feet)		6.5	7.1	8.4	4.8	to 9.92	6.6	± 0.140	58
Water Level Elevation (Feet)		163.72	163.12	161.82	160.3	to 167.62	160	± 0.160	58
Water Level Reference Point (Feet)		170.22	170.22	170.22	170.22	to 170.22	170	± 0.000	58
Eh (mV)		204	298	369	-8	to 476	300	± 11.000	58
Dissolved Oxygen (mg/L)		7.4	4.3	4.6	1	to 7.5	3.9	± 0.190	58
Well Depth (Feet)				↑18.11	17.84	to 18.05	18	± 0.015	18
Arsenic (mg/L)		0.005 U	0.005 U	↑**0.027**	0.001 U	to 0.017	0.0053	± 0.000	58
Calcium (mg/L)		28	30	26	23.5	to 31.2	27	± 0.230	58
Iron (mg/L)		0.11	0.05 U	0.054	0.02 U	to 0.19	0.054	± 0.004	58
Magnesium (mg/L)		7	7.2	7	6.3	to 8.1	7.1	± 0.052	58
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.09	0.041	± 0.002	58
Potassium (mg/L)		1.5	1.6	1.6	1.2	to 3.2	1.8	± 0.048	58
Sodium (mg/L)		7.4	7.3	6.5	6.3	to 11	7.6	± 0.120	58
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 3.8	0.47	± 0.065	58
Nitrite/Nitrate - (N) (mg/L)		0.099	0.05 U	0.05 U	0.05 U	to 2 U	0.19	± 0.073	27
Total Dissolved Solids (mg/L)		130	128	139	91	to 151	130	± 1.300	58
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 5	3.5	± 0.098	58
Sulfate (mg/L)		11	9	9.4	5.7	to 14.5	11	± 0.280	58
Bicarbonate Alkalinity (CaCO3) (mg/L)		100	100	110	73	to 110	100	± 0.660	58
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5	to 5.3	1.8	± 0.120	58
Chloride (mg/L)		1.5	2	1.6	1 U	to 3.5	1.7	± 0.075	58
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.03 U	to 0.2 U	0.11	± 0.007	37
Turbidity (field) (NTU)		1.3	0.7	0.8	0	to 8.1	1.6	± 0.180	58

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

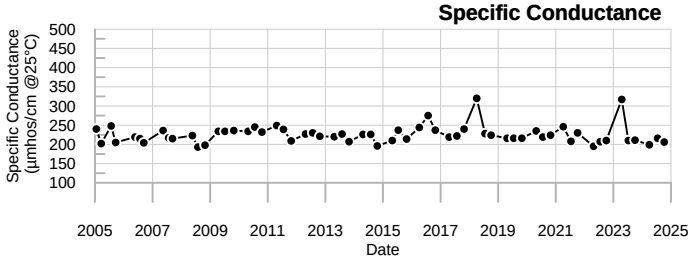
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

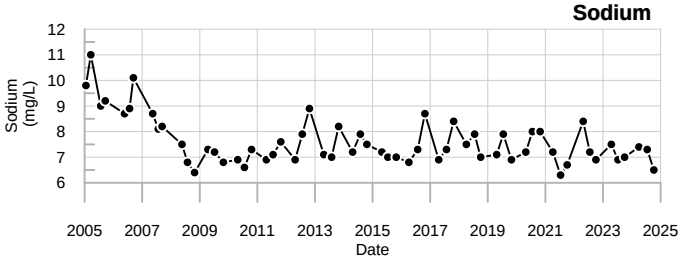
Data Group: 245
Printed: 4/16/2025 11:25

SME SEVEE & MAHER ENGINEERS

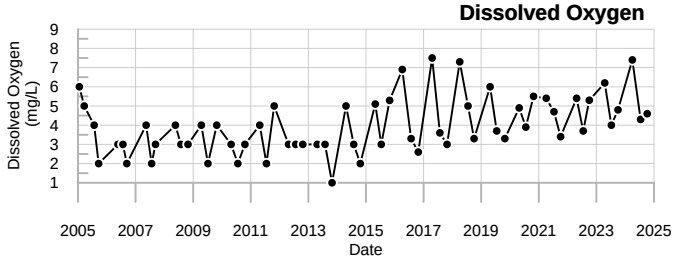
Specific Conductance



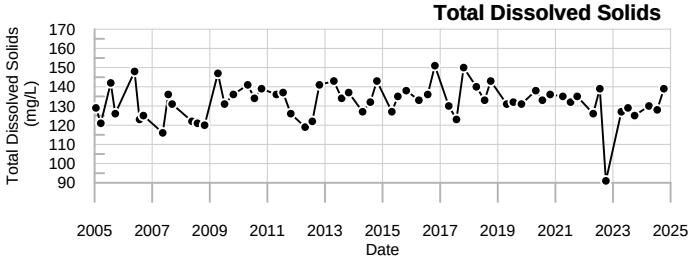
Sodium



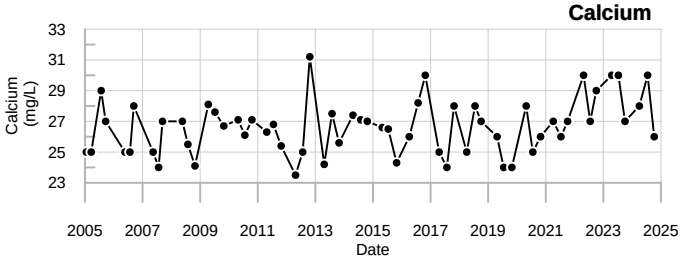
Dissolved Oxygen



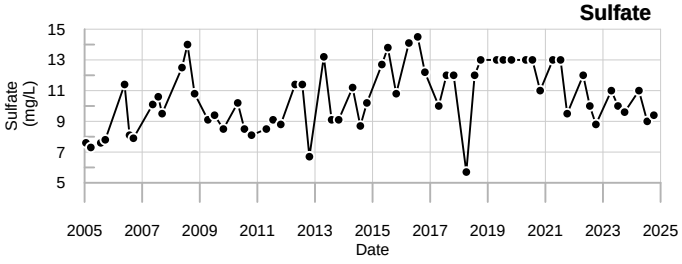
Total Dissolved Solids



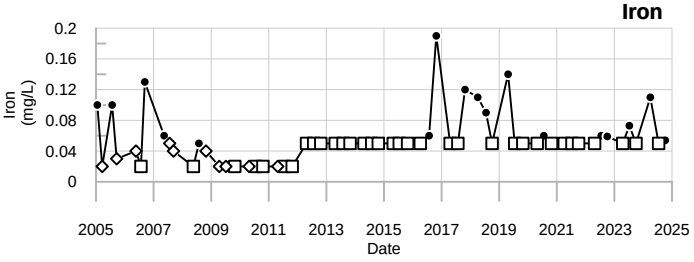
Calcium



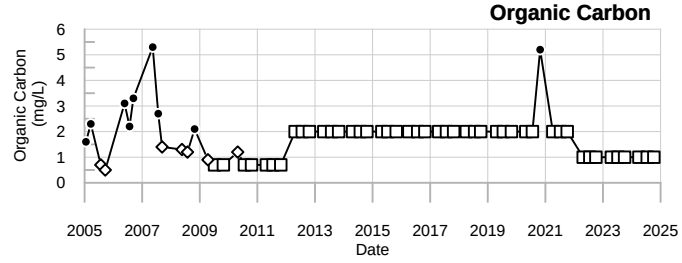
Sulfate



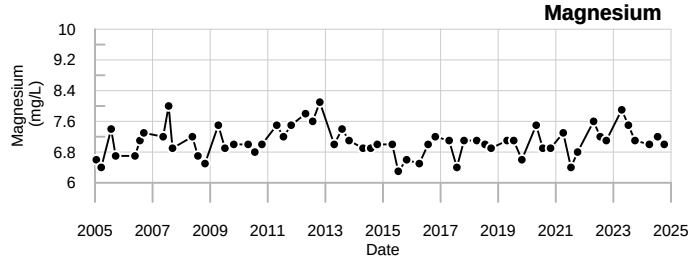
Iron



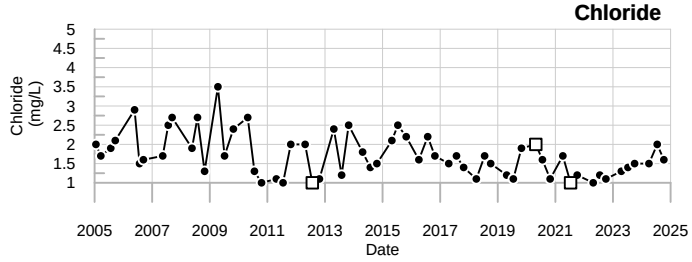
Organic Carbon



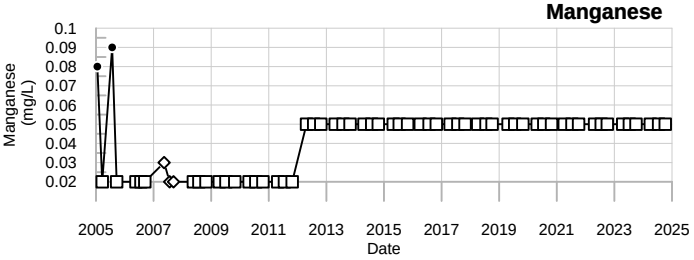
Magnesium



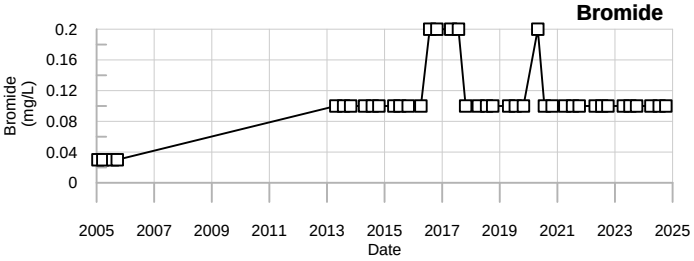
Chloride



Manganese



Bromide



LEGEND

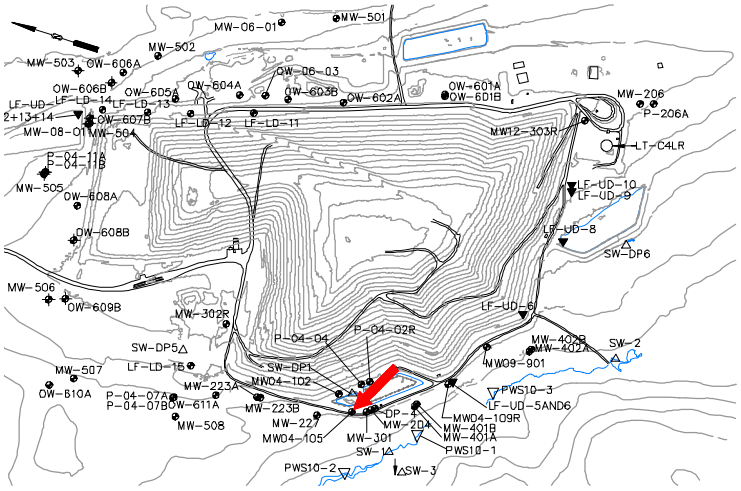
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

MW04-102
Juniper Ridge Landfill

Well Description

MW04-105 monitors groundwater in the overburden downgradient of the landfill and Stormwater Detention Pond-1.



Screen Interval:	**14.8 ft. to 19.8 ft.**
Sampled:	**1 Time Annually(field parameters only)**
Sampled Since:	**01/17/2005**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

	2024				Historical (11/1/1990 - 12/31/2023)				
Indicator Parameters	Q1	Q2	Q3	Q4	Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)				381	207	to 703	350 ±	17.000	38
pH (STU)				6.4	6.1	to 7.7	6.9 ±	0.056	38
Temperature (Deg C)				12.5	6.7	to 23.8	12 ±	0.550	38
Water Level Depth (Feet)				8.22	5.8	to 9.2	7.6 ±	0.130	38
Water Level Elevation (Feet)				157.37	156.39	to 159.79	160 ±	0.130	38
Water Level Reference Point (Feet)				165.59	165.59	to 165.59	170 ±	0.000	38
Eh (mV)				305	-7	to 447	290 ±	14.000	38
Dissolved Oxygen (mg/L)				0.2	0.2	to 4	1.2 ±	0.170	38
Well Depth (Feet)				22.82	22.75	to 22.85	23 ±	0.010	18
Turbidity (field) (NTU)				0.1 U	0	to 3.7	1 ±	0.150	38

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

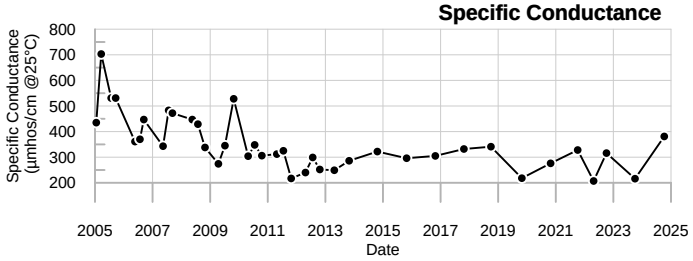
Comments

Q4= 10 - 2024

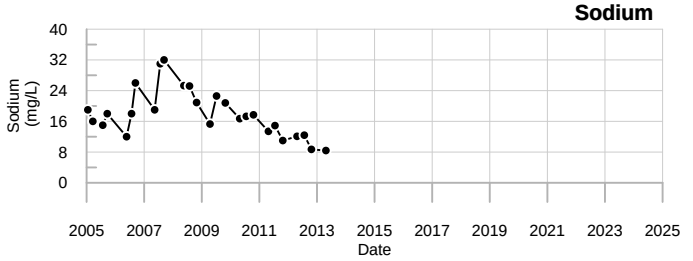
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

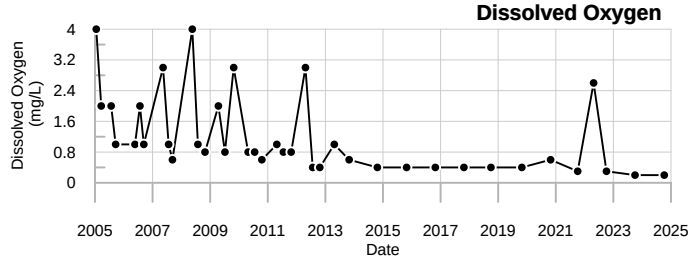
Specific Conductance



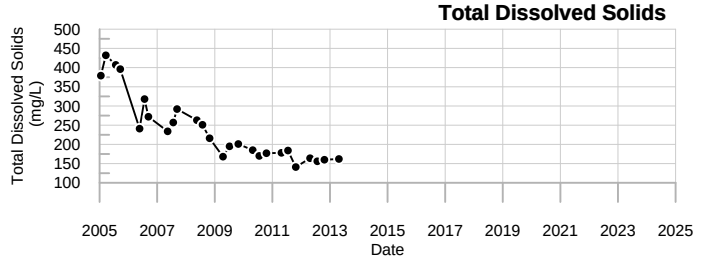
Sodium



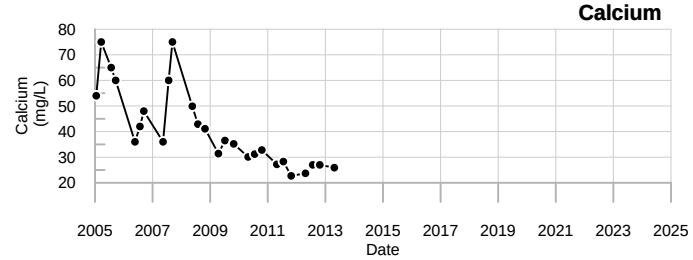
Dissolved Oxygen



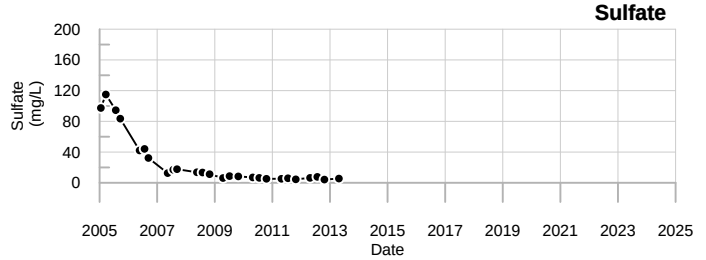
Total Dissolved Solids



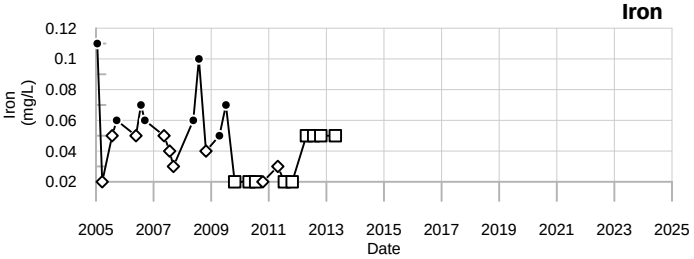
Calcium



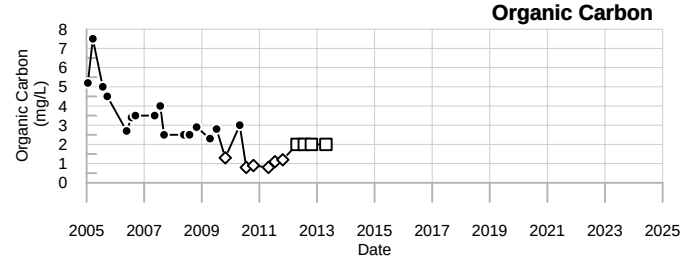
Sulfate



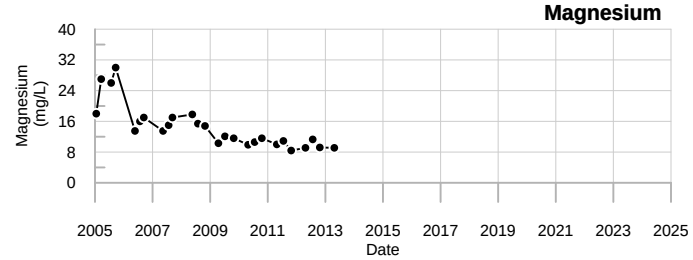
Iron



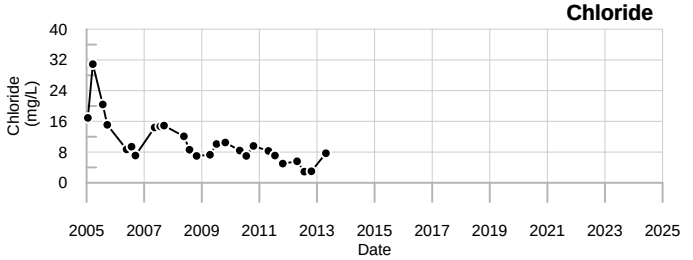
Organic Carbon



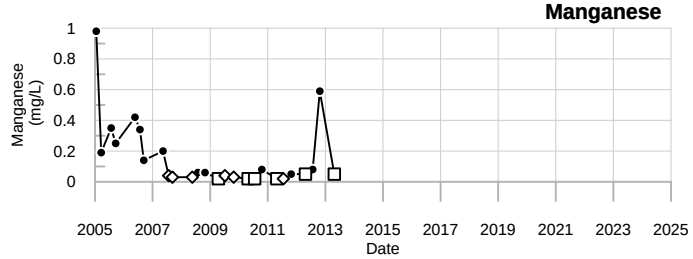
Magnesium



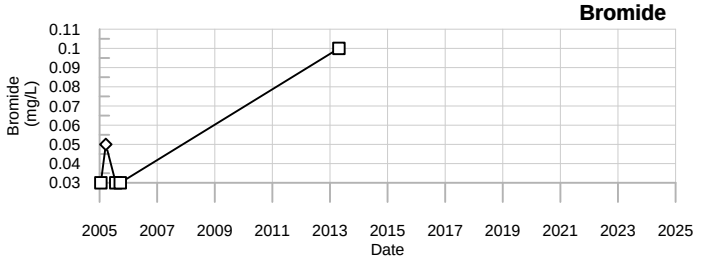
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

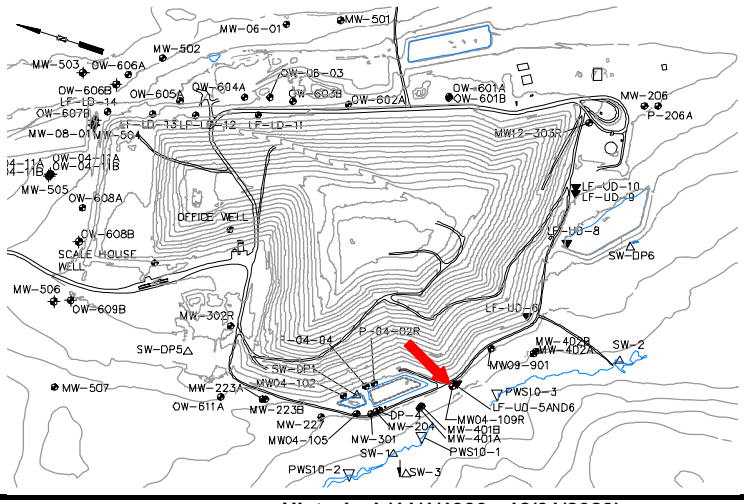
MW04-105
Juniper Ridge Landfill

MW04-109 & MW04-109R
Annual Stats

Well Description

MW04-109R is located to the south of Cell #5 of the landfill and near Manhole #5. This well monitors water quality within the overburden downgradient of the landfill.

Screen Interval:	**15 ft. to 20 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**12/08/2009**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		357	376	336	237	to 662	420	± 11.000	57
pH (STU)		6.9	6.6	6.2	5.5	to 7.9	6.7	± 0.050	57
Temperature (Deg C)		9.4	19.6	13.7	4.7	to 21.9	13	± 0.610	57
Water Level Depth (Feet)		5.9	6.5	7.8	5.67	to 11.72	7.7	± 0.230	57
Water Level Elevation (Feet)		154.23	153.63	152.33	151.51	to 155.07	150	± 0.097	57
Water Level Reference Point (Feet)		160.13	160.13	160.13	160.13	to 164.59	160	± 0.260	58
Eh (mV)		262	209	232	-478	to 419	260	± 19.000	57
Dissolved Oxygen (mg/L)		2.6	0.8	0.5	0.1 U	to 4.3	1	± 0.110	57
Well Depth (Feet)				27.96	22.85	to 27.98	24	± 0.460	18
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.033	0.0086	± 0.001	57
Calcium (mg/L)		51	52	41	32	to 81.2	58	± 1.300	57
Iron (mg/L)		0.05 U	↑0.13	0.058	0.02 U	to 0.11	0.045	± 0.002	57
Magnesium (mg/L)		11	9.9	9.4	9.4	to 25.4	13	± 0.410	57
Manganese (mg/L)		**0.39**	**5.6**	**4.1**	0.02	to 6	0.59	± 0.130	57
Potassium (mg/L)		1.9	↓1.6	2.3	1.7	to 5.4	2.1	± 0.070	57
Sodium (mg/L)		↓6	↓5.5	7.2	6.1	to 70	13	± 1.600	57
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.35	0.2	0.2 U	to 1 U	0.38	± 0.021	57
Nitrite/Nitrate - (N) (mg/L)		0.089	0.05 U	0.05 U	0.05 U	to 2 U	0.18	± 0.074	27
Total Dissolved Solids (mg/L)		212	232	218	194	to 650	270	± 8.900	57
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4 U	3.5	± 0.096	57
Sulfate (mg/L)		6.3	5.3	6	2.2	to 55	10	± 1.400	57
Bicarbonate Alkalinity (CaCO3) (mg/L)		180	190	↓32	140	to 276	200	± 3.100	57
Organic Carbon (mg/L)		2.6	2.4	2.1	1.2	to 54	3.5	± 0.920	57
Chloride (mg/L)		2.8	2.5	2.8	1 U	to 92.8	9.2	± 1.900	57
Bromide (mg/L)		0.12	0.14	0.14	0.03 U	to 0.25	0.15	± 0.009	37
Turbidity (field) (NTU)		1	0.5	0.3	0	to 2.9	0.79	± 0.110	57

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

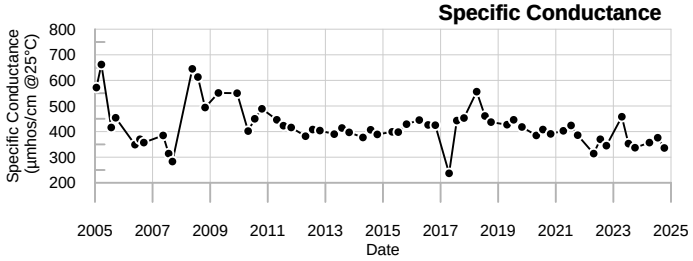
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

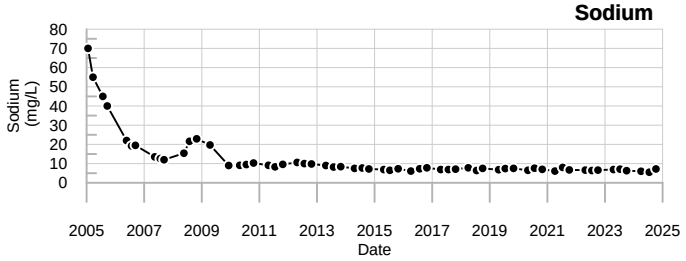
Data Group: 245
Printed: 4/16/2025 11:25

SME SEVEE & MAHER ENGINEERS

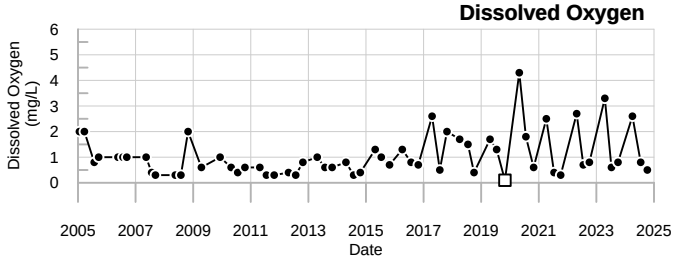
Specific Conductance



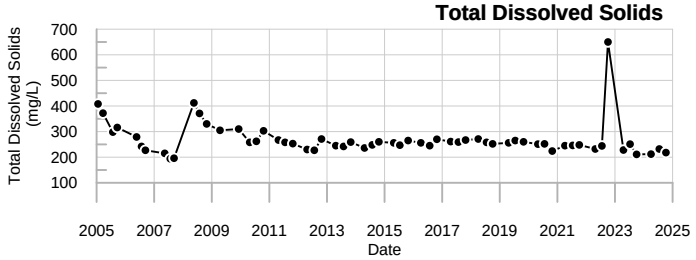
Sodium



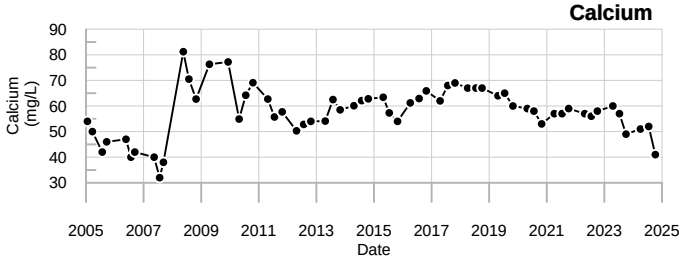
Dissolved Oxygen



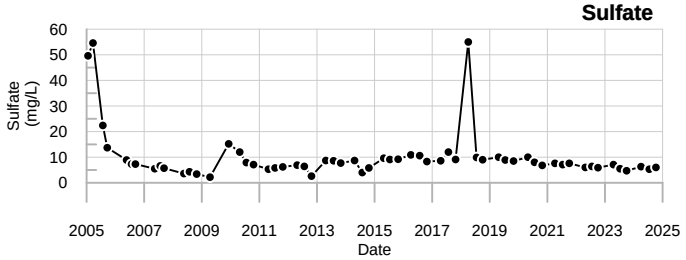
Total Dissolved Solids



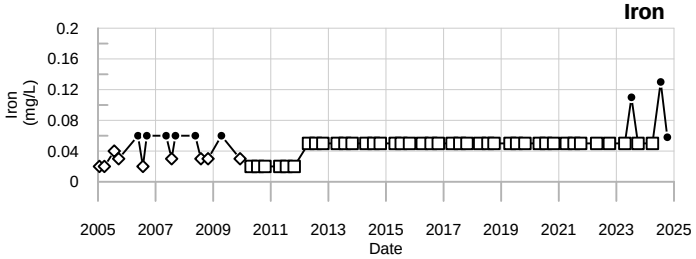
Calcium



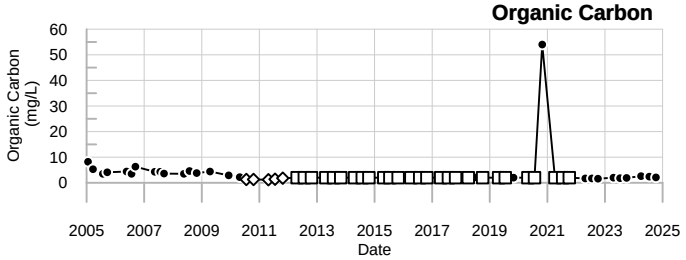
Sulfate



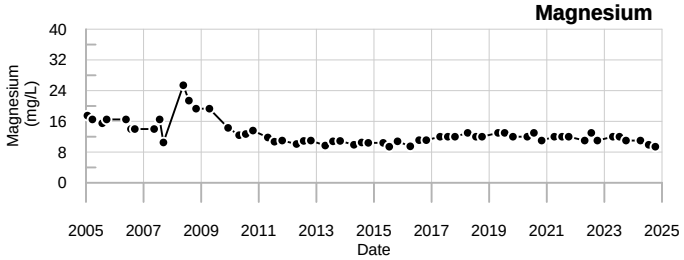
Iron



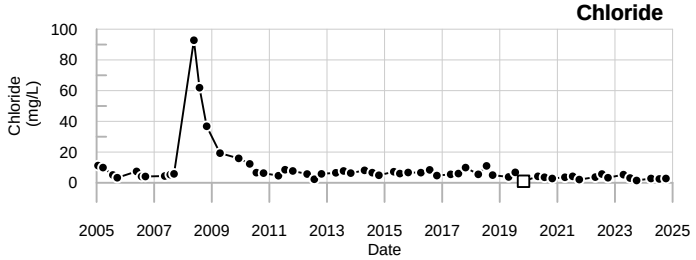
Organic Carbon



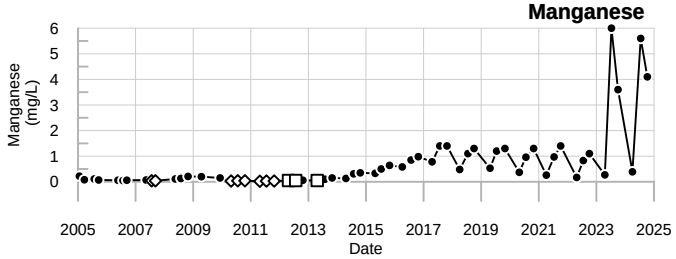
Magnesium



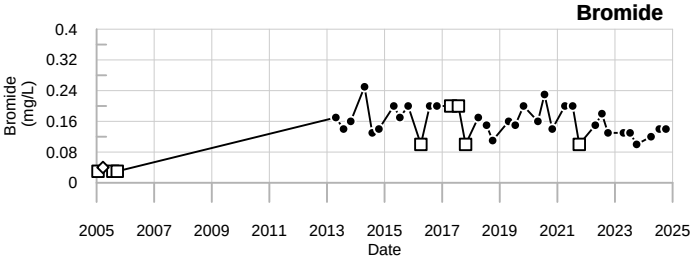
Chloride



Manganese



Bromide



LEGEND

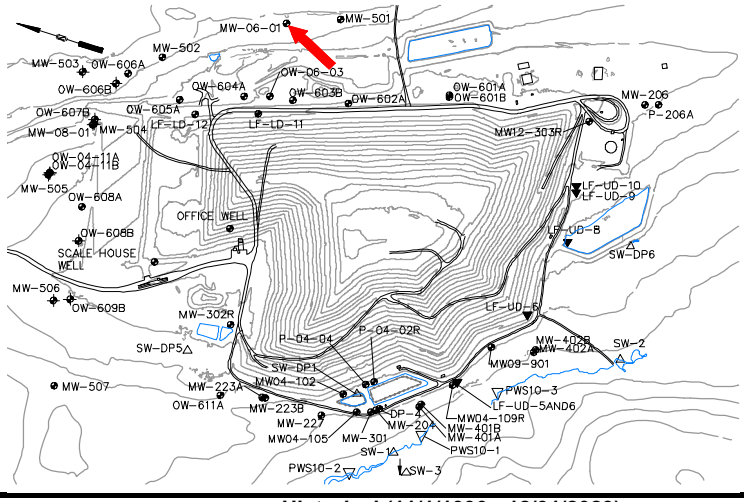
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

MW04-109 & MW04-109R
Juniper Ridge Landfill

Well Description

MW06-01 monitors overburden groundwater downgradient and east of the landfill expansion.



Screen Interval:	**10 ft. to 20 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**Apr-18**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↑270	↑256	↑240	67	to 221	120	± 11.000	19
pH (STU)		6.1	6.6	6.5	6.1	to 8.1	7	± 0.140	19
Temperature (Deg C)		6.7	14.1	11.9	6.4	to 18.1	11	± 0.750	19
Water Level Depth (Feet)		F1	0.06	1.35	0.04	to 3.25	1.5	± 0.300	12
Water Level Elevation (Feet)			166.071	164.781	162.881	to 166.091	160	± 0.300	12
Water Level Reference Point (Feet)		166.131	166.131	166.131	166.131	to 166.131	170	± 0.000	17
Eh (mV)		429	381	473	219	to 508	380	± 16.000	19
Dissolved Oxygen (mg/L)		1.9	4.9	3.5	1.8	to 13	7.5	± 0.780	19
Well Depth (Feet)				22.13	22.13	to 22.14	22	± 0.002	5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.005 U	0.005	± 0.000	19
Calcium (mg/L)		↑32	↑27	25	8.4	to 26	14	± 1.600	19
Copper (mg/L)		↑0.11	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003	± 0.000	6
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.66	0.082	± 0.032	19
Magnesium (mg/L)		↑8.3	↑7.7	7.6	2.4	to 7.6	4.1	± 0.440	19
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	19
Potassium (mg/L)		0.81	0.77	0.78	0.4	to 1.7	0.65	± 0.071	19
Sodium (mg/L)		5	5	5.1	2.5	to 5.9	3.6	± 0.230	19
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.25 U	0.23	± 0.006	19
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)		0.14	0.16	0.2	0.05 U	to 0.34	0.18	± 0.018	19
Total Dissolved Solids (mg/L)		↑182	141	↑146	50	to 142	89	± 7.500	19
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4 U	2.6	± 0.079	19
Sulfate (mg/L)		4.4	3.7	3.3	2 U	to 9.2	3	± 0.350	19
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)		↑110	↑89	↑98	31	to 84	53	± 8.400	8
Organic Carbon (mg/L)		2	2.9	1 U	1 U	to 4.9	1.8	± 0.200	19
Chloride (mg/L)		12	12	12	1.3	to 13	8.9	± 0.750	19
Bromide (mg/L)		↑0.59	0.23	0.19	0.1 U	to 0.24	0.13	± 0.011	19
Turbidity (field) (NTU)		0.1	0.3	0.2	0.1	to 3.5	0.67	± 0.240	19
Methane (ug/L)		↑2100	↑340	↑270	20 U	to 230	110	± 45.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

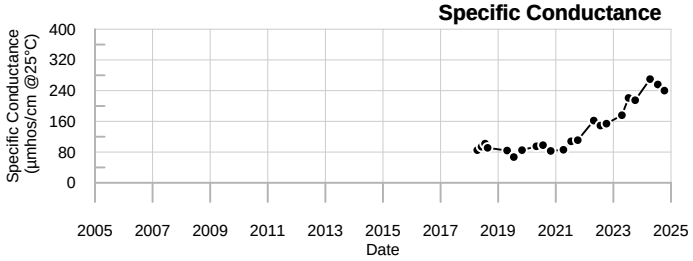
F1 = Well was flowing

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

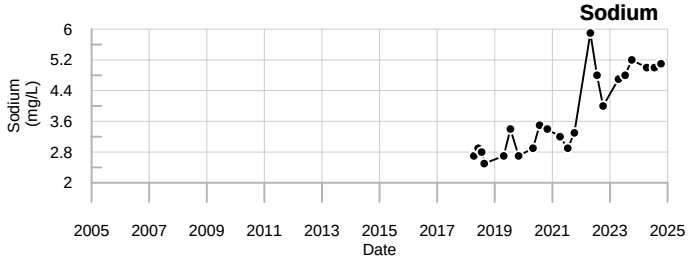
Data Group: 245
Printed: 4/16/2025 11:25

SME
SEVEE & MAHER ENGINEERS

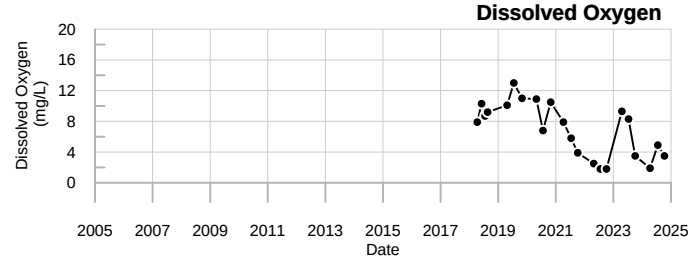
Specific Conductance



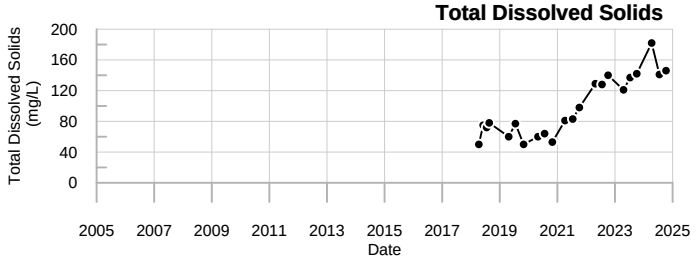
Sodium



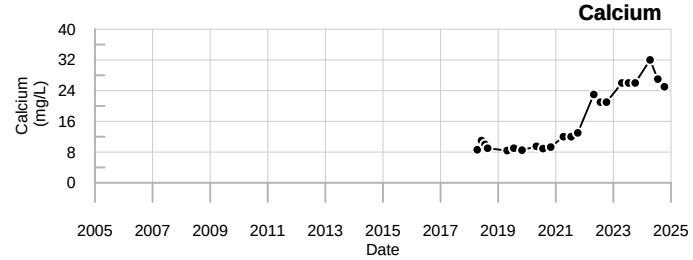
Dissolved Oxygen



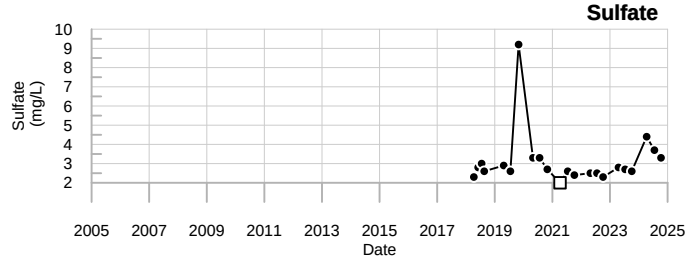
Total Dissolved Solids



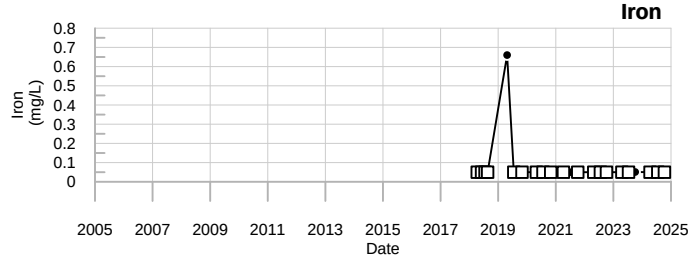
Calcium



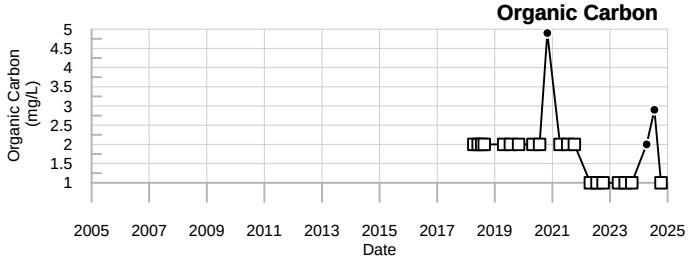
Sulfate



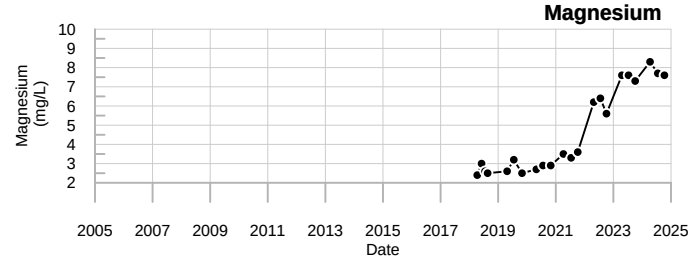
Iron



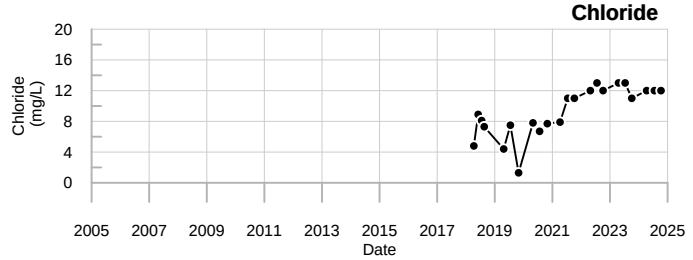
Organic Carbon



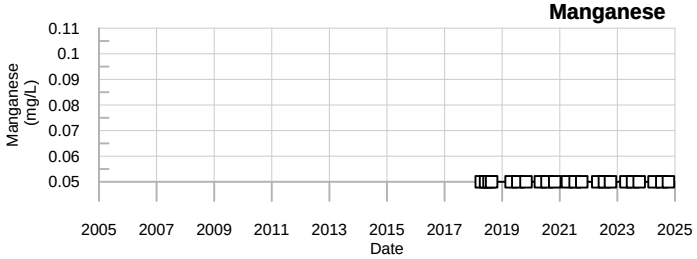
Magnesium



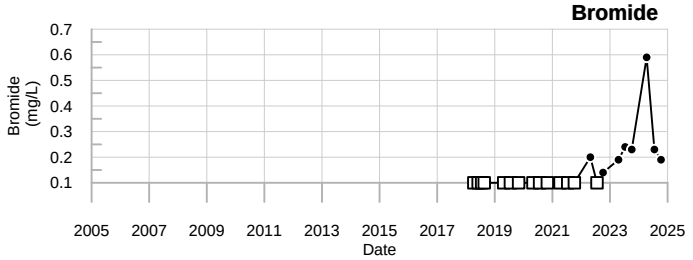
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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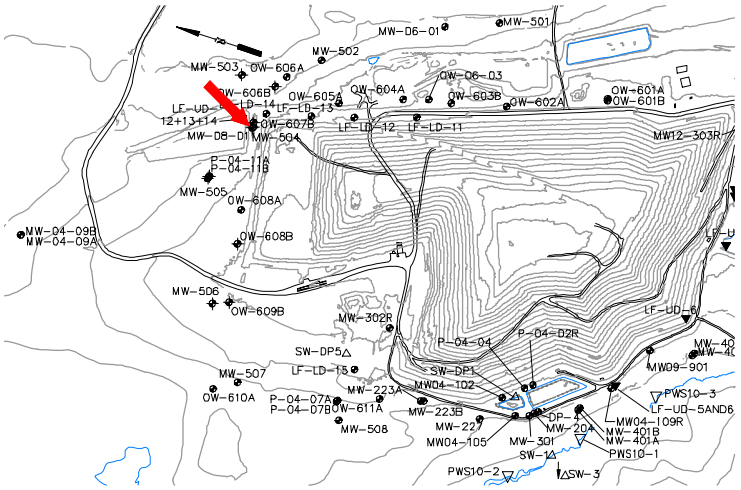
ENGINEERS

MW06-01
Juniper Ridge Landfill

Well Description

MW-08-01 monitors bedrock groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**117 ft. to 127 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**2/9/2021**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		221	221	226	183	to 318	220	± 12.000	11
pH (STU)		↓7	7.9	7.2	7.1	to 8.4	7.7	± 0.130	11
Temperature (Deg C)		7.5	16.2	10.5	5.7	to 17.4	11	± 1.000	11
Water Level Depth (Feet)		22.14	22.3	↑22.72	14.68	to 22.45	19	± 1.200	11
Water Level Elevation (Feet)		160.437	160.277	↓159.857	160.127	to 161.33	160	± 0.140	11
Water Level Reference Point (Feet)		182.577	182.577	182.577	176.01	to 182.577	180	± 1.000	11
Eh (mV)		↑457	229	↑470	120	to 343	210	± 24.000	11
Dissolved Oxygen (mg/L)		4.3	2.2	2.5	0.9	to 4.5	1.9	± 0.290	11
Well Depth (Feet)				↑132.96	127.89	to 127.89	130	± 0.000	2
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.0078	0.0053	± 0.000	11
Calcium (mg/L)		23	23	21	11	to 24	18	± 1.500	11
Copper (mg/L)		↑0.045	0.0032	0.003 U	0.003 U	to 0.005	0.0032	± 0.000	11
Iron (mg/L)		0.05 U	0.06	0.05 U	0.05 U	to 0.4	0.15	± 0.045	11
Magnesium (mg/L)		5	↑5.6	5.1	2.8	to 5.4	3.9	± 0.300	11
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Potassium (mg/L)		1.5	1.7	1.4	1.1	to 2.7	1.6	± 0.160	11
Sodium (mg/L)		↓14	18	↓13	15	to 35	24	± 2.100	11
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.5 U	0.26	± 0.029	11
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	11
Nitrite/Nitrate - (N) (mg/L)		0.16	0.12	0.15	0.05 U	to 1.3	0.26	± 0.110	11
Total Dissolved Solids (mg/L)		145	131	129	126	to 179	140	± 4.600	11
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 31	6.8	± 2.600	11
Sulfate (mg/L)		15	14	14	12	to 19	15	± 0.750	11
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.3 U	0.12	± 0.018	11
Alkalinity (CaCO3) (mg/L)		94	90	89	86	to 98	92	± 1.100	11
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.160	11
Chloride (mg/L)		5.1	4.3	3.8	2.9	to 7.3	5.1	± 0.400	11
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	11
Turbidity (field) (NTU)		↓0.4	1	0.5	0.5	to 13	4.3	± 1.100	11
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	11

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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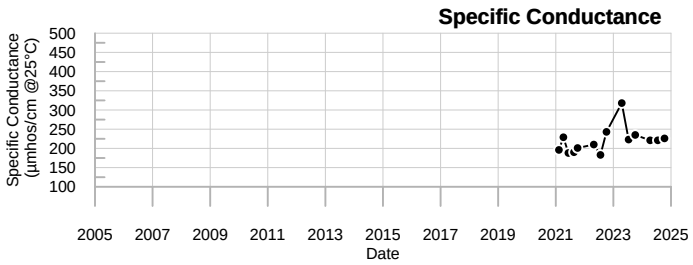

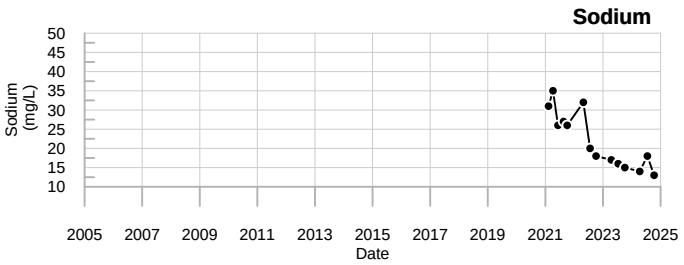

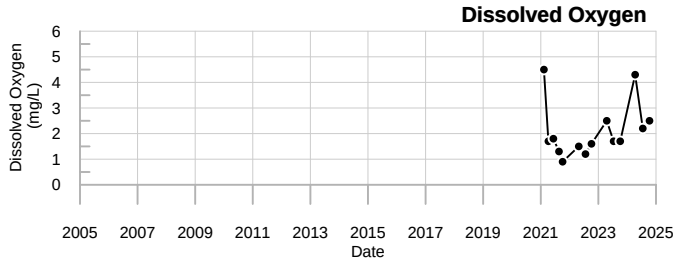

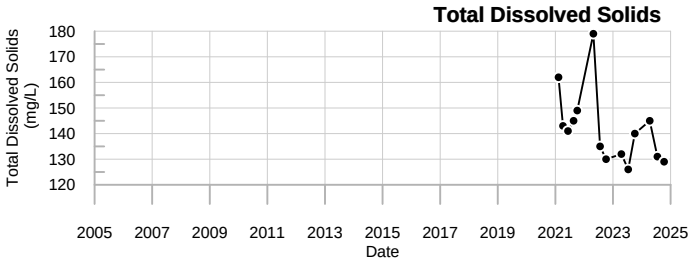

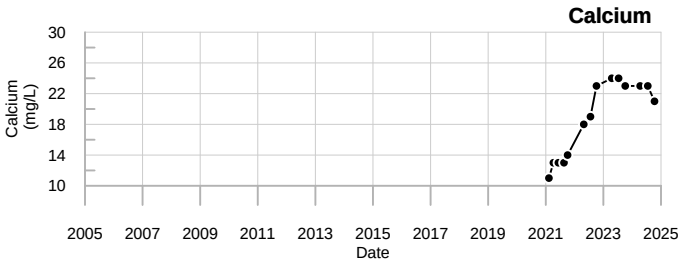

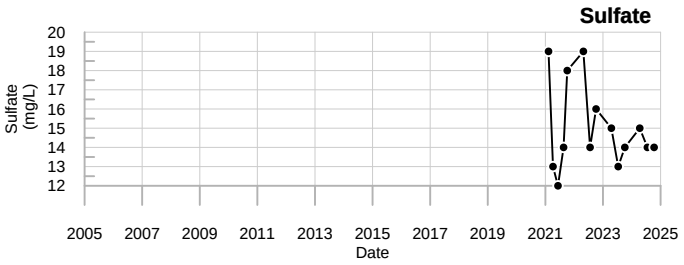

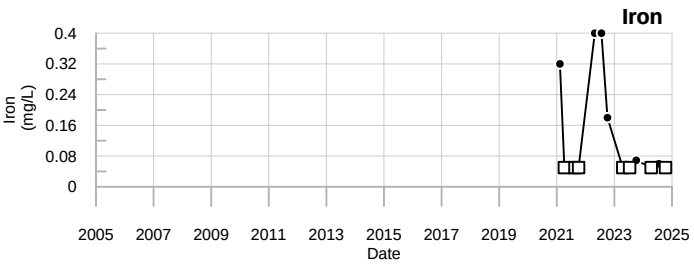

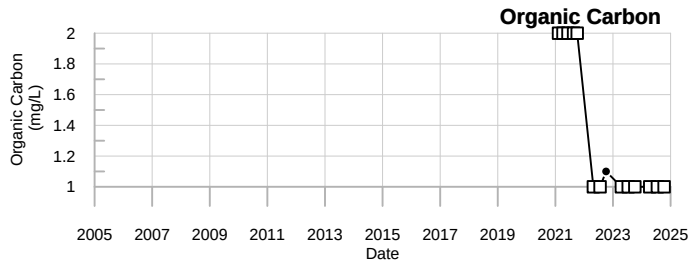

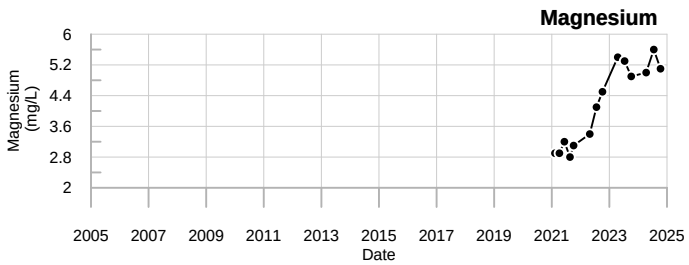

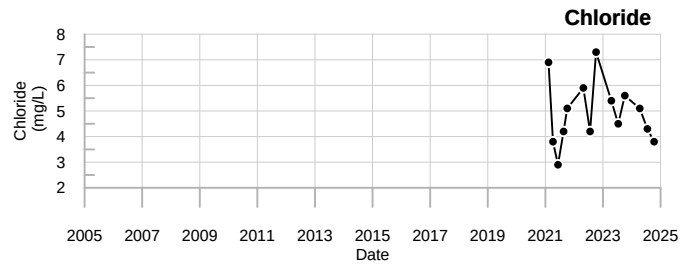

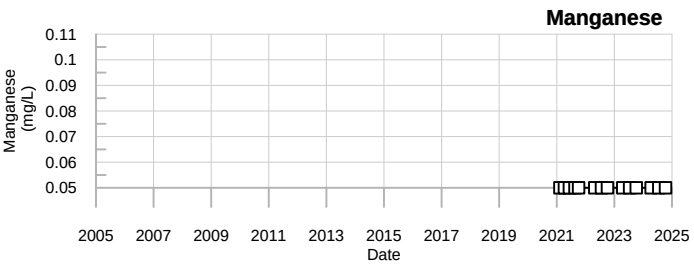

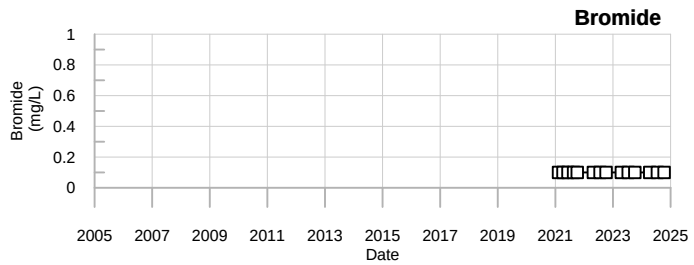

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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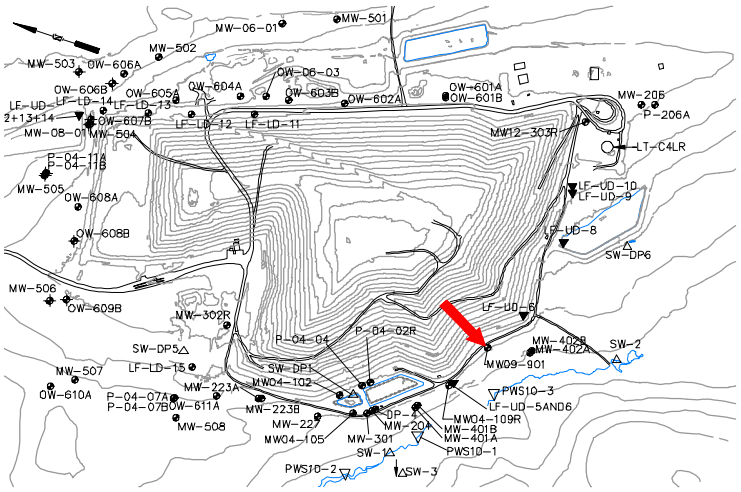
MW-08-01
Juniper Ridge Landfill

MW09-901
Annual Stats

Well Description

MW09-901 is located to the south of Cell #5 and detention pond #2 of the landfill. This well monitors water quality within the overburden downgradient of the landfill.

Screen Interval:	**15 ft. to 20 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**12/08/2009**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		351	339	310	178	to 487	310	± 12.000	43
pH (STU)		6.8	6.3	↓6.1	6.2	to 8.4	7.2	± 0.095	43
Temperature (Deg C)		8.6	16.9	13.9	4.6	to 20.4	13	± 0.590	43
Water Level Depth (Feet)		↓5.4	7	10.05	5.7	to 11.92	8.7	± 0.250	43
Water Level Elevation (Feet)		↑159.7	158.1	155.05	153.18	to 159.4	160	± 0.250	43
Water Level Reference Point (Feet)		165.1	165.1	165.1	165.1	to 165.1	170	± 0.000	43
Eh (mV)		280	316	295	20	to 464	310	± 13.000	43
Dissolved Oxygen (mg/L)		2.5	0.2	0.5	0.1 U	to 5.4	2.1	± 0.250	43
Well Depth (Feet)				22.77	22.73	to 22.82	23	± 0.008	14
Arsenic (mg/L)		0.005 U	0.005 U	↑**0.17**	0.002 U	to 0.019	0.007	± 0.001	43
Calcium (mg/L)		42	45	34	18.8	to 58	37	± 1.800	43
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.18	0.05	± 0.003	43
Magnesium (mg/L)		12	12	9.9	5.4	to 17	10	± 0.500	43
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.39	0.063	± 0.009	43
Potassium (mg/L)		1.5	1.4	1.4	1	to 2.6	2	± 0.059	43
Sodium (mg/L)		8.2	8.3	7.4	4.9	to 17.4	9.3	± 0.420	43
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 1.5	0.36	± 0.032	43
Nitrite/Nitrate - (N) (mg/L)		0.2	0.05 U	0.05 U	0.05 U	to 2 U	0.3	± 0.077	27
Total Dissolved Solids (mg/L)		210	207	197	103	to 270	180	± 7.400	43
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4	3.3	± 0.120	43
Sulfate (mg/L)		12	11	13	4.6	to 47	12	± 0.960	43
Bicarbonate Alkalinity (CaCO3) (mg/L)		170	160	↓33	75	to 180	140	± 5.800	43
Organic Carbon (mg/L)		2	1.4	1.3	0.7 U	to 39	2.7	± 0.870	43
Chloride (mg/L)		7.6	6.7	5	1 U	to 14	5.1	± 0.510	43
Bromide (mg/L)		0.24	0.21	0.24	0.1 U	to 0.32	0.18	± 0.013	33
Turbidity (field) (NTU)		2.8	1.4	0.4	0	to 10.1	1.7	± 0.250	43

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Data Group: 245
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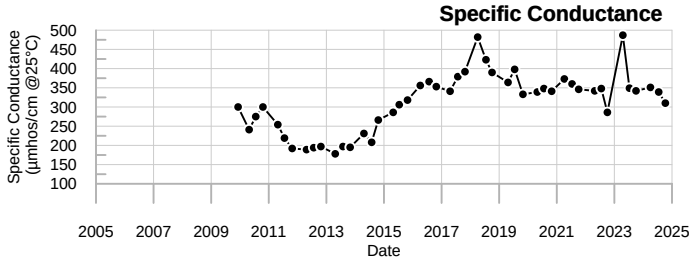

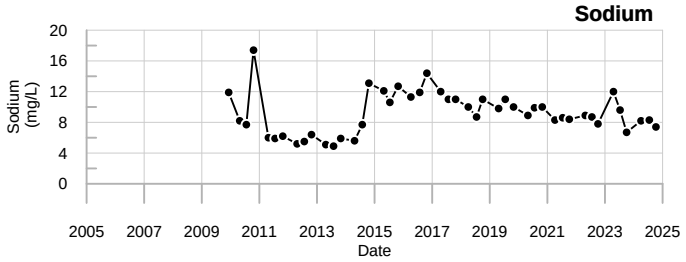

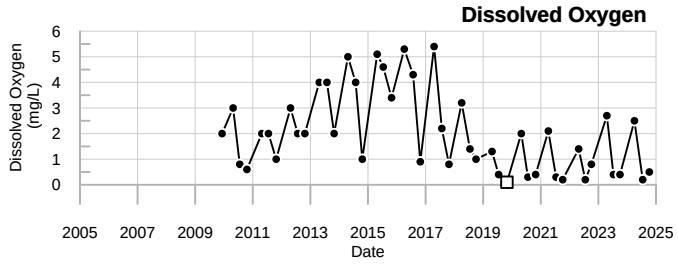

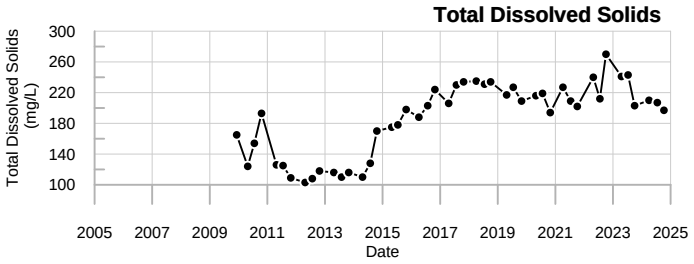

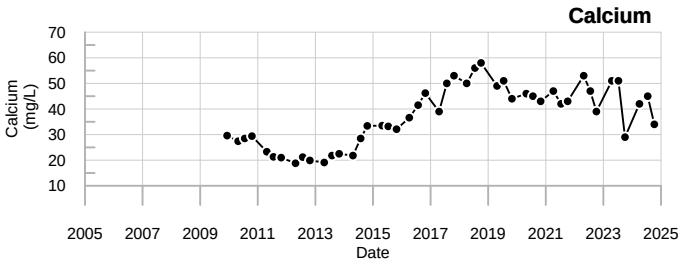

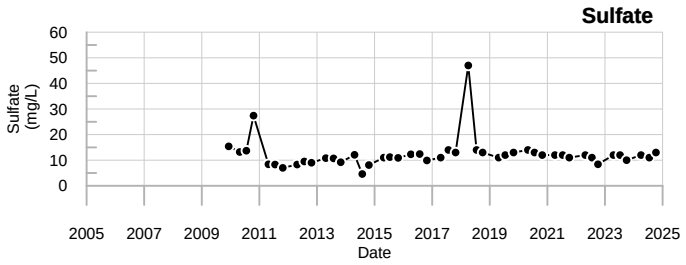

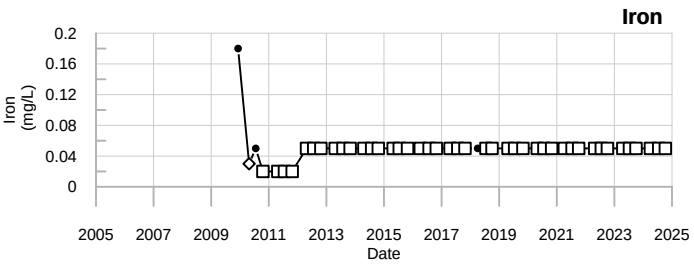

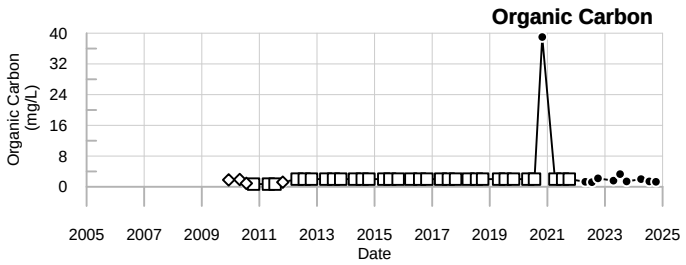

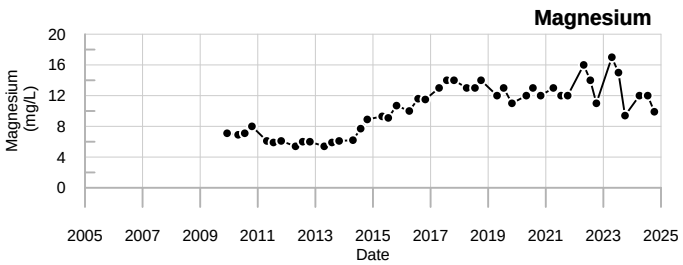

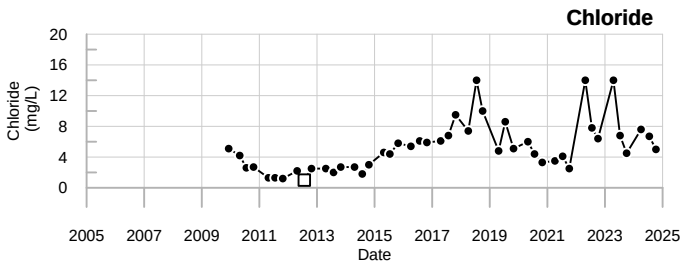

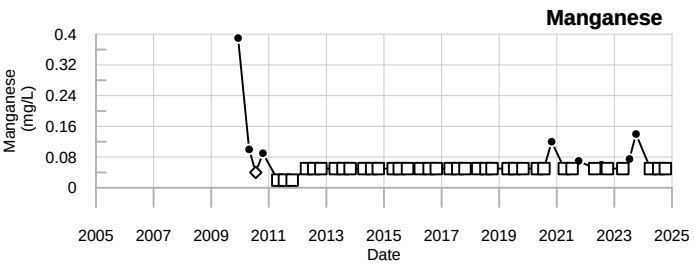

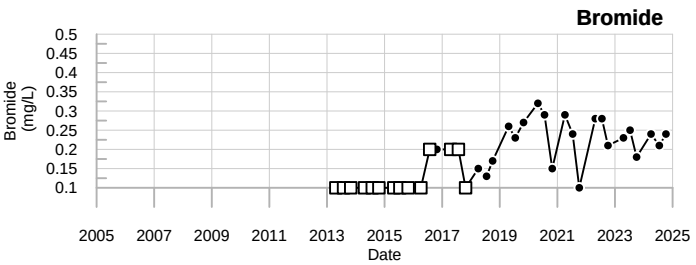

LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

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MW09-901
Juniper Ridge Landfill

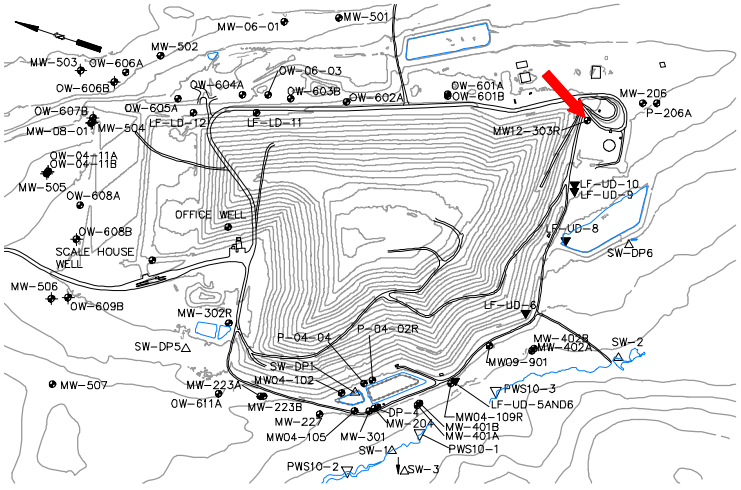
Sevee & Maher Engineers, Inc.

MW-303 & MW12-303R

Well Description

MW12-303R was installed in September 2012 to replace MW-303. MW12-303R monitors the background water quality at the site upgradient of the landfill.

Screen Interval:	**30.4 ft. to 40.4 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**10/23/12**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		125	246	298	33	to 1711	230	± 27.000	88
pH (STU)		6.5	6	6.3	5.7	to 7.5	6.6	± 0.044	88
Temperature (Deg C)		9.1	↑19.9	12.8	5.3	to 17.5	10	± 0.310	88
Water Level Depth (Feet)		28	29.1	31.5	19.75	to 33.4	27	± 0.370	85
Water Level Elevation (Feet)		180.89	179.79	177.39	175.49	to 188.12	180	± 0.340	85
Water Level Reference Point (Feet)		208.89	208.89	208.89	207.87	to 208.89	210	± 0.054	86
Eh (mV)		306	374	318	1	to 497	290	± 13.000	71
Dissolved Oxygen (mg/L)		8.4	5.5	2.1	0.2	to 12.7	5.3	± 0.430	87
Well Depth (Feet)				43.35	43.32	to 46.93	45	± 0.400	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005	0.001 U	to 0.036	0.0061	± 0.001	60
Calcium (mg/L)		15	31	36	2.8	to 160	24	± 2.700	83
Iron (mg/L)		1.4	1.1	0.99	0.018	to 2.29	0.14	± 0.031	88
Magnesium (mg/L)		4	7.1	11	0.61	to 22	5.9	± 0.490	83
Manganese (mg/L)		0.22	0.28	**0.36**	0.01 U	to 3.13	0.12	± 0.039	88
Potassium (mg/L)		1.4	1.8	1.4	0.2	to 5.7	1.8	± 0.170	60
Sodium (mg/L)		5.4	9.4	7.8	1.9	to 110	14	± 1.900	88
Total Kjeldahl Nitrogen (mg/L)		0.24	0.54	0.28	0.15 U	to 2	0.52	± 0.045	60
Nitrite/Nitrate - (N) (mg/L)		0.91	2.1	0.53	0.05 U	to 12	1.5	± 0.460	28
Total Dissolved Solids (mg/L)		109	169	192	11	to 1016	150	± 16.000	88
Total Suspended Solids (mg/L)		21	19	19	2.5 U	to 130	7.9	± 2.200	60
Sulfate (mg/L)		13	24	27	0.8	to 430	13	± 4.900	88
Bicarbonate Alkalinity (CaCO3) (mg/L)		43	91	130	22	to 162	88	± 5.300	60
Organic Carbon (mg/L)		3.7	4.6	1.5	0.5 U	to 34	2.7	± 0.450	88
Chloride (mg/L)		2.9	4.6	7.8	1 U	to 220	20	± 3.400	88
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.03 U	to 2.4	0.26	± 0.067	35
Turbidity (field) (NTU)		22.7	19.8	19.4	0	to 999	21	± 12.000	85

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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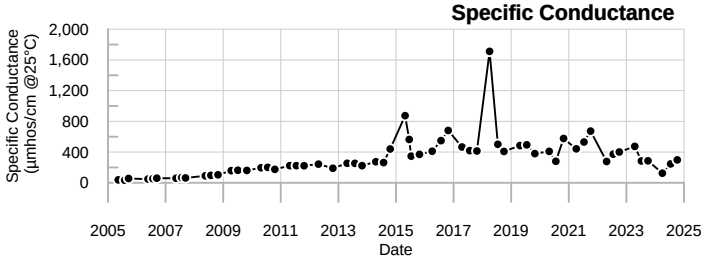
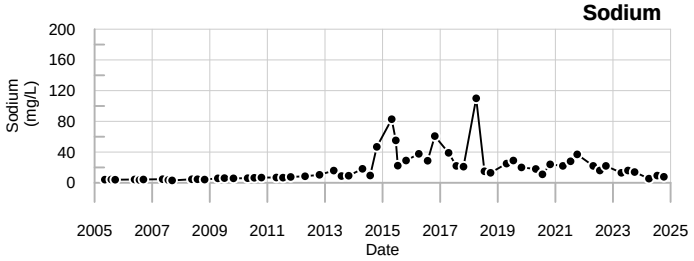
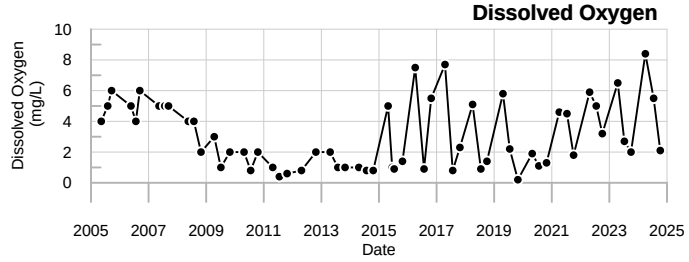
Specific Conductance



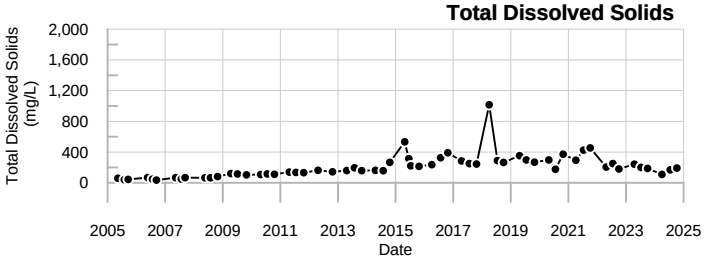
Sodium



Dissolved Oxygen



Total Dissolved Solids



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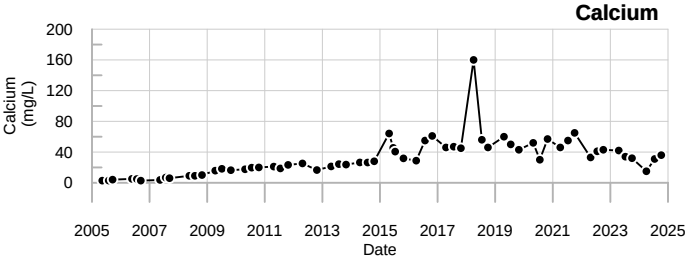
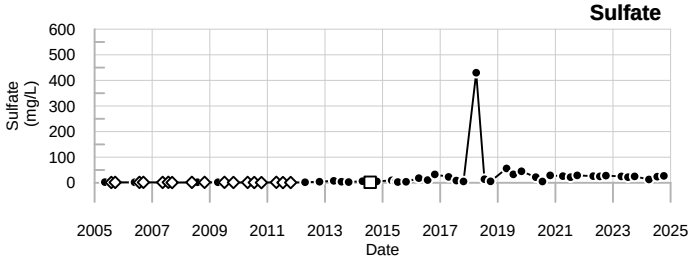


Sulfate



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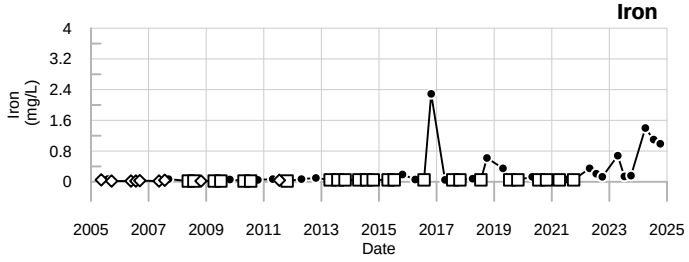
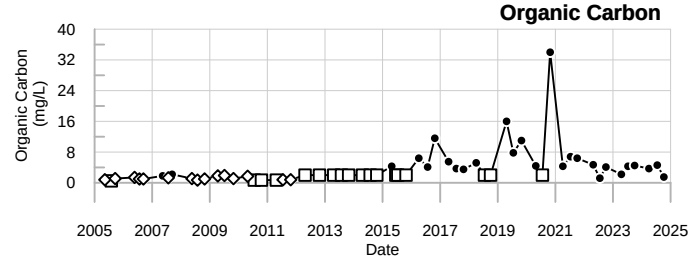


Organic Carbon



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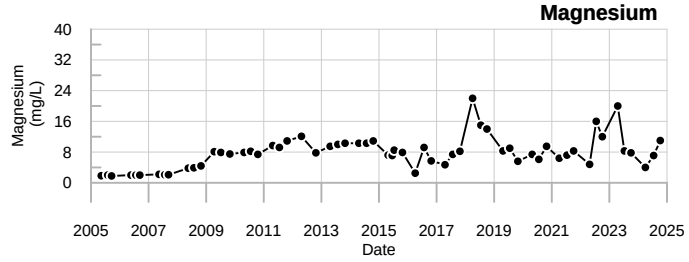

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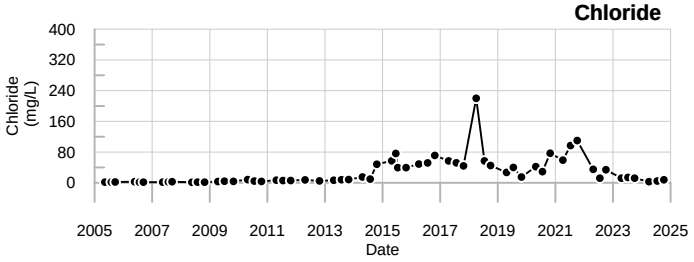
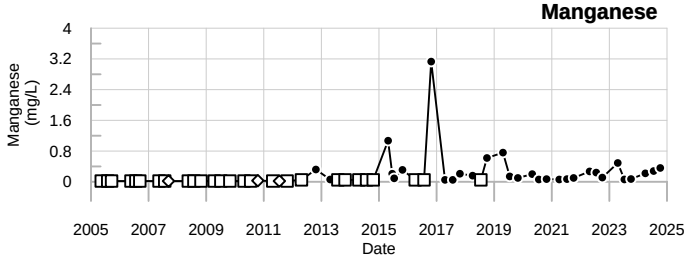
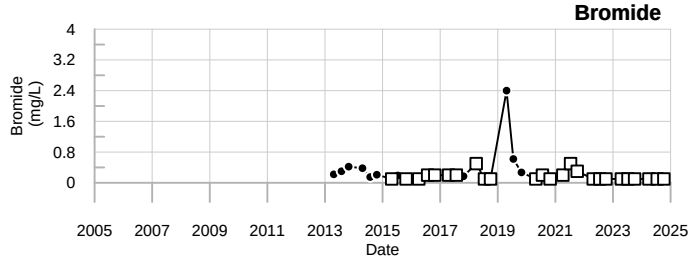


Manganese



Bromide



LEGEND

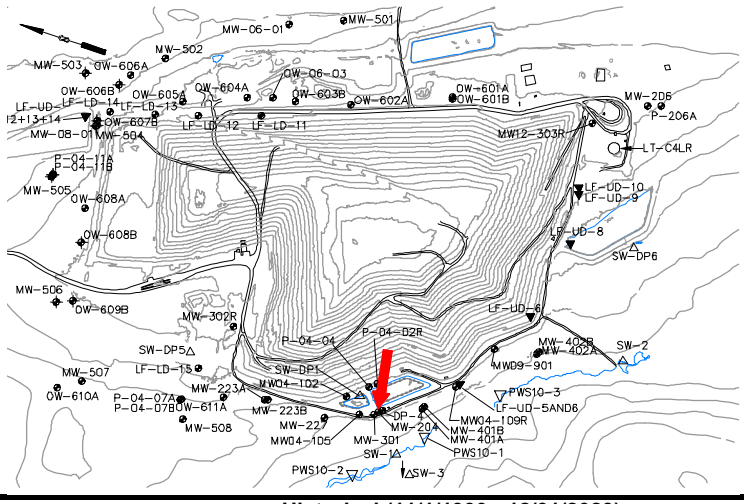
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

MW-303 & MW12-303R
Juniper Ridge Landfill

Well Description

MW-204 monitors the overburden water quality downgradient from the landfill.



Screen Interval:	**13.8 ft. to 18.8 ft.**
Sampled:	**1 Time Annually(field parameters only)**
Sampled Since:	**11/13/90**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)				252	100	to 357	200	± 6.100	88
pH (STU)				6.3	5.7	to 9.2	6.7	± 0.059	88
Temperature (Deg C)				12.7	-1	to 18	10	± 0.370	88
Water Level Depth (Feet)				11.5	3.25	to 14.22	8.7	± 0.210	85
Water Level Elevation (Feet)				154.68	150.53	to 161.5	160	± 0.210	85
Water Level Reference Point (Feet)				↑166.18	164.75	to 164.75	160	± 0.000	86
Eh (mV)				305	35.2	to 491	280	± 14.000	50
Dissolved Oxygen (mg/L)				0.4	0.3	to 5.2	1.5	± 0.130	66
Well Depth (Feet)				↑25.7	24.4	to 24.49	24	± 0.006	19
Turbidity (field) (NTU)				3.7	0	to 31	2.7	± 0.680	65

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

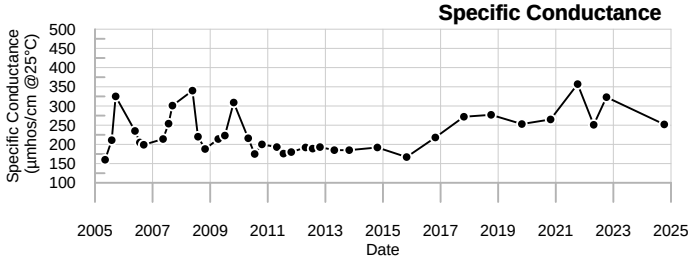
↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

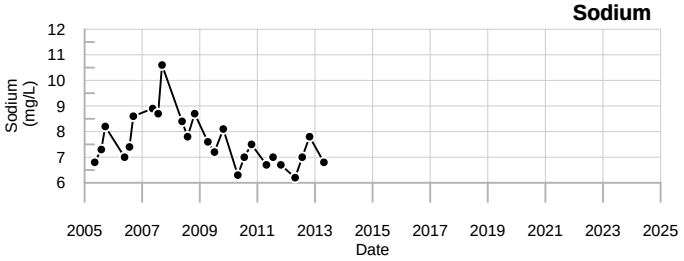
Q4= 10 - 2024

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

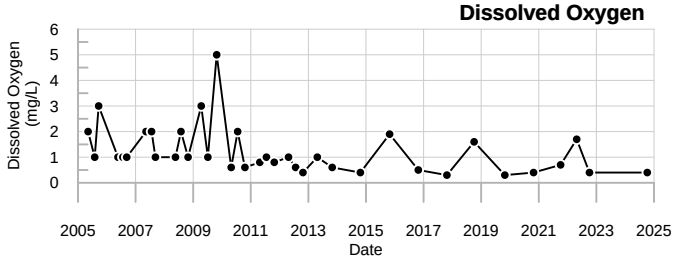
Specific Conductance



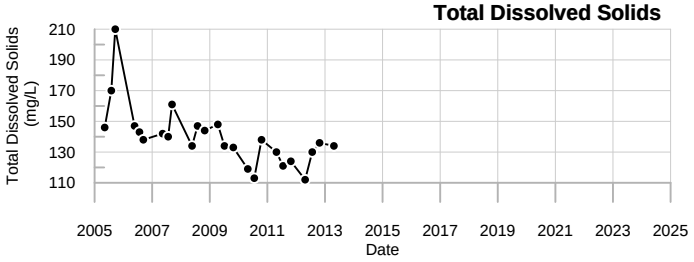
Sodium



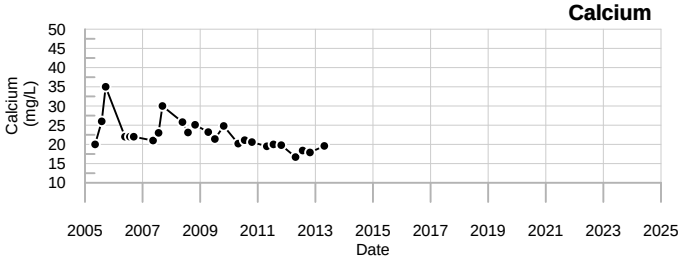
Dissolved Oxygen



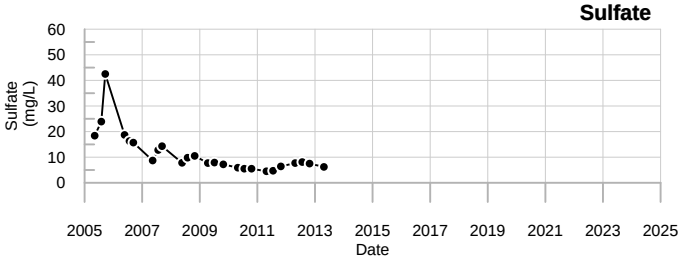
Total Dissolved Solids



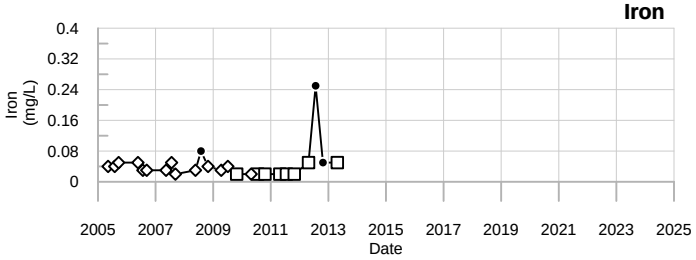
Calcium



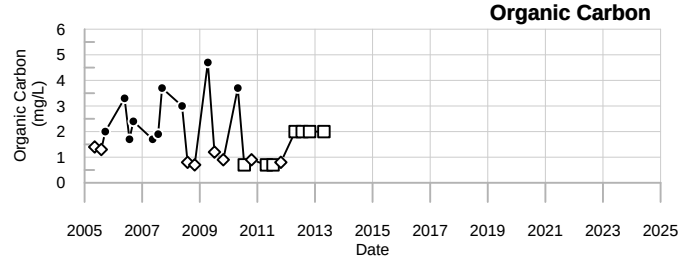
Sulfate



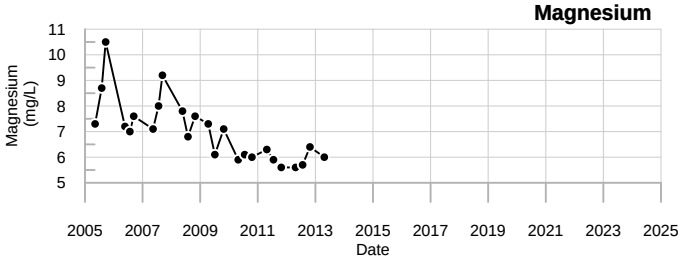
Iron



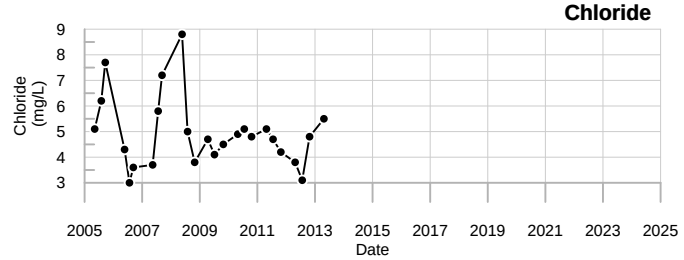
Organic Carbon



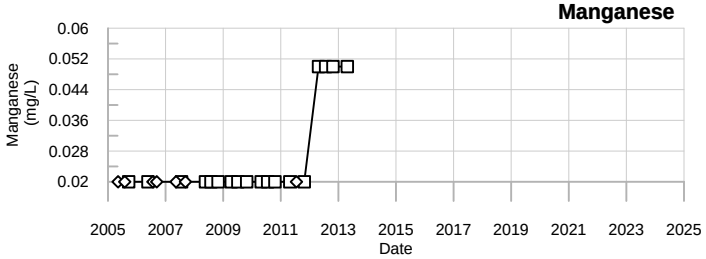
Magnesium



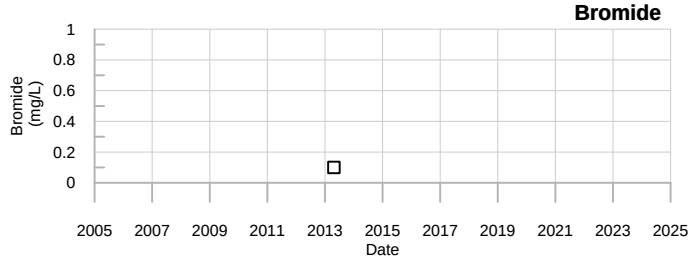
Chloride



Manganese



Bromide



LEGEND

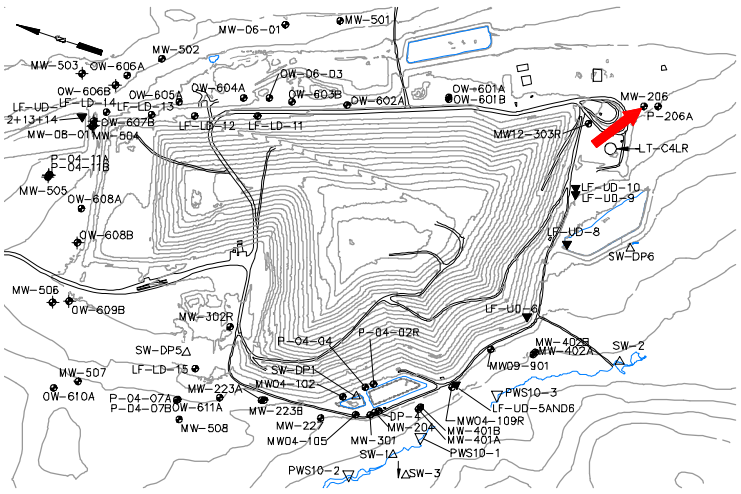
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

MW-204
Juniper Ridge Landfill

Well Description

MW-206 monitors overburden water quality upgradient of the landfill.



Screen Interval:	**15 ft. to 20 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**04/27/93**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		137	141	135	89	to 323	140	± 3.000	100
pH (STU)		7.8	8.3	7.7	6.2	to 8.6	7.9	± 0.048	100
Temperature (Deg C)		6.5	12	10.9	2.9	to 17.5	9.7	± 0.330	100
Water Level Depth (Feet)		4.6	5	9.37	3.08	to 18.57	7.3	± 0.340	97
Water Level Elevation (Feet)		200.07	199.67	195.3	186.1	to 201.59	200	± 0.340	97
Water Level Reference Point (Feet)		204.67	204.67	204.67	204.67	to 204.67	200	± 0.000	97
Eh (mV)		194	291	320	-334	to 464	250	± 14.000	71
Dissolved Oxygen (mg/L)		8.2	8.8	9.4	0.4	to 10.9	6.8	± 0.210	86
Well Depth (Feet)				23.13	23.02	to 23.15	23	± 0.009	18
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001	to 0.022	0.0071	± 0.000	60
Calcium (mg/L)		18	18	15	13	to 27.2	16	± 0.200	87
Copper (mg/L)		↑0.03	0.003 U	0.003 U	0.001 U	to 0.02 U	0.0051	± 0.001	38
Iron (mg/L)		0.05 U	0.28	0.05 U	0.012	to 1.2	0.14	± 0.021	93
Magnesium (mg/L)		4.9	4.9	4.5	2.7	to 6.9	4.7	± 0.058	87
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.003	to 0.32	0.037	± 0.004	93
Potassium (mg/L)		0.73	0.71	0.63	0.3	to 2.5	0.84	± 0.046	60
Sodium (mg/L)		4.7	4.5	3.8	3.7	to 25	5.4	± 0.230	93
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	to 2.4	0.52	± 0.063	65
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.07	to 2	0.3	± 0.055	41
Nitrite/Nitrate - (N) (mg/L)		0.083	0.05 U	0.085	0.05 U	to 2 U	0.24	± 0.071	27
Total Dissolved Solids (mg/L)		87	93	90	23	to 190	90	± 2.300	93
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 37	4.6	± 0.590	60
Sulfate (mg/L)		2.3	2	2 U	0.2	to 5 U	2.1	± 0.120	93
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	13
Alkalinity (CaCO3) (mg/L)		66	70	70	66	to 73	70	± 0.850	8
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 9	1.7	± 0.140	93
Chloride (mg/L)		2.5	2.5	2.1	0.8	to 10 U	2.6	± 0.270	93
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.2	0.15	± 0.033	33
Turbidity (field) (NTU)		1	2.8	0.2	0	to 40	2.3	± 0.540	85
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

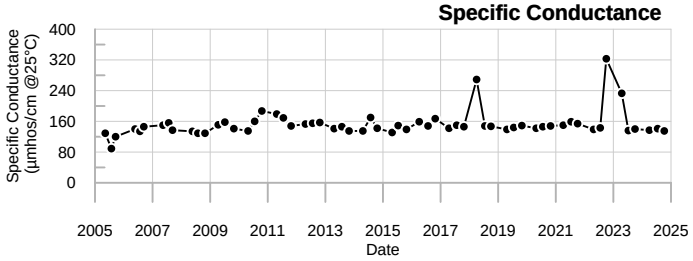
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

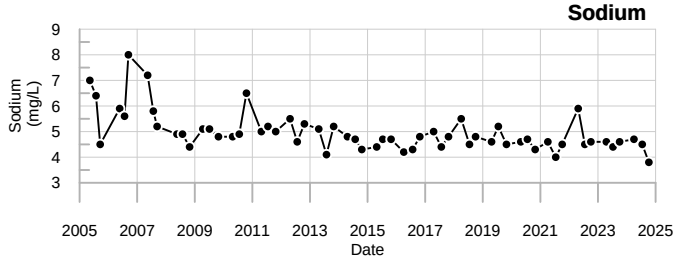
Data Group: 245
Printed: 4/16/2025 11:25

SME
SEVEE & MAHER ENGINEERS

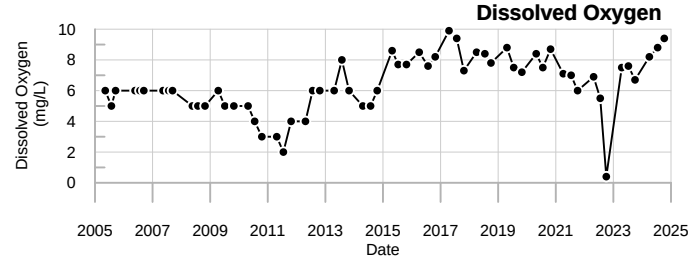
Specific Conductance



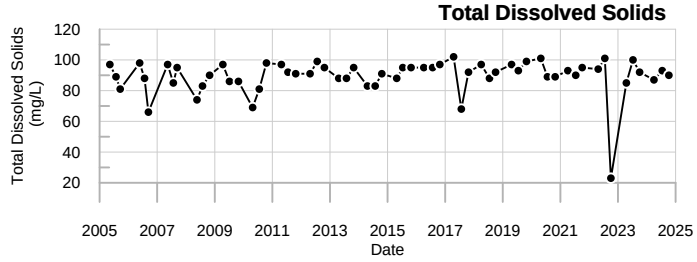
Sodium



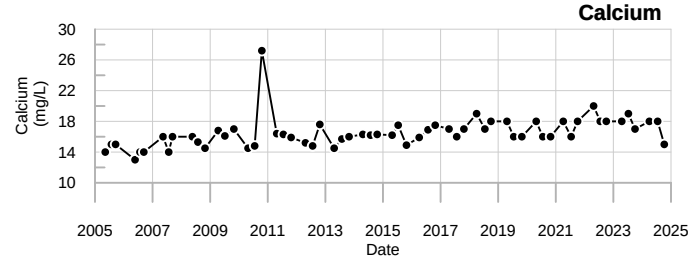
Dissolved Oxygen



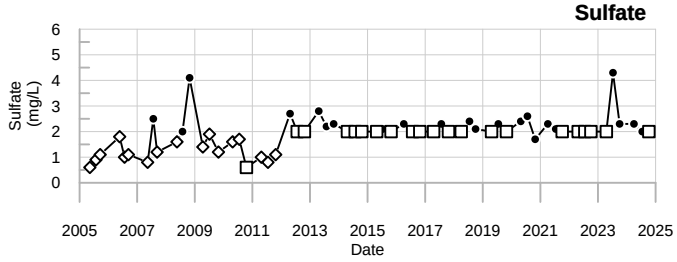
Total Dissolved Solids



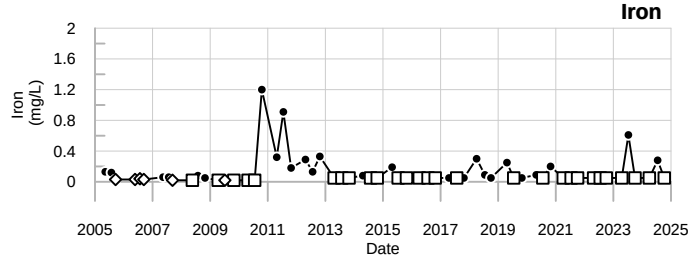
Calcium



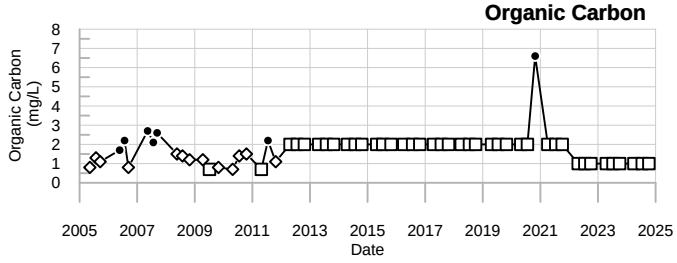
Sulfate



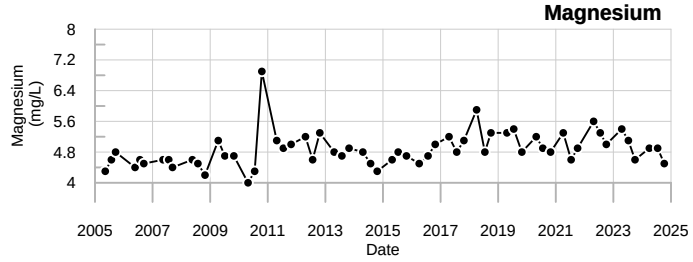
Iron



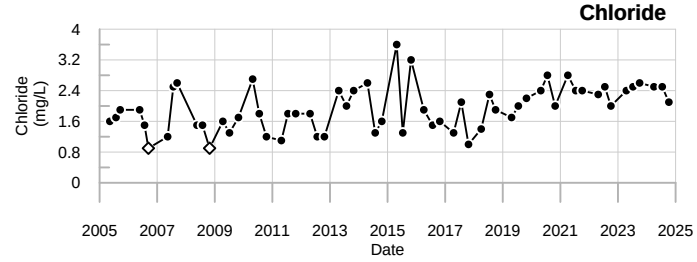
Organic Carbon



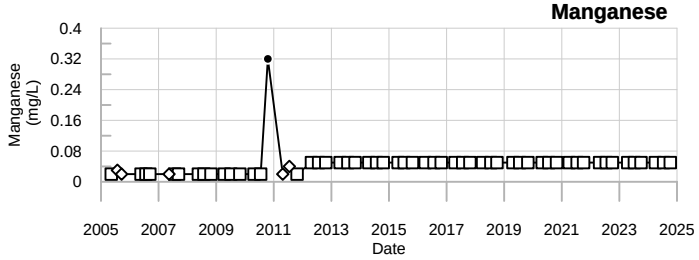
Magnesium



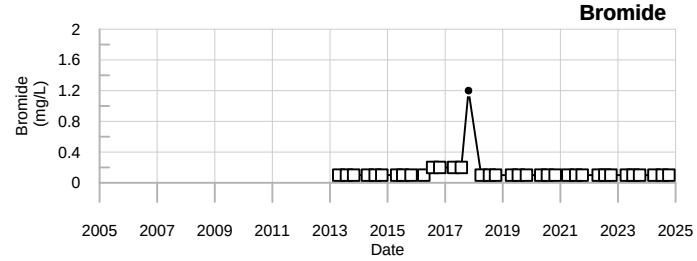
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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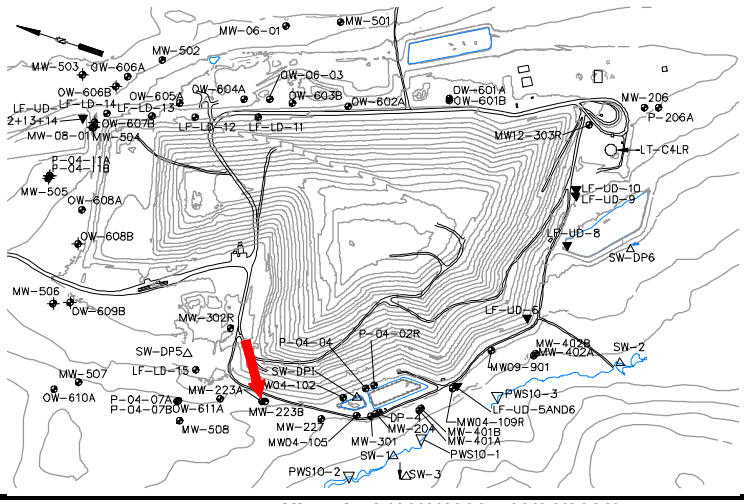
MW-206
Juniper Ridge Landfill

Well Description

MW-223A monitors the bedrock water quality downgradient of the landfill.

Screen Interval:	**28 ft. to 33 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**11/12/90**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		627	633	599	79	675	310	17.000	102
pH (STU)		7.5	7.3	6.9	6.1	8.4	7.4	0.033	102
Temperature (Deg C)		7.4	13.5	11.1	4.5	16.2	9.5	0.260	102
Water Level Depth (Feet)		3.5	4.4	6.65	0.14	6.71	1.9	0.130	99
Water Level Elevation (Feet)		173.04	172.14	169.89	169.83	176.4	170	0.130	99
Water Level Reference Point (Feet)		176.54	176.54	176.54	176.54	176.54	180	0.000	99
Eh (mV)		185	303	273	-345	445	270	14.000	71
Dissolved Oxygen (mg/L)		0.3	0.2	0.2	0.1 U	9.4	2.8	0.260	85
Well Depth (Feet)				35.62	35.42	35.65	36	0.014	20
Arsenic (mg/L)		0.005 U	0.005 U	**0.033**	0.001 U	0.034	0.0062	0.001	60
Calcium (mg/L)		110	110	91	23	120	54	3.200	90
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.005	120	1.3	1.300	94
Magnesium (mg/L)		11	12	9.7	2.3	12	6	0.340	90
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.001	4	0.072	0.042	94
Potassium (mg/L)		1	0.95	0.9	0.4	1.9	0.82	0.030	60
Sodium (mg/L)		6.5	6.2	5.3	1.8	9.8	4.1	0.130	94
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	0.8	0.36	0.017	69
Nitrite/Nitrate - (N) (mg/L)		1.2	1.4	1.2	0.17	2 U	0.7	0.066	27
Total Dissolved Solids (mg/L)		389	396	384	36	460	200	12.000	94
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	9	3.6	0.130	60
Sulfate (mg/L)		20	18	19	2.9	59	9	0.790	94
Bicarbonate Alkalinity (CaCO3) (mg/L)		270	270	96	86	270	170	7.800	60
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	44	1.8	0.460	94
Chloride (mg/L)		34	34	35	1 U	57.6	17	1.600	94
Bromide (mg/L)		0.19	0.19	0.2	0.1 U	0.23	0.14	0.007	33
Turbidity (field) (NTU)		1.4	0.5	0.1	0	999	15	12.000	83

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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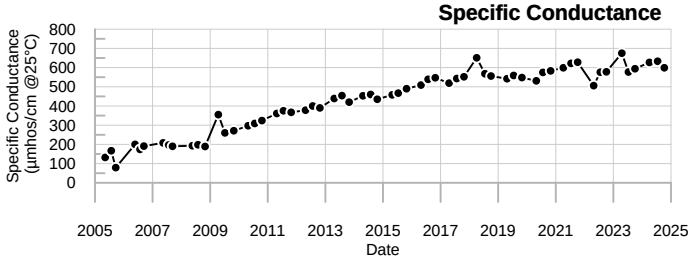
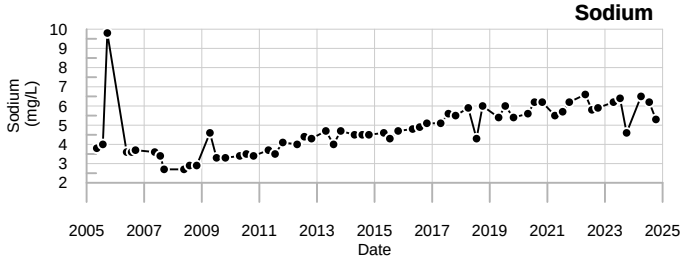
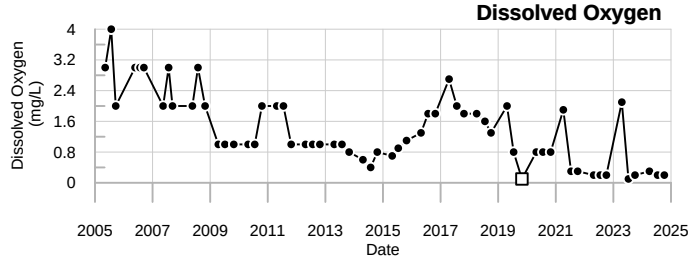
Specific Conductance



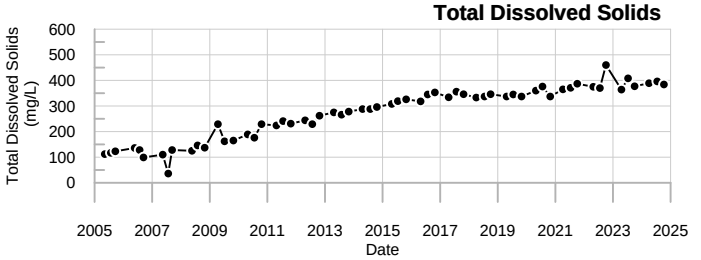
Sodium



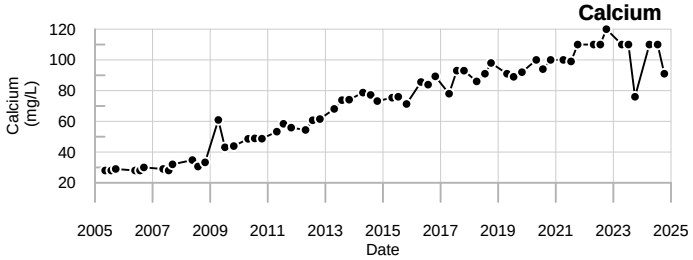
Dissolved Oxygen



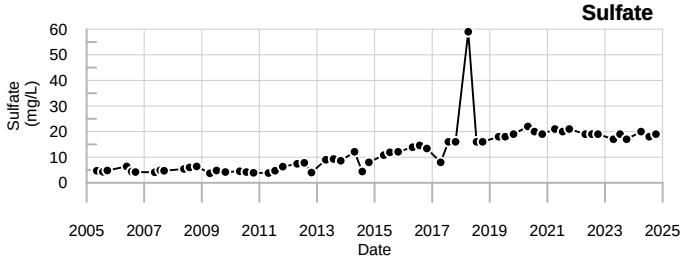
Total Dissolved Solids



Calcium



Sulfate



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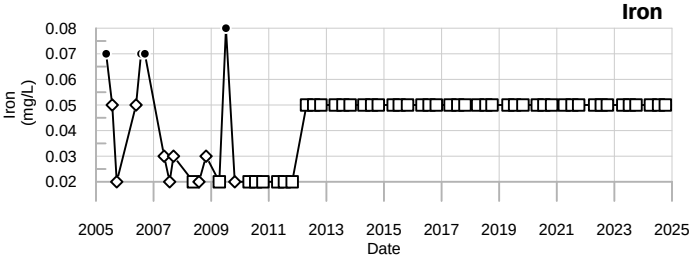
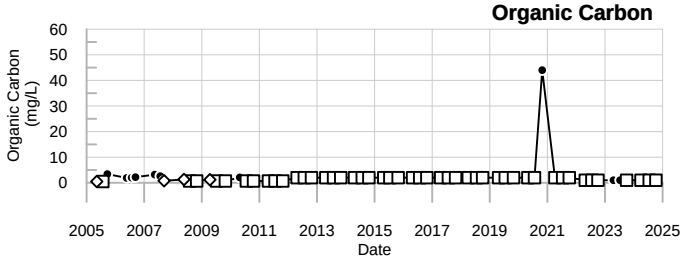


Organic Carbon



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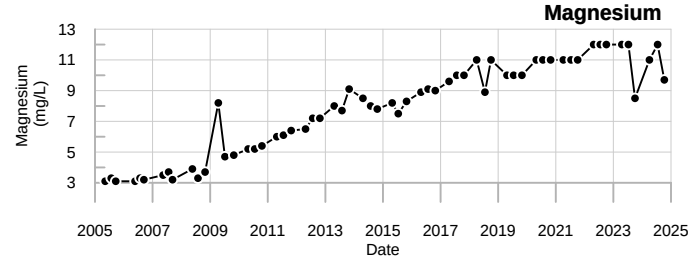
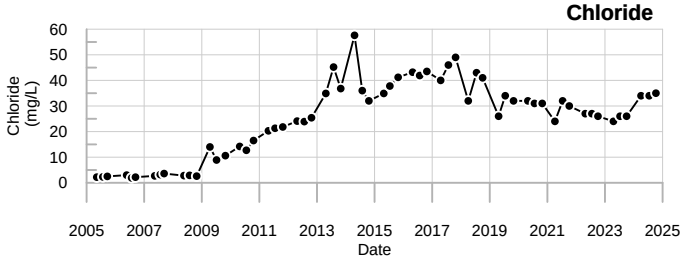


Chloride



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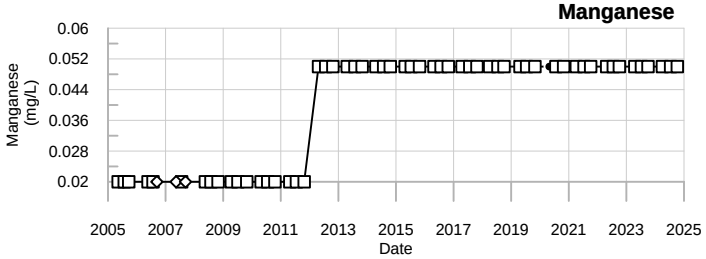
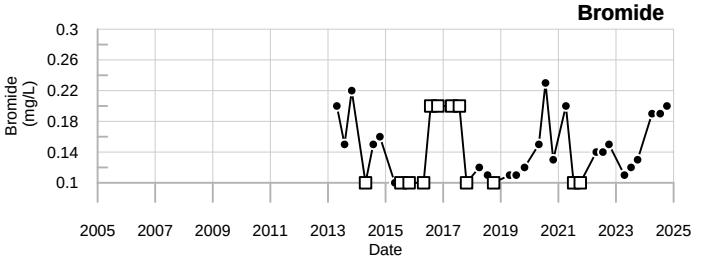


Bromide



LEGEND

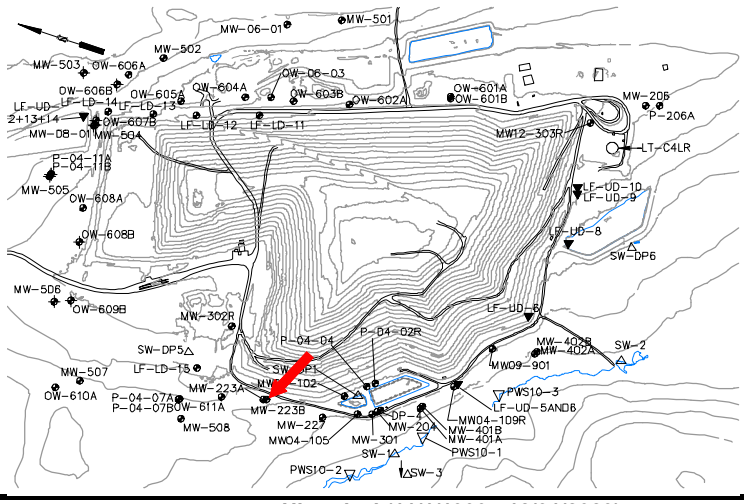
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

MW-223A
Juniper Ridge Landfill

Well Description

MW-223B monitors the overburden water quality downgradient of the landfill.



Screen Interval:	**12.6 ft. to 17.6 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**11/12/90**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		500	497	473	100	to 611	280	± 14.000	101
pH (STU)		7.2	6.8	6.6	6.3	to 8.2	7.2	± 0.031	101
Temperature (Deg C)		6.3	12	12	3.8	to 17.7	9.7	± 0.300	101
Water Level Depth (Feet)		4.3	5.15	↑7.2	0.69	to 6.9	3.1	± 0.120	98
Water Level Elevation (Feet)		171.63	170.78	↓168.73	169.03	to 175.24	170	± 0.120	98
Water Level Reference Point (Feet)		175.93	175.93	175.93	175.93	to 175.93	180	± 0.000	98
Eh (mV)		229	312	273	-402	to 446	260	± 16.000	70
Dissolved Oxygen (mg/L)		0.4	0.2	0.3	0.1 U	to 7.6	1.5	± 0.150	84
Well Depth (Feet)				↑20.21	19.93	to 20.1	20	± 0.014	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.017	0.0057	± 0.000	60
Calcium (mg/L)		70	72	51	16	to 80	39	± 2.000	90
Iron (mg/L)		0.23	0.095	0.05 U	0.009	to 0.58	0.11	± 0.013	94
Magnesium (mg/L)		17	17	12	3.7	to 19	9.5	± 0.490	90
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.001 U	to 0.16	0.037	± 0.002	94
Potassium (mg/L)		1	0.98	0.73	0.3	to 2	0.83	± 0.035	60
Sodium (mg/L)		6.6	6.1	4.3	2.1	to 7.9	4.5	± 0.100	94
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2	0.15 U	to 2.5 U	0.46	± 0.043	69
Nitrite/Nitrate - (N) (mg/L)		0.69	0.7	0.86	0.15	to 2 U	0.58	± 0.063	27
Total Dissolved Solids (mg/L)		312	314	301	67	to 356	180	± 8.400	94
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 12	3.7	± 0.180	60
Sulfate (mg/L)		16	15	17	2.2	to 53	7.1	± 0.650	94
Bicarbonate Alkalinity (CaCO3) (mg/L)		210	210	160	92	to 220	140	± 4.700	60
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 47	2.1	± 0.490	94
Chloride (mg/L)		31	29	27	1 U	to 55.7	17	± 1.700	94
Bromide (mg/L)		0.14	0.14	0.16	0.03	to 4.13	0.26	± 0.110	35
Turbidity (field) (NTU)		1	1.3	0.6	0	to 83	2.2	± 1.000	82
Methane (ug/L)		19		↑69	9.2	to 40.6	21	± 1.100	24

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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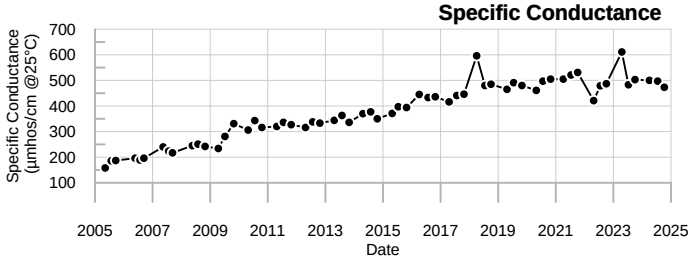
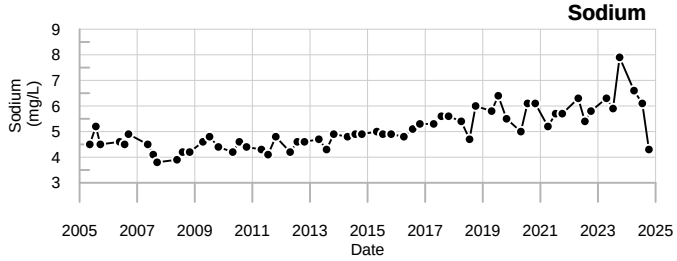
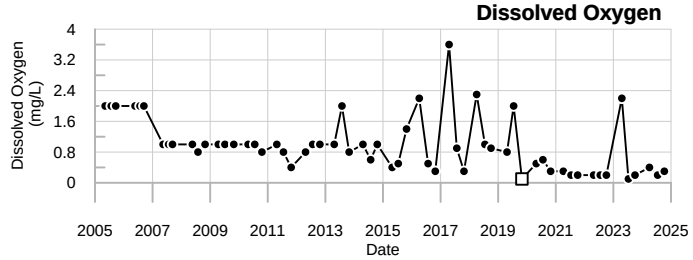
Specific Conductance



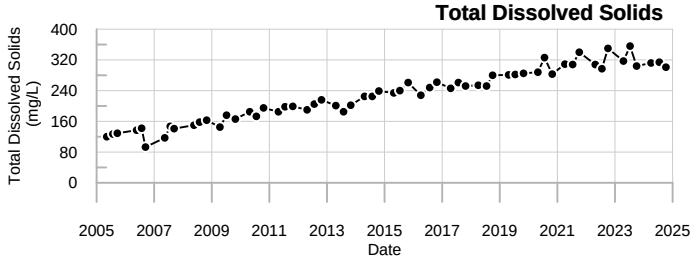
Sodium



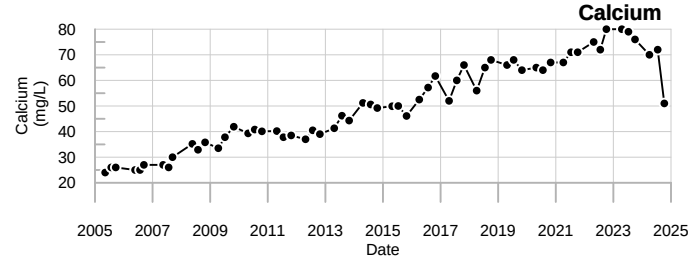
Dissolved Oxygen



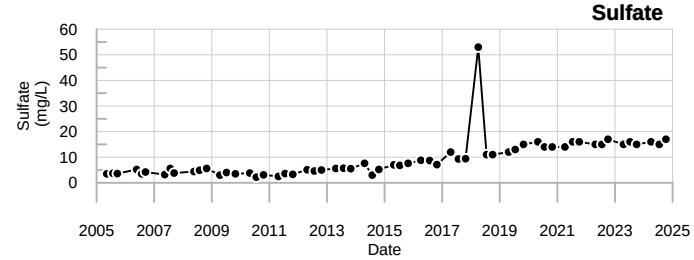
Total Dissolved Solids



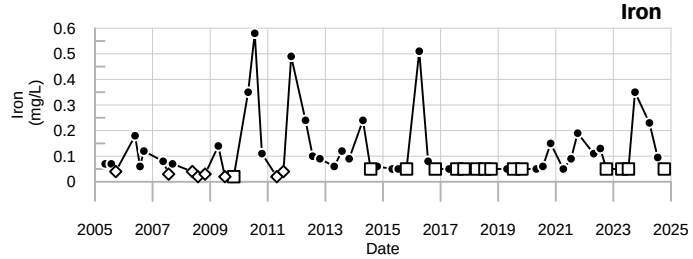
Calcium



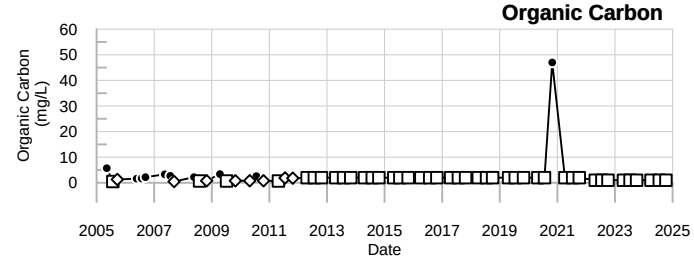
Sulfate



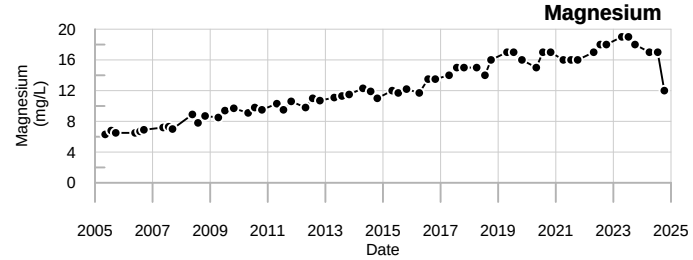
Iron



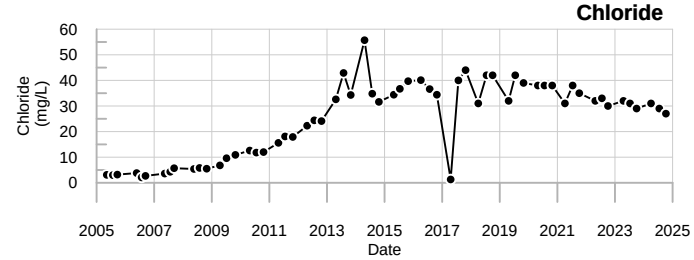
Organic Carbon



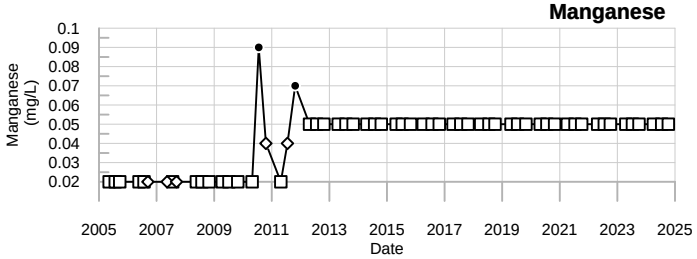
Magnesium



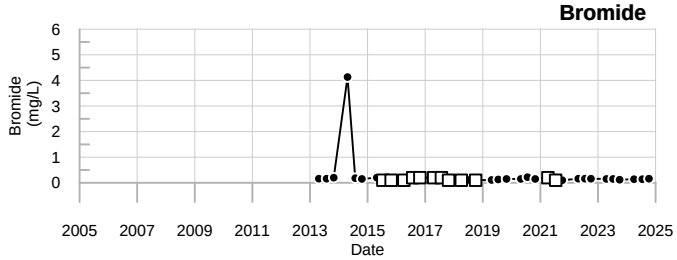
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

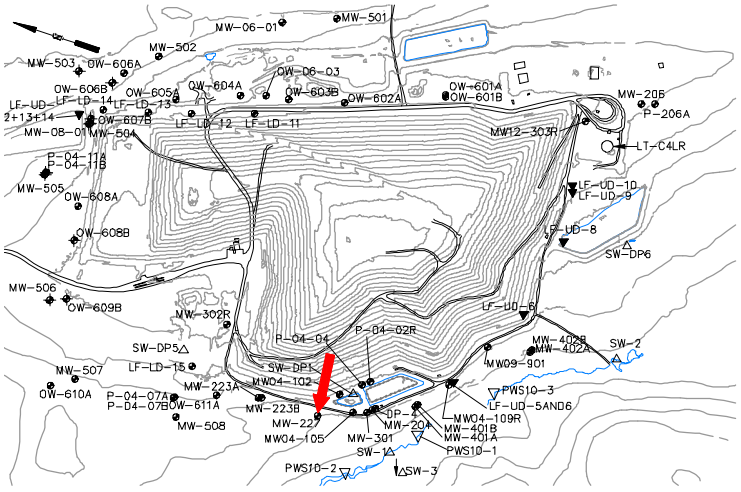
SME
SEVEE & MAHER ENGINEERS

MW-223B
Juniper Ridge Landfill

Well Description

MW-227 monitors water quality in the overburden downgradient of the landfill.

Screen Interval:	**15 ft. to 20 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**11/13/90**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		183	178	170	90	to 310	180	± 2.800	103
pH (STU)		8.3	8.1	7.8	6.2	to 8.9	8	± 0.041	103
Temperature (Deg C)		5.6	12.6	12.5	1	to 16.8	9.8	± 0.330	103
Water Level Depth (Feet)		4.4	4.25	5.15	3.14	to 14.73	5.3	± 0.190	100
Water Level Elevation (Feet)		159.83	159.98	159.08	149.5	to 161.09	160	± 0.190	100
Water Level Reference Point (Feet)		164.23	164.23	164.23	164.23	to 164.23	160	± 0.000	100
Eh (mV)		226	331	289	-455	to 411	260	± 15.000	71
Dissolved Oxygen (mg/L)		5.2	2.6	2.9	0.1 U	to 8.7	2.3	± 0.180	86
Well Depth (Feet)				↑22.41	22.2	to 22.35	22	± 0.009	19
Arsenic (mg/L)		0.005	0.005 U	0.005 U	0.005 U	to 0.024	0.013	± 0.000	60
Calcium (mg/L)		21	23	19	16	to 26	22	± 0.200	91
Iron (mg/L)		0.074	0.05 U	0.056	0.008	to 0.65	0.074	± 0.009	97
Magnesium (mg/L)		5	5.4	4.4	3.6	to 6	5.3	± 0.046	91
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.004	to 0.17	0.035	± 0.003	97
Potassium (mg/L)		1.1	1	0.91	0.6	to 1.9	1.1	± 0.024	60
Sodium (mg/L)		5.1	5.1	4.1	3.1	to 11	6.3	± 0.130	97
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	to 1	0.35	± 0.017	70
Nitrite/Nitrate - (N) (mg/L)		0.079	0.062	0.055	0.05 U	to 2 U	0.17	± 0.074	27
Total Dissolved Solids (mg/L)		103	105	99	59	to 222	110	± 2.400	97
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 10	3.7	± 0.140	60
Sulfate (mg/L)		12	11	11	1.3	to 17.3	11	± 0.260	97
Bicarbonate Alkalinity (CaCO3) (mg/L)		80	81	75	75	to 90	80	± 0.390	60
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 42	2.3	± 0.470	97
Chloride (mg/L)		1.3	1.5	1.5	1 U	to 22.9	2.7	± 0.340	97
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		1.8	1.5	1.2	0	to 962	13	± 11.000	84

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

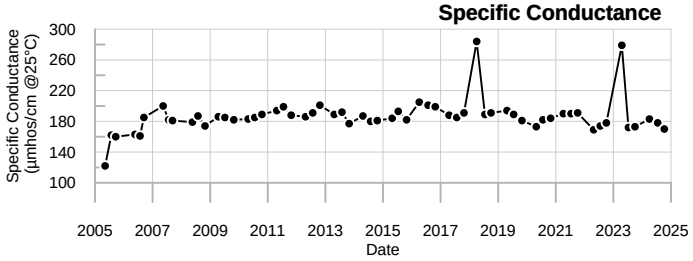
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

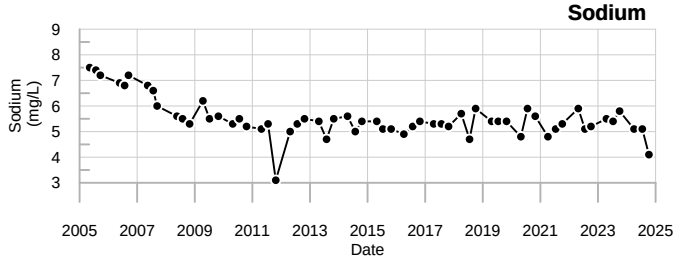
Data Group: 245
Printed: 4/16/2025 11:25

SME SEVEE & MAHER ENGINEERS

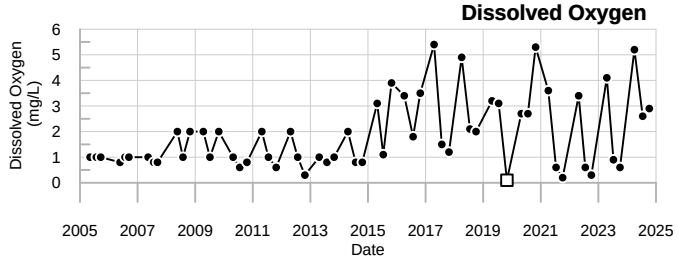
Specific Conductance



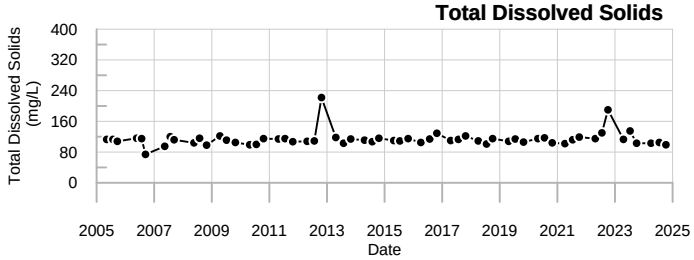
Sodium



Dissolved Oxygen



Total Dissolved Solids



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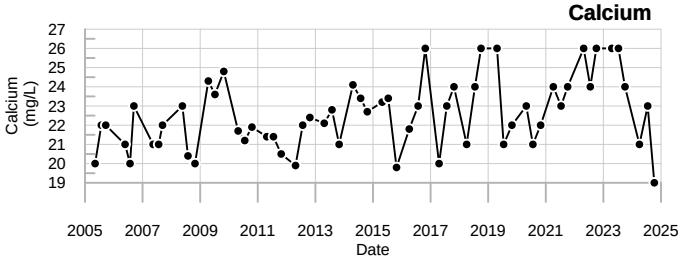

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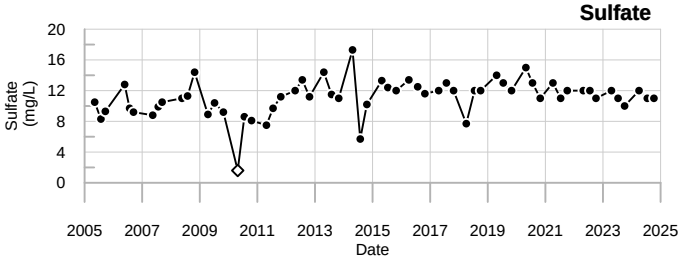

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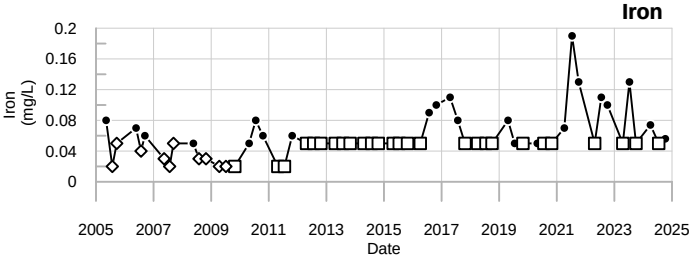

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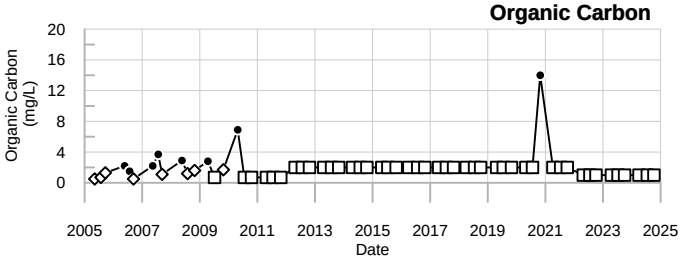

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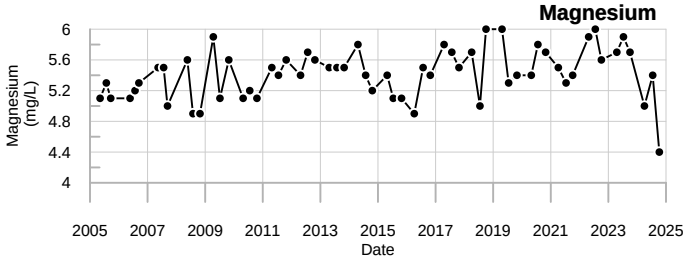

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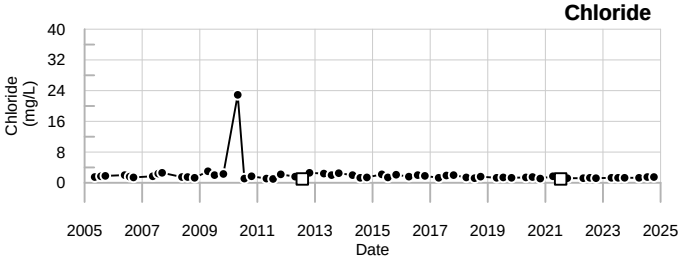
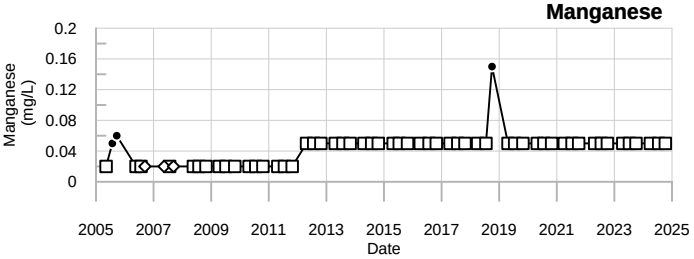
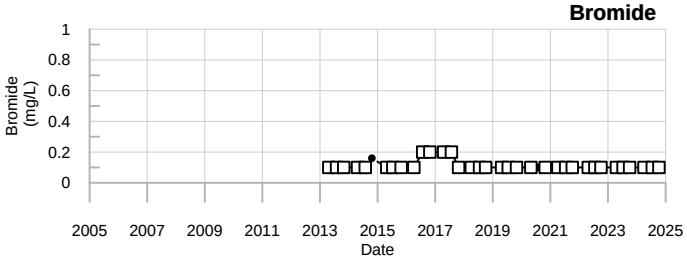


Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

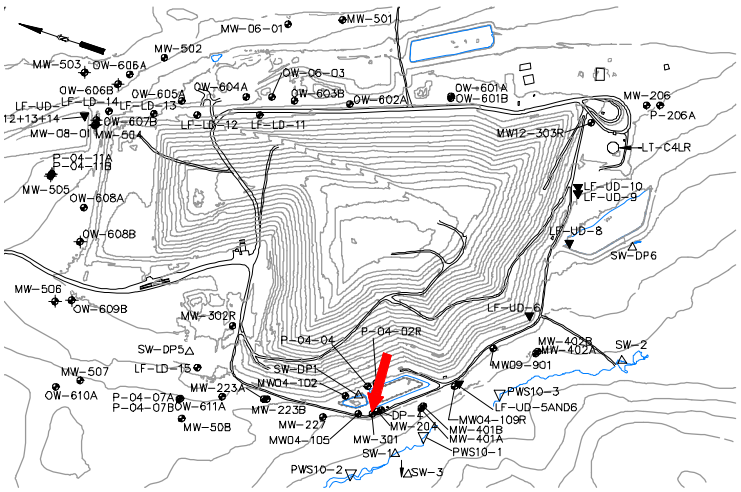
SME
SEVEE & MAHER ENGINEERS

MW-227
Juniper Ridge Landfill

Well Description

MW-301 monitors the water quality within the bedrock downgradient of the landfill.

Screen Interval:	**162.7 ft. to 182.7 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**11/25/96**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		230	252	238	82	to 340	200	± 5.200	83
pH (STU)		8.3	7.8	7.5	6.2	to 8.4	7.9	± 0.051	83
Temperature (Deg C)		8	15.2	11.8	3.2	to 19.1	11	± 0.390	83
Water Level Depth (Feet)		0.3	0.53	0.15	0	to 5.2	1.7	± 0.220	75
Water Level Elevation (Feet)		165.61	165.38	165.76	161.16	to 166.36	160	± 0.210	77
Water Level Reference Point (Feet)		165.91	165.91	165.91	165.91	to 166.36	170	± 0.025	79
Eh (mV)		36	161	172	25	to 471	250	± 14.000	70
Dissolved Oxygen (mg/L)		0.2	0.2	0.2	0.1	to 5.5	1.8	± 0.190	81
Well Depth (Feet)				185.11	179.61	to 185.15	180	± 0.310	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001	to 0.018	0.0057	± 0.000	59
Calcium (mg/L)		26	27	21	14.9	to 31.4	20	± 0.410	79
Iron (mg/L)		0.084	0.35	0.68	0.011	to 1.59	0.15	± 0.024	83
Magnesium (mg/L)		6.1	6	5.4	2.5	to 7.1	4.9	± 0.100	79
Manganese (mg/L)		0.062	0.1	0.076	0.001	to 0.18	0.041	± 0.004	83
Potassium (mg/L)		0.79	0.84	0.64	0.4	to 1.7	0.78	± 0.023	59
Sodium (mg/L)		14	14	11	6.8	to 15	11	± 0.230	83
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	to 0.6	0.36	± 0.016	59
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 2 U	0.16	± 0.074	27
Total Dissolved Solids (mg/L)		151	153	160	66	to 171	120	± 2.700	83
Total Suspended Solids (mg/L)		8.3 U	9.7	10	2.5 U	to 21	5.5	± 0.600	59
Sulfate (mg/L)		19	18	17	3.9	to 19	13	± 0.430	83
Bicarbonate Alkalinity (CaCO3) (mg/L)		73	75	74	70	to 91	76	± 0.450	59
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 16	1.7	± 0.200	83
Chloride (mg/L)		25	↑29	23	1 U	to 26	7.7	± 0.880	83
Bromide (mg/L)		0.1 U	0.1 U	0.1	0.1 U	to 0.2 U	0.11	± 0.006	32
Turbidity (field) (NTU)		2.4	1.2	1	0	to 18	2.1	± 0.340	80

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

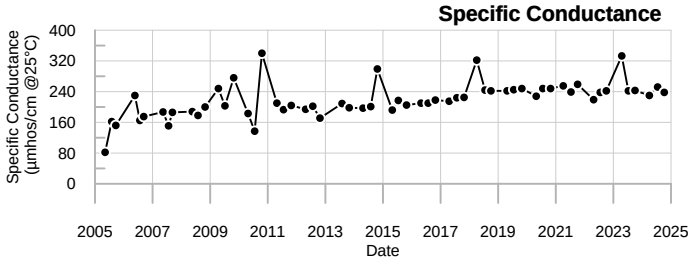
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

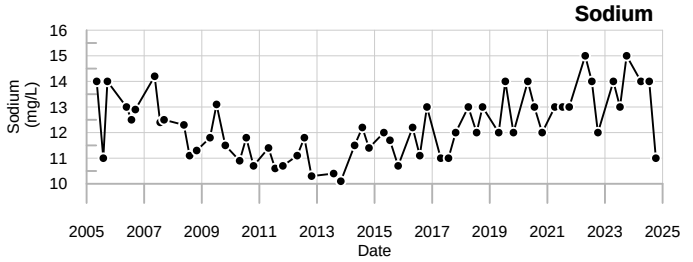
U = Not Detected above the laboratory reporting limit.

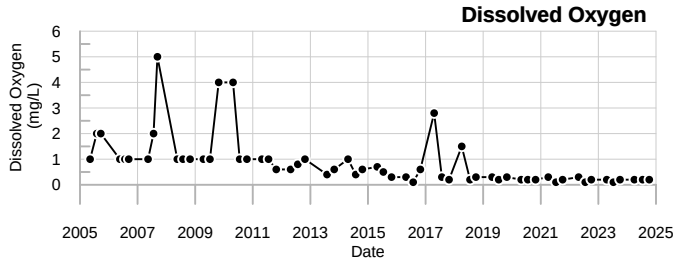
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

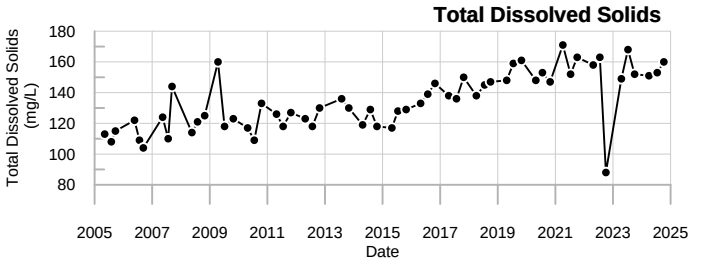
Data Group: 245
Printed: 4/16/2025 11:25

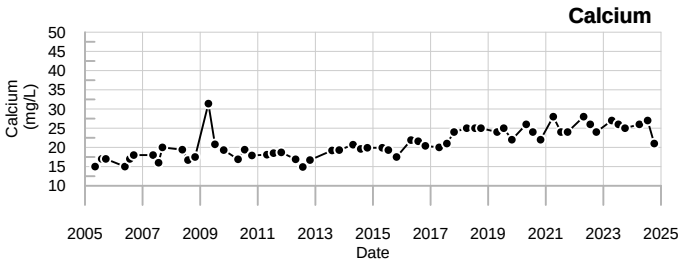
SME SEVEE & MAHER ENGINEERS

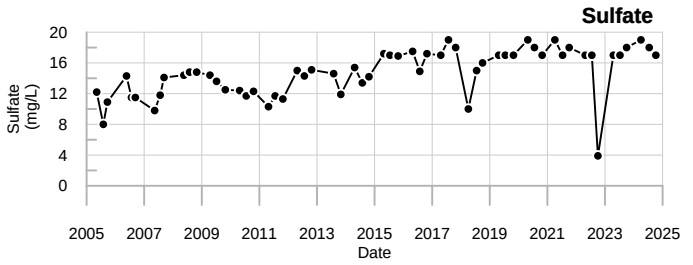


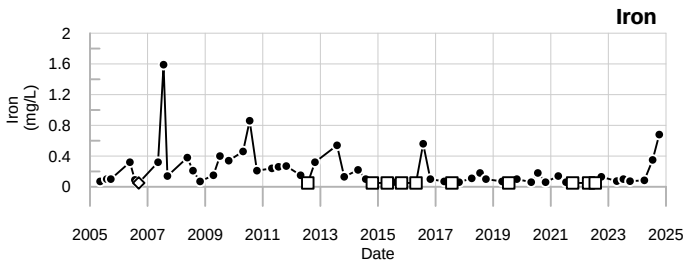


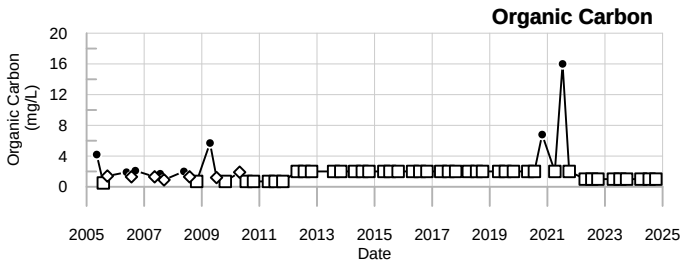


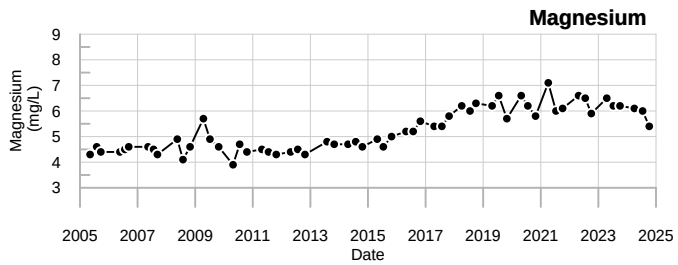


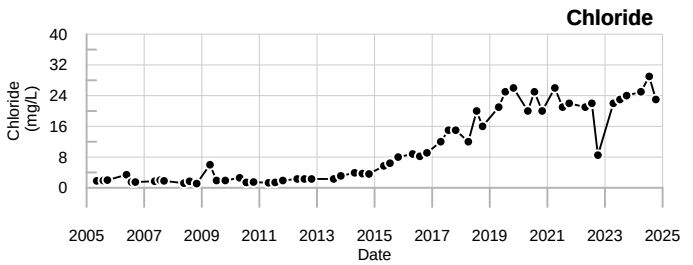


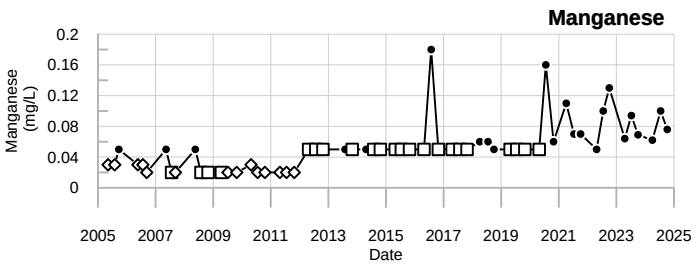


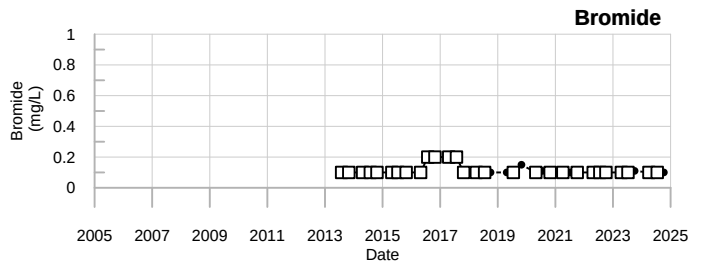












LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

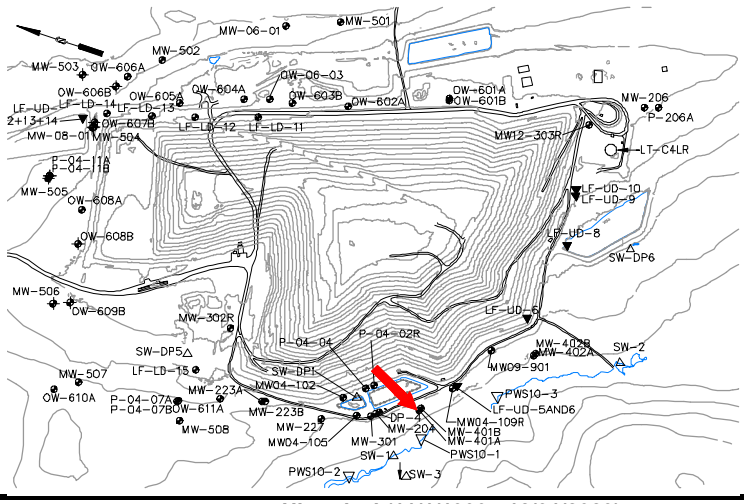
MW-301
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-401A monitors bedrock water quality downgradient of the landfill and former leachate pond.

Screen Interval:	**98.8 ft. to 108.8 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**07/29/04**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		168	169	171	73	303	130	3.700	59
pH (STU)		7.9	7.5	7.3	6.6	8.6	7.8	0.066	59
Temperature (Deg C)		7.2	11.9	10	6.6	17.8	9.6	0.250	59
Water Level Depth (Feet)		↓0.61	4.98	6.78	0.87	8.72	4.6	0.290	59
Water Level Elevation (Feet)		↑156.22	151.85	150.05	148.11	155.96	150	0.290	59
Water Level Reference Point (Feet)		156.83	156.83	156.83	156.83	156.83	160	0.000	59
Eh (mV)		410	391	444	152	516	320	12.000	59
Dissolved Oxygen (mg/L)		4.6	7	5.1	1.2	11.1	5.2	0.200	59
Well Depth (Feet)				112.06	111.92	112.21	110	0.020	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	0.018	0.0058	0.000	59
Calcium (mg/L)		20	21	17	11	21	15	0.290	59
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	0.07	0.042	0.002	59
Magnesium (mg/L)		5.5	5.3	4.6	3.7	5.5	4.3	0.058	59
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	0.05 U	0.039	0.002	59
Potassium (mg/L)		0.81	0.85	0.62	0.3	1.8	0.75	0.028	59
Sodium (mg/L)		4.5	4.6	3.4	3.2	5.2	4	0.059	59
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	1.1	0.39	0.022	59
Nitrite/Nitrate - (N) (mg/L)		0.097	0.061	0.1	0.05 U	1 U	0.16	0.038	27
Total Dissolved Solids (mg/L)		↑212	108	↑123	68	118	91	1.300	59
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	7	3.6	0.110	59
Sulfate (mg/L)		4.3	3.9	3.9	2 U	16	3.8	0.240	59
Bicarbonate Alkalinity (CaCO3) (mg/L)		56	59	59	51	66	59	0.420	59
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	9.6	2	0.200	59
Chloride (mg/L)		18	18	16	1	21	3.6	0.460	59
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.11	0.006	33
Turbidity (field) (NTU)		0.1	0.2	0.3	0	4.9	0.53	0.110	59

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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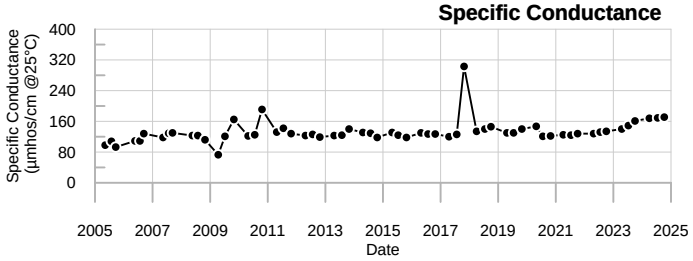
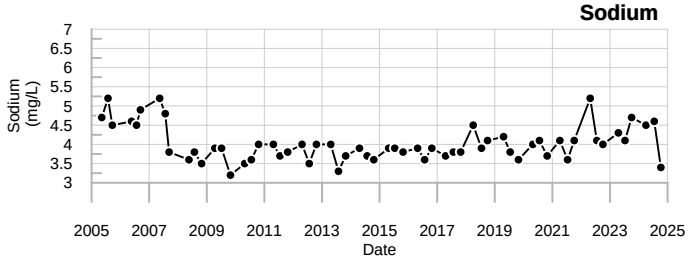
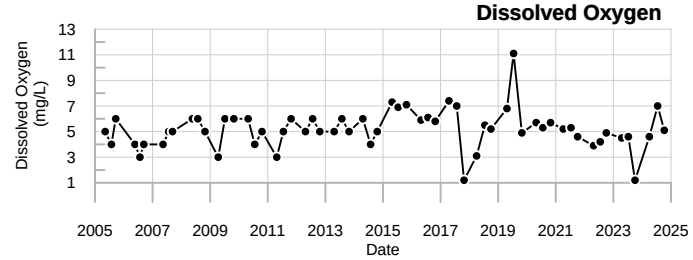
Specific Conductance



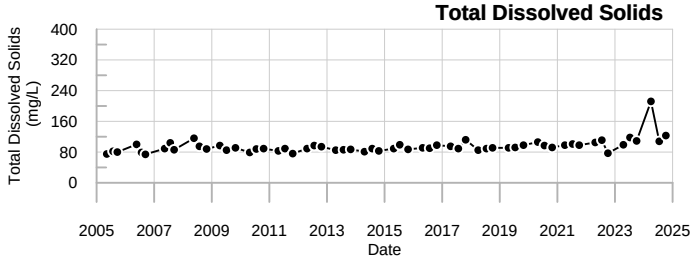
Sodium



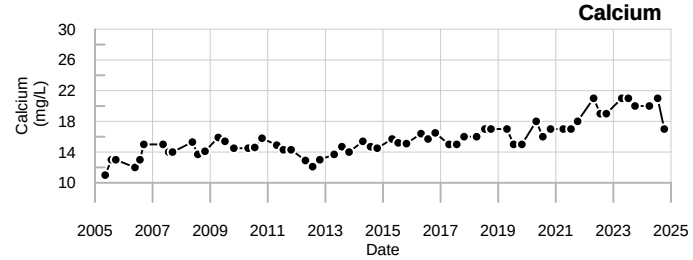
Dissolved Oxygen



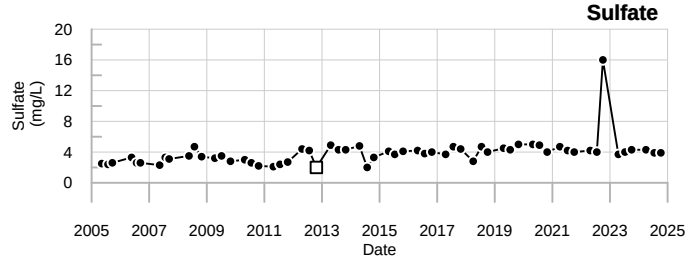
Total Dissolved Solids



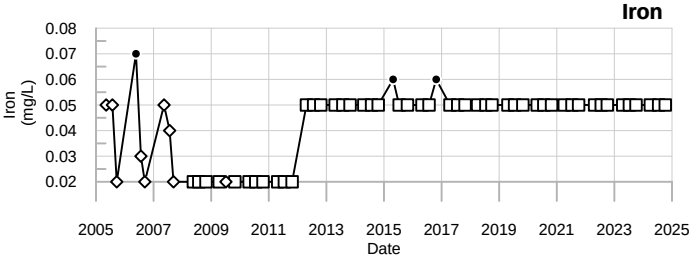
Calcium



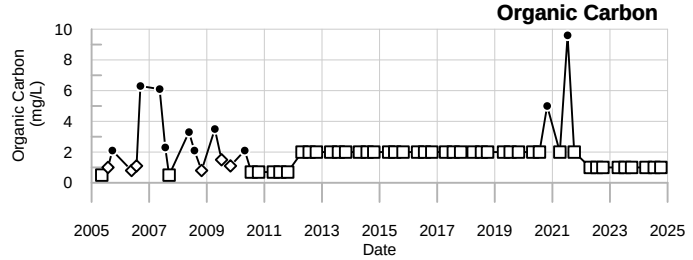
Sulfate



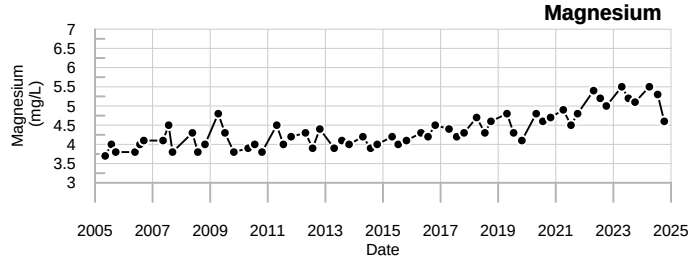
Iron



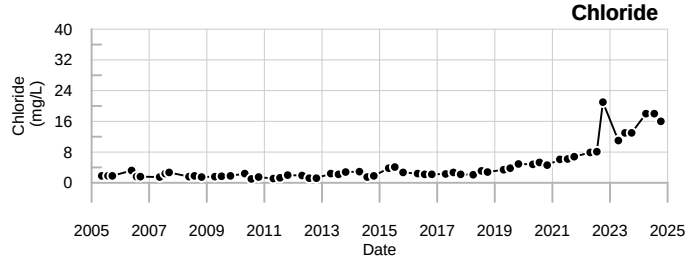
Organic Carbon



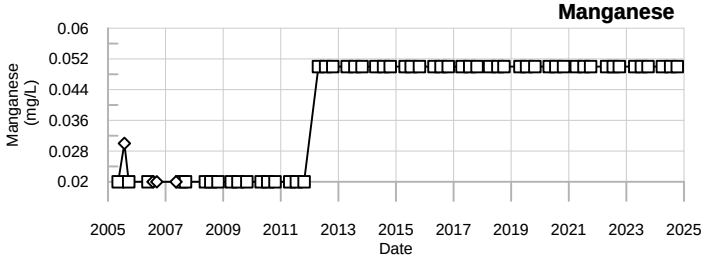
Magnesium



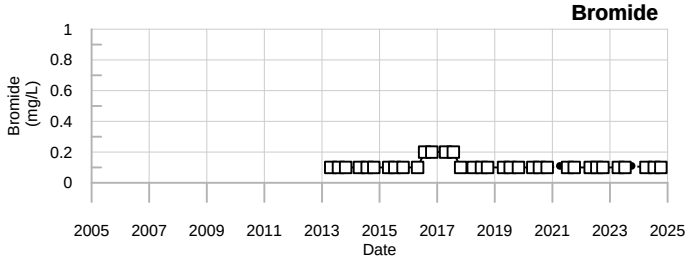
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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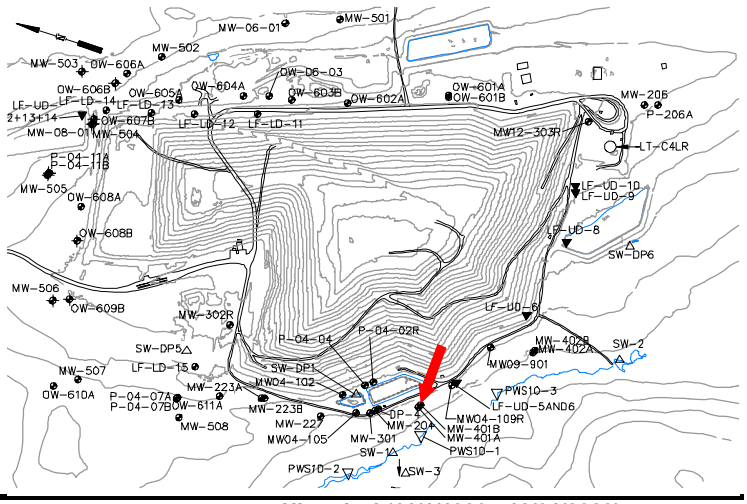
MW-401A
Juniper Ridge Landfill

Well Description

MW-401B is located downgradient of the landfill and former leachate pond and monitors groundwater quality in the overburden.



Screen Interval: **10 ft. to 20 ft.**

Sampled: **3 Times Annually**

Sampled Since: **07/29/04**

Material Screened: **Overburden**

Well Condition: **Good**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		287	313	330	180	to 699	340	± 14.000	59
pH (STU)		6.7	6.6	6.2	5.9	to 7.7	6.8	± 0.050	59
Temperature (Deg C)		6.9	10.8	11.2	5.9	to 16.1	9.4	± 0.270	59
Water Level Depth (Feet)		6.27	6.72	7.65	6.2	to 8.85	7	± 0.072	59
Water Level Elevation (Feet)		151.05	150.6	149.67	148.47	to 151.12	150	± 0.071	59
Water Level Reference Point (Feet)		157.32	157.32	157.32	157.32	to 157.32	160	± 0.000	59
Eh (mV)		186	228	↑422	-33	to 417	180	± 12.000	59
Dissolved Oxygen (mg/L)		0.8	1.9	4.1	0.1	to 5	0.82	± 0.120	59
Well Depth (Feet)				23.15	23.03	to 23.9	23	± 0.057	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002	to 0.058	0.015	± 0.001	59
Calcium (mg/L)		38	41	35	25.3	to 100	41	± 1.800	59
Iron (mg/L)		1.1	2.5	1.1	0.19	to 19	2.4	± 0.390	59
Magnesium (mg/L)		10	11	9.5	8	to 36	12	± 0.590	59
Manganese (mg/L)		0.12	0.17	0.12	0.05	to 2.9	0.31	± 0.067	59
Potassium (mg/L)		1.2	1.3	1.1	0.9	to 3.2	1.4	± 0.061	59
Sodium (mg/L)		10	10	↓8.1	9.7	to 33	15	± 0.730	59
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2	0.2 U	to 3.2	0.45	± 0.052	59
Nitrite/Nitrate - (N) (mg/L)		0.054	0.05 U	0.05 U	0.05 U	to 1 U	0.13	± 0.041	27
Total Dissolved Solids (mg/L)		175	188	208	142	to 488	220	± 8.500	59
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 36	4.6	± 0.610	59
Sulfate (mg/L)		11	10	9.8	5.3	to 69.2	17	± 1.600	59
Bicarbonate Alkalinity (CaCO3) (mg/L)		130	150	160	108	to 245	150	± 3.900	59
Organic Carbon (mg/L)		1 U	1 U	1	0.7 U	to 49	3.4	± 0.880	59
Chloride (mg/L)		7.1	4.6	4.1	1 U	to 40.5	13	± 1.100	59
Bromide (mg/L)		0.2	0.21	0.22	0.1 U	to 0.25	0.18	± 0.007	33
Turbidity (field) (NTU)		0.1	0.2	0.2	0	to 6.7	1	± 0.170	59

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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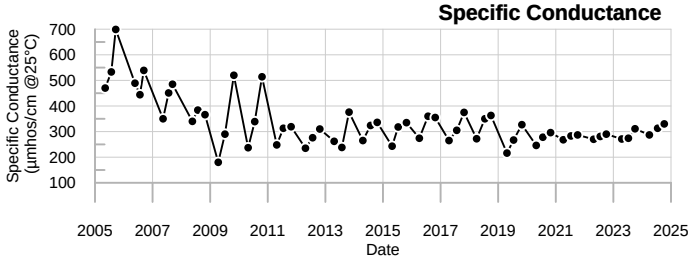
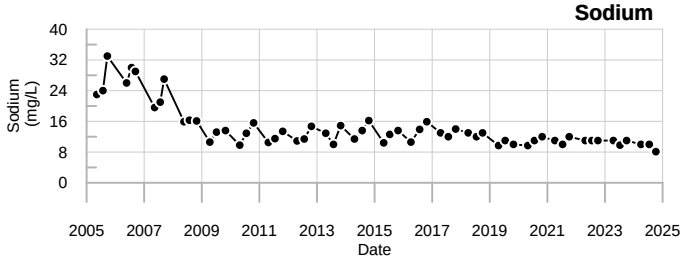
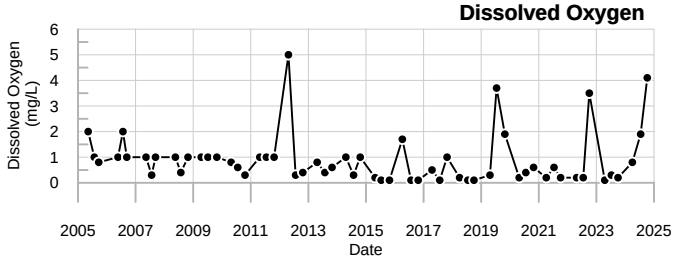
Specific Conductance



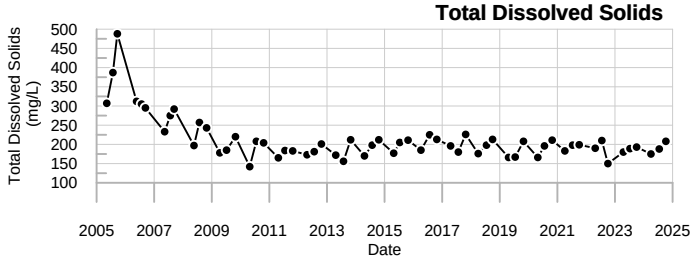
Sodium



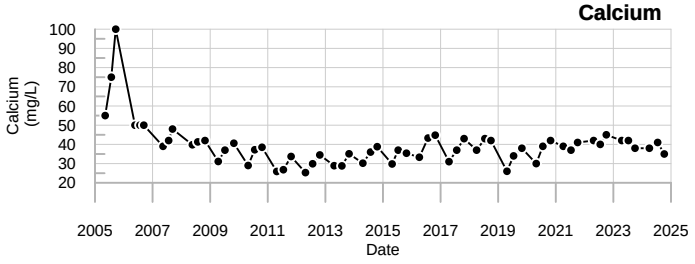
Dissolved Oxygen



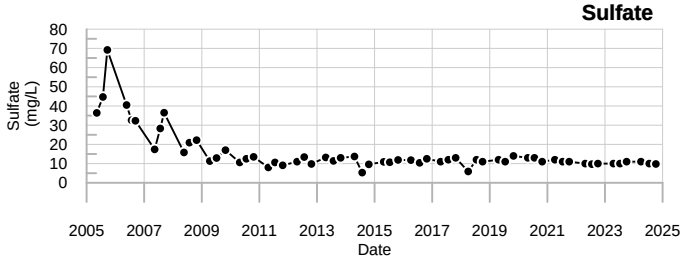
Total Dissolved Solids



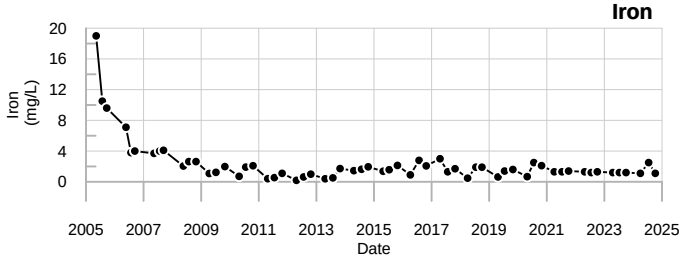
Calcium



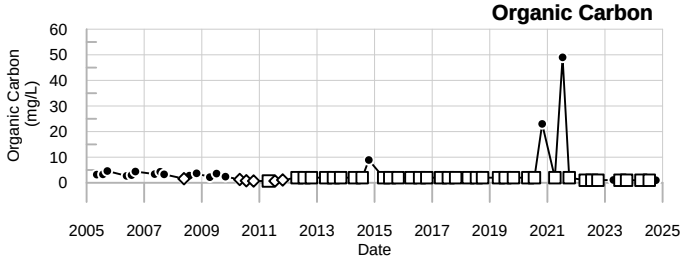
Sulfate



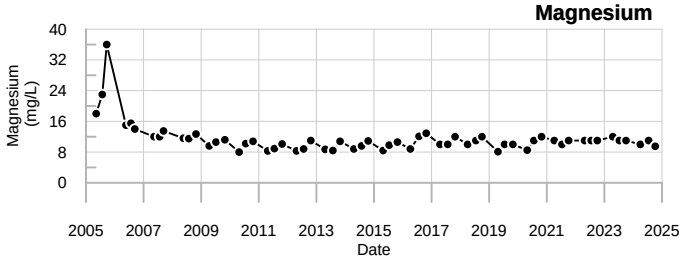
Iron



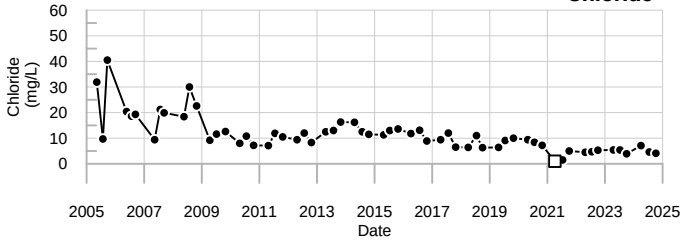
Organic Carbon



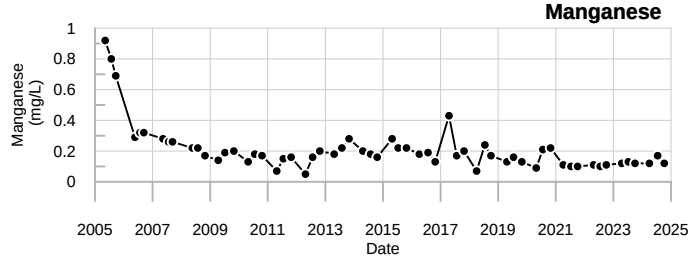
Magnesium



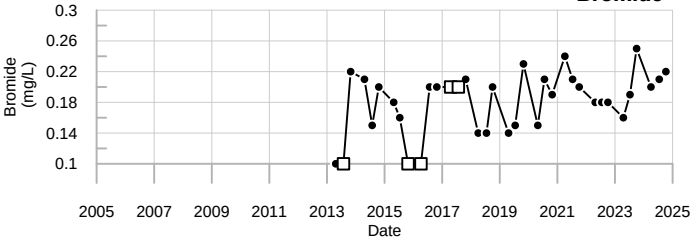
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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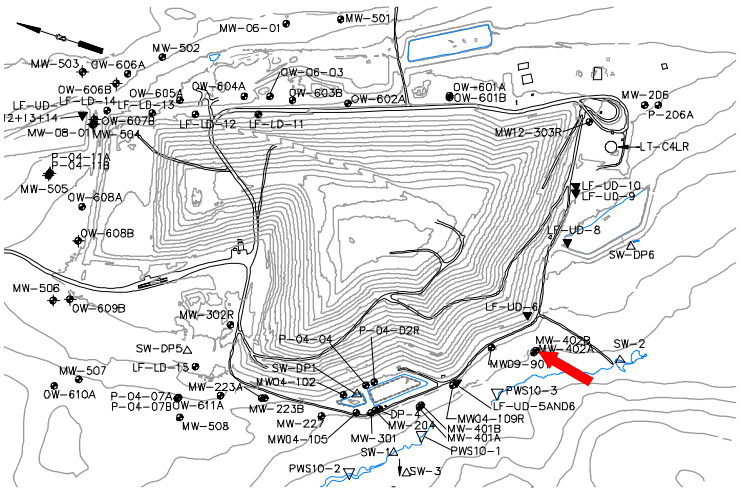
MW-401B
Juniper Ridge Landfill

Well Description

MW-402A monitors water quality within the bedrock downgradient of the landfill.

Screen Interval:	**95.5 ft. to 105.5 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**07/29/04**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		123	132	129	58	to 197	120	± 2.300	59
pH (STU)		8.2	7.6	7.4	7.1	to 9.5	8.2	± 0.067	59
Temperature (Deg C)		7.4	12.6	10.9	5.2	to 14.7	10	± 0.320	59
Water Level Depth (Feet)		F1	0.12	↑4.13	0	to 2.35	0.29	± 0.110	27
Water Level Elevation (Feet)			152.08	↓148.07	149.85	to 152.2	150	± 0.110	28
Water Level Reference Point (Feet)		152.2	152.2	152.2	152.2	to 152.2	150	± 0.000	58
Eh (mV)		413	362	402	106	to 460	310	± 11.000	59
Dissolved Oxygen (mg/L)		2.8	5.4	2.5	1.8	to 9.2	4	± 0.170	59
Well Depth (Feet)				108.4	108.19	to 108.55	110	± 0.019	19
Arsenic (mg/L)		↓0.005	↓0.0076	↓0.005 U	0.011	to 0.028	0.018	± 0.001	59
Calcium (mg/L)		13	13	9.9	7.7	to 14	12	± 0.180	59
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.26	0.044	± 0.004	59
Magnesium (mg/L)		3.2	3.1	2.7	2.6	to 3.6	3	± 0.031	59
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.05 U	0.038	± 0.002	59
Potassium (mg/L)		0.66	0.67	0.49	0.3	to 1.3	0.67	± 0.024	59
Sodium (mg/L)		9.2	9.6	↓7.1	7.4	to 11	8.8	± 0.100	59
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.15 U	to 1	0.37	± 0.020	59
Nitrite/Nitrate - (N) (mg/L)		0.088	0.05 U	0.074	0.05 U	to 2 U	0.17	± 0.074	27
Total Dissolved Solids (mg/L)		85	79	88	45	to 100	82	± 1.400	59
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4 U	3.5	± 0.093	59
Sulfate (mg/L)		9.8	7.8	7.3	3	to 11	6.9	± 0.260	59
Bicarbonate Alkalinity (CaCO3) (mg/L)		53	55	56	46	to 60	54	± 0.370	59
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 8.1	1.8	± 0.150	59
Chloride (mg/L)		2.4	2.3	2.1	0.8	to 3.1	1.8	± 0.053	59
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		0.3	0.2	0.4	0	to 3.7	0.44	± 0.082	59

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

F1 = Well was flowing

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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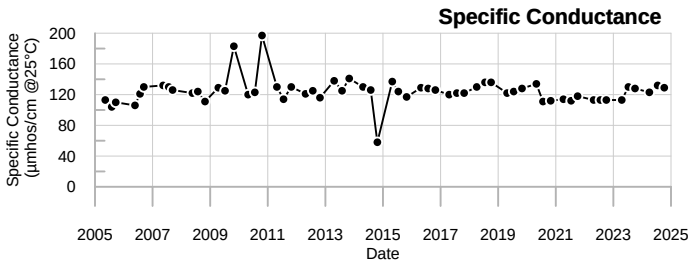

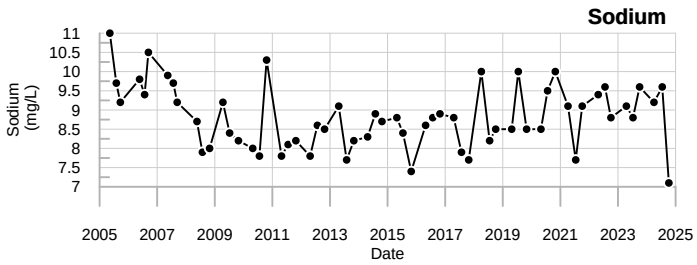

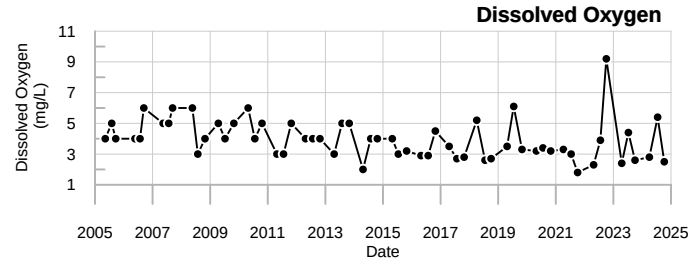

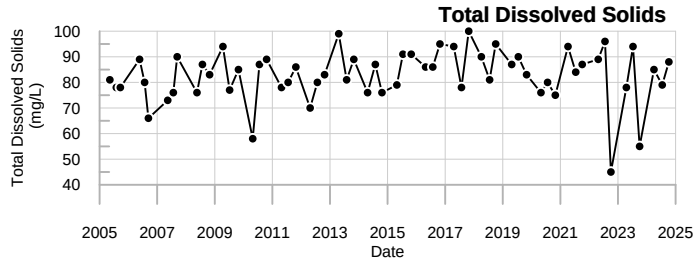

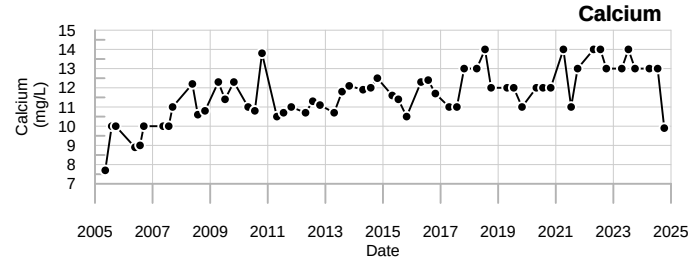

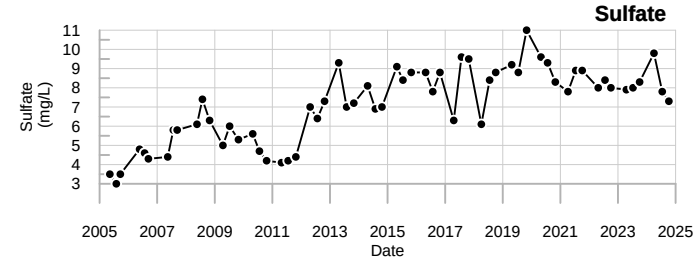

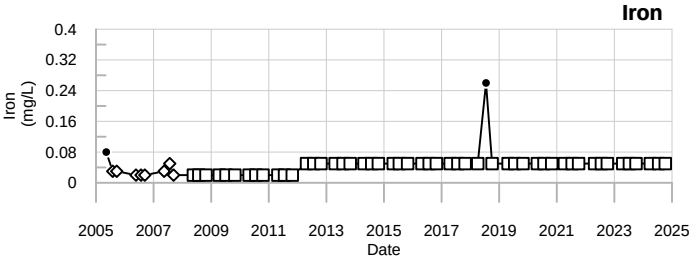

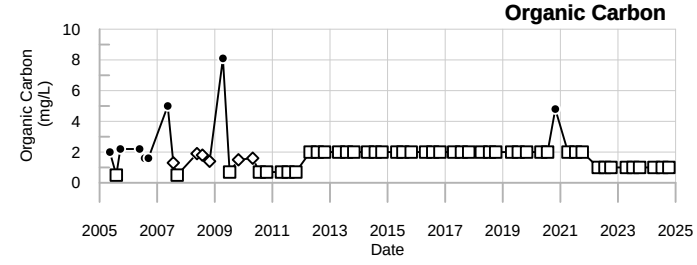

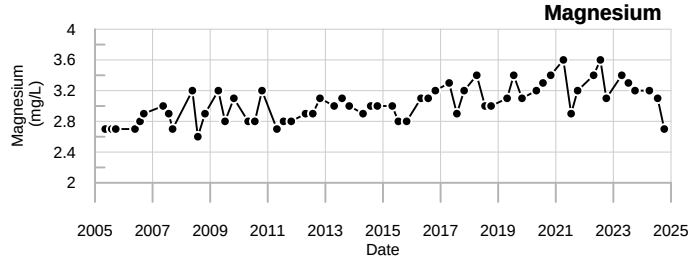

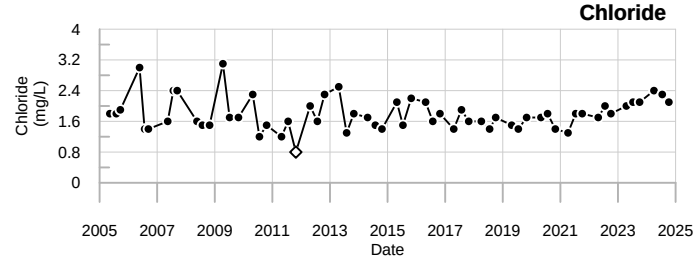

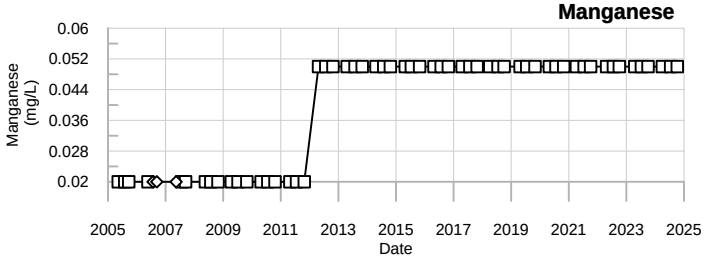

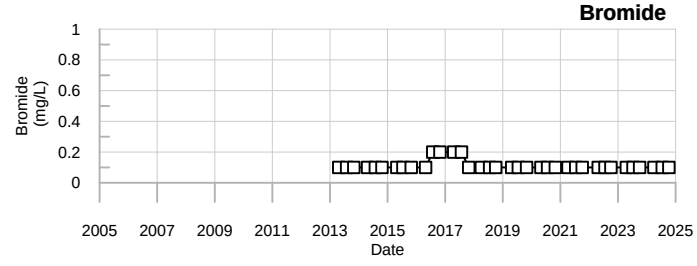

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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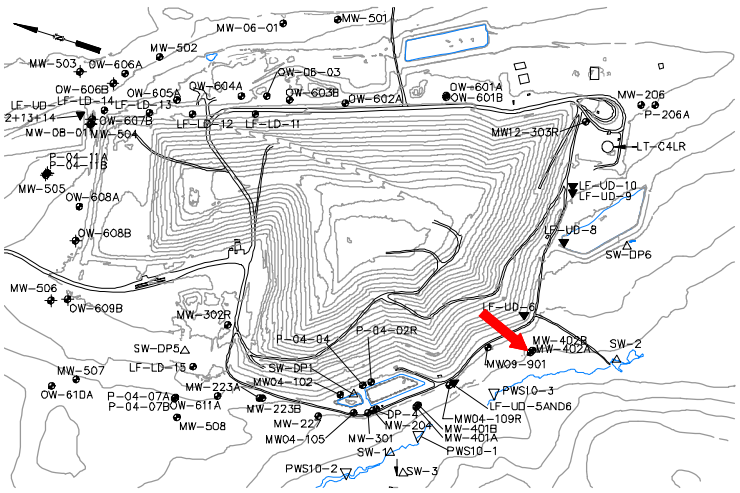
MW-402A
Juniper Ridge Landfill

Well Description

MW-402B monitors water quality within the overburden downgradient of the landfill.

Screen Interval:	**12 ft. to 22 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**07/29/04**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		146	146	148	96	to 246	150	± 2.600	59
pH (STU)		8.2	7.9	7.8	6.9	to 9.2	8.3	± 0.064	59
Temperature (Deg C)		6.9	10.3	10.7	5.2	to 13.8	9.3	± 0.260	59
Water Level Depth (Feet)		2.4	2.85	4.13	2.18	to 5.82	3.5	± 0.110	59
Water Level Elevation (Feet)		150.34	149.89	148.61	146.92	to 150.56	150	± 0.110	59
Water Level Reference Point (Feet)		152.74	152.74	152.74	152.74	to 152.74	150	± 0.000	59
Eh (mV)		436	380	365	11	to 467	250	± 12.000	59
Dissolved Oxygen (mg/L)		0.5	6.5	1	0.1	to 6.8	0.75	± 0.130	59
Well Depth (Feet)				25.2	25.12	to 25.2	25	± 0.006	19
Arsenic (mg/L)		↓0.0075	↓0.0079	↓0.0063	0.0099	to 0.031	0.018	± 0.001	59
Calcium (mg/L)		15	16	13	13	to 22	15	± 0.180	59
Iron (mg/L)		0.08	0.25	0.1	0.02 U	to 0.3	0.051	± 0.006	59
Magnesium (mg/L)		4.7	4.7	4.5	4.5	to 7.4	5	± 0.055	59
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.05	0.039	± 0.002	59
Potassium (mg/L)		0.66	0.67	0.57	0.4	to 2.2	0.72	± 0.035	59
Sodium (mg/L)		8.4	9	7.8	7.6	to 12	8.6	± 0.110	59
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.61	0.36	± 0.015	59
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 2 U	0.16	± 0.074	27
Total Dissolved Solids (mg/L)		88	84	93	64	to 124	94	± 1.400	59
Total Suspended Solids (mg/L)		8.3 U	11	8.3 U	2.5 U	to 35	4.8	± 0.650	59
Sulfate (mg/L)		11	8.9	8.3	2.3	to 44.9	9.1	± 0.650	59
Bicarbonate Alkalinity (CaCO3) (mg/L)		66	64	68	34	to 85	67	± 0.760	59
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 6.1	1.8	± 0.140	59
Chloride (mg/L)		1.4	1.5	1.2	1	to 26.5	2.4	± 0.500	59
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		0.1	0.3	0.2	0	to 3.5	0.47	± 0.100	59

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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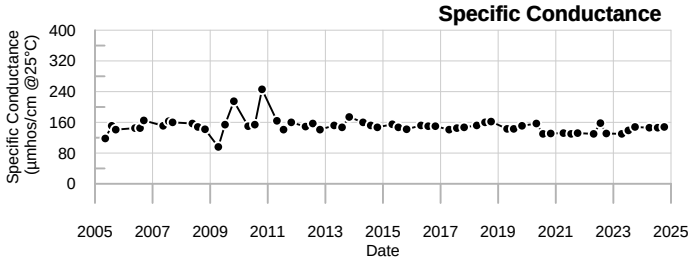

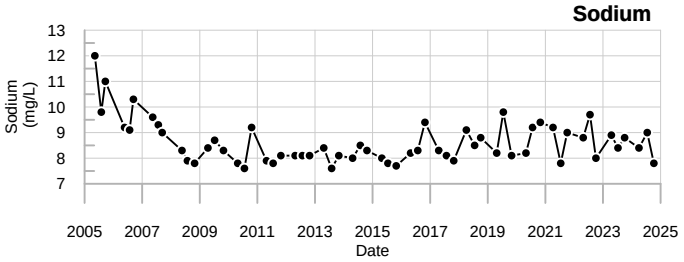

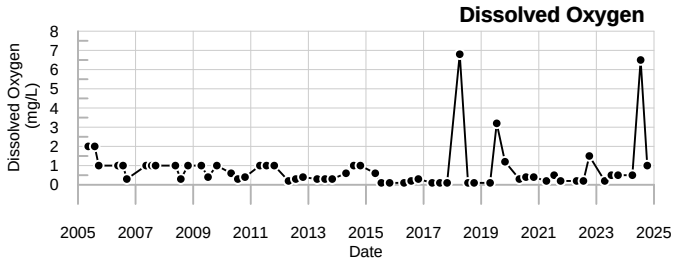

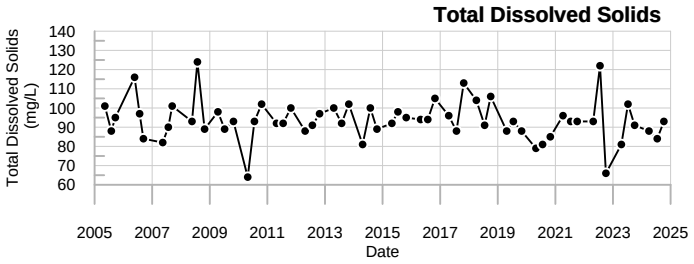

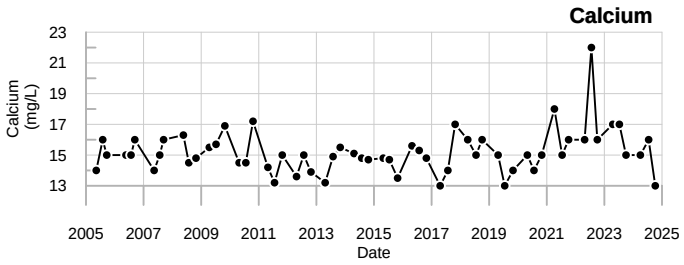

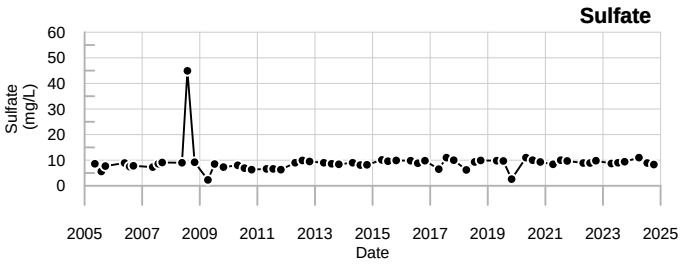

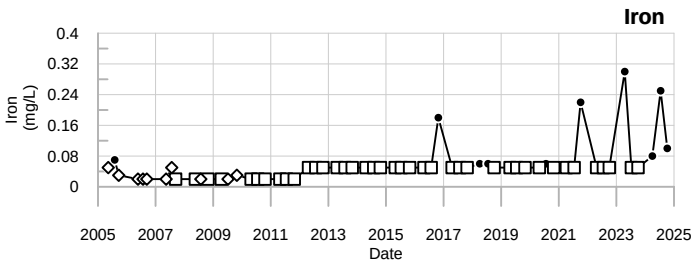

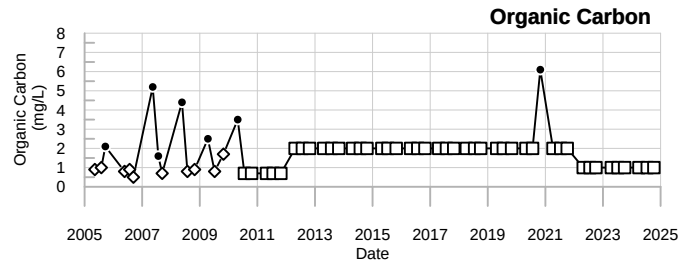

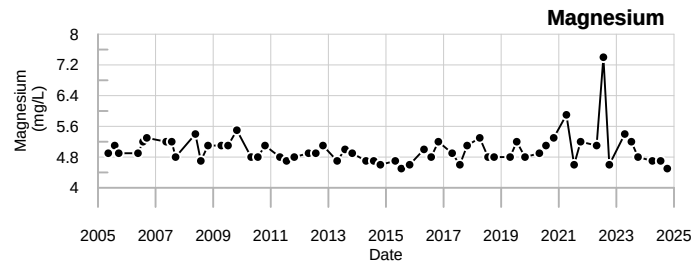

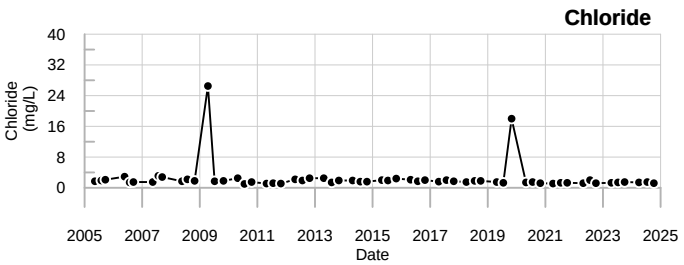

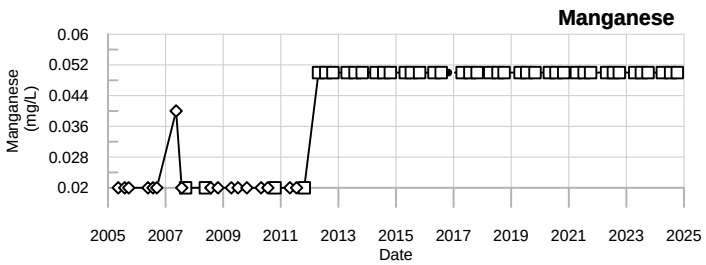

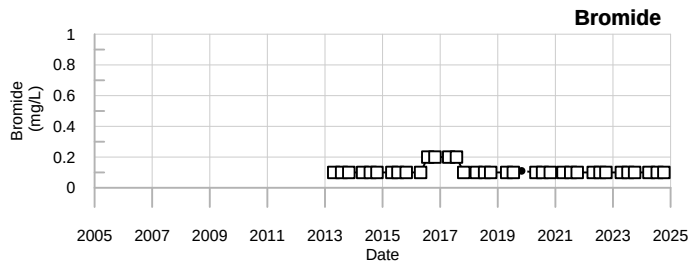

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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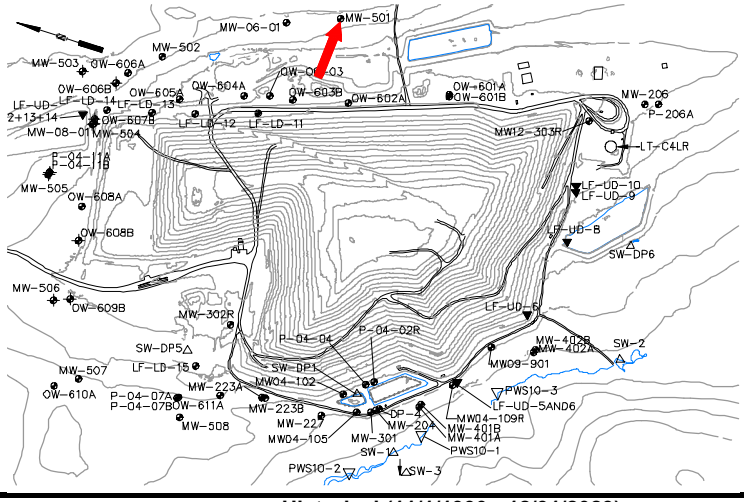
MW-402B
Juniper Ridge Landfill

Well Description

MW-501 monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**57 ft. to 67 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**Apr-18**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		277	294	294	157	to 367	240	± 12.000	19
pH (STU)		6.7	6.9	6.7	6	to 8.8	7.2	± 0.140	19
Temperature (Deg C)		7.8	14.5	9.5	6.5	to 17.2	10	± 0.650	19
Water Level Depth (Feet)		F1	F1	F1	No historical data for Water Level Depth.				
Water Level Reference Point (Feet)		166.19	166.19	166.19	166.19	to 166.19	170	± 0.000	19
Eh (mV)		440	340	459	200	to 553	360	± 20.000	19
Dissolved Oxygen (mg/L)		2.7	5.5	3.9	0.9	to 13.3	5.3	± 0.630	19
Well Depth (Feet)				47.6	47.6	to 47.6	48	± 0.000	5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.009	0.0056	± 0.000	19
Calcium (mg/L)		39	40	37	21	to 60	37	± 2.200	19
Copper (mg/L)		↑0.03	0.003 U	↑0.0052	0.003 U	to 0.003 U	0.003	± 0.000	10
Iron (mg/L)		0.05 U	0.05 U	↑0.82	0.05 U	to 0.17	0.059	± 0.006	19
Magnesium (mg/L)		6.9	7.4	7.4	4.7	to 9.2	6.8	± 0.320	19
Manganese (mg/L)		↑0.3	0.14	↑**1.2**	0.05 U	to 0.21	0.071	± 0.011	19
Potassium (mg/L)		0.82	0.88	0.85	0.6	to 2.4	0.93	± 0.090	19
Sodium (mg/L)		5.5	5.9	6	3.5	to 6.7	5	± 0.220	19
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	9
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.42	0.25	± 0.012	19
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	10
Nitrite/Nitrate - (N) (mg/L)		0.22	0.2	0.29	0.077	to 0.57	0.3	± 0.027	19
Total Dissolved Solids (mg/L)		198	181	187	105	to 247	170	± 7.900	19
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4 U	2.6	± 0.079	19
Sulfate (mg/L)		5.7	5.3	4.4	2 U	to 47	6	± 2.300	19
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	10
Alkalinity (CaCO3) (mg/L)		120	120	120	83	to 120	100	± 3.800	12
Organic Carbon (mg/L)		1 U	1.5	1 U	1 U	to 22	3	± 1.100	19
Chloride (mg/L)		12	13	15	2.4	to 24	13	± 1.100	19
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.12	0.1	± 0.001	19
Turbidity (field) (NTU)		0.1	0.1	0.2	0.1	to 3.9	0.65	± 0.240	19
Methane (ug/L)		↓5.4	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	9

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

F1 = Well was flowing

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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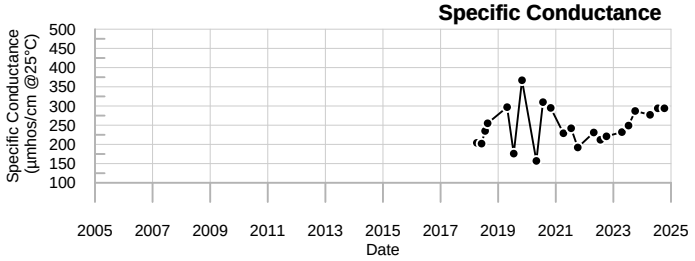
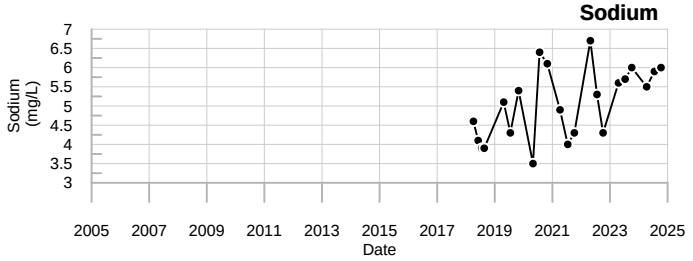
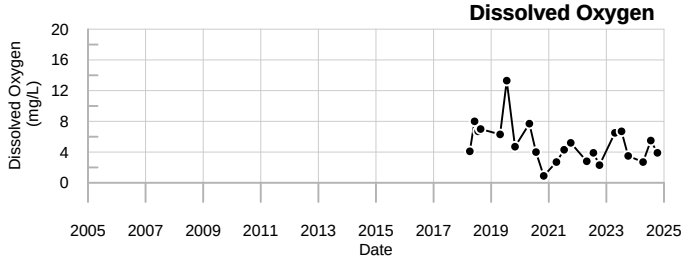
Specific Conductance



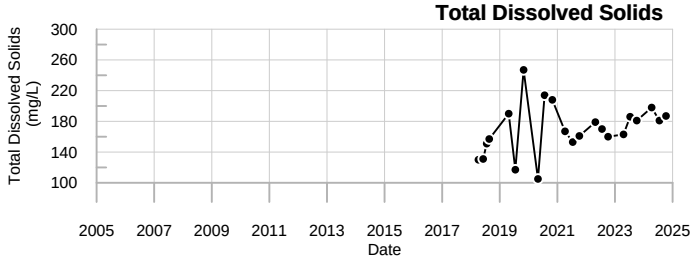
Sodium



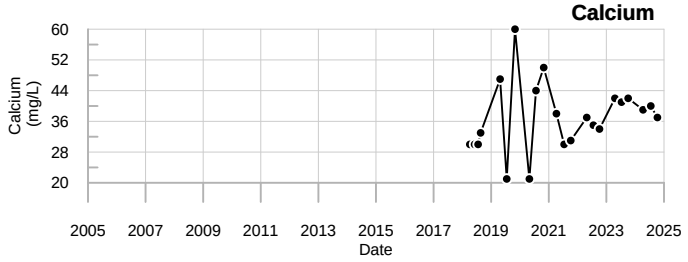
Dissolved Oxygen



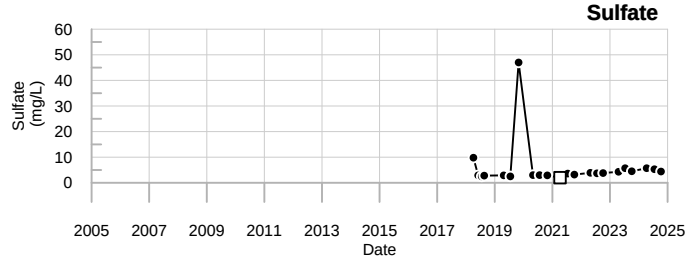
Total Dissolved Solids



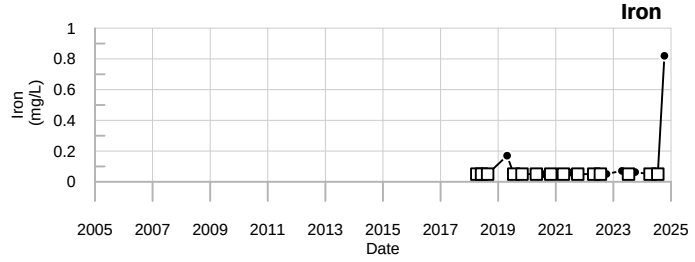
Calcium



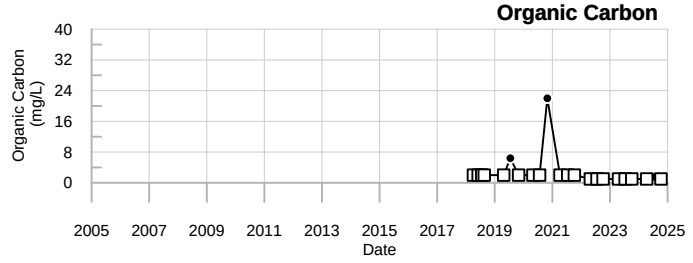
Sulfate



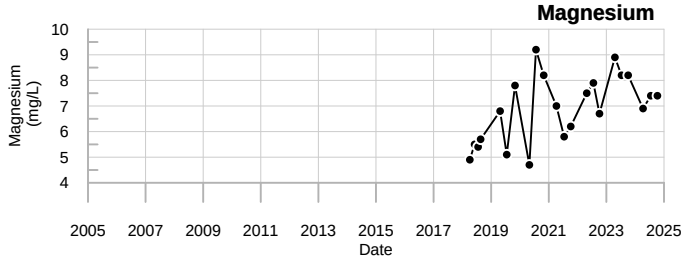
Iron



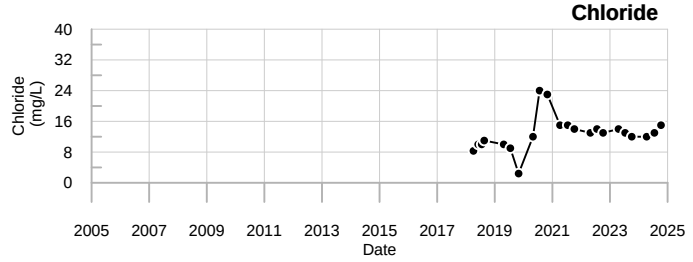
Organic Carbon



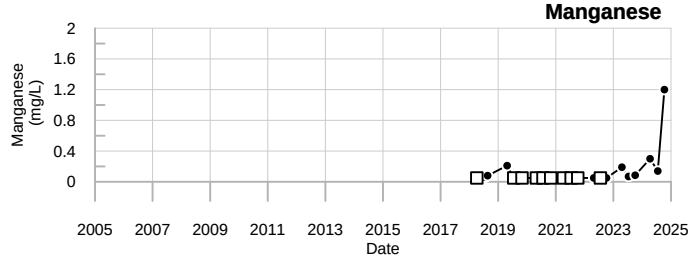
Magnesium



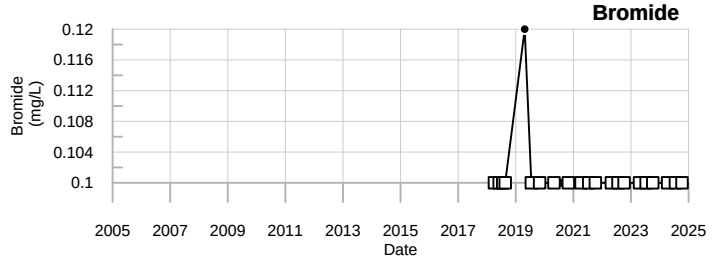
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

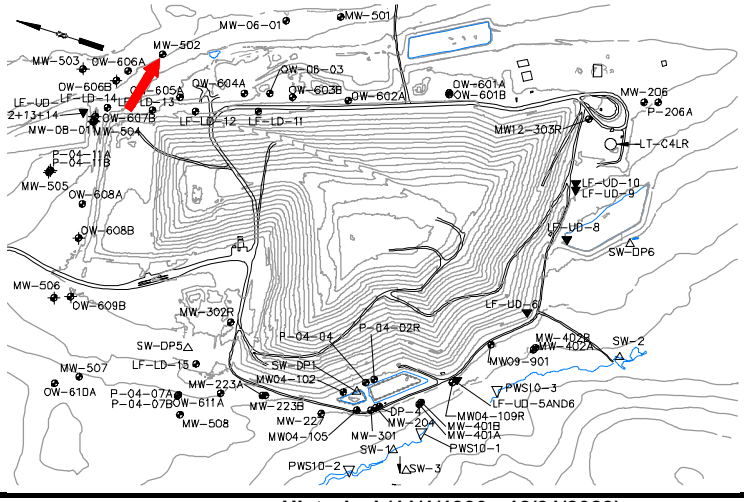
MW-501
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-502 monitors bedrock groundwater downgradient and east of the landfill expansion.

Screen Interval:	**38 ft. to 43 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**Feb-20**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		319	↓138	330	256	to 389	330	± 10.000	12
pH (STU)		7.6	7.5	7.4	6.6	to 8.4	7.6	± 0.140	12
Temperature (Deg C)		7.3	15.8	8.2	7.2	to 18.7	13	± 1.200	12
Water Level Depth (Feet)		0.08	F1	0.61	0.04	to 0.9	0.28	± 0.140	6
Water Level Elevation (Feet)		160.5		159.97	159.68	to 160.54	160	± 0.140	6
Water Level Reference Point (Feet)		160.58	160.58	160.58	160.58	to 160.58	160	± 0.000	6
Eh (mV)		444	346	463	249	to 492	350	± 21.000	12
Dissolved Oxygen (mg/L)		4.3	5	3.3	1.7	to 7.8	3.5	± 0.510	12
Well Depth (Feet)				46.38	46.38	to 46.38	46	± 0.000	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.005 U	0.005	± 0.000	12
Calcium (mg/L)		50	49	49	34	to 69	50	± 3.400	12
Copper (mg/L)		↑0.025	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003	± 0.000	12
Iron (mg/L)		↑0.21	↑0.2	↑0.14	0.05 U	to 0.13	0.057	± 0.007	12
Magnesium (mg/L)		7.1	8	7.5	6.3	to 10	8.3	± 0.370	12
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.2	0.073	± 0.015	12
Potassium (mg/L)		1.1	1.3	1.2	0.9	to 2	1.3	± 0.091	12
Sodium (mg/L)		4.9	↑9.5	5.4	4.8	to 6.3	5.6	± 0.140	12
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.75	0.29	± 0.048	12
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	12
Nitrite/Nitrate - (N) (mg/L)		0.2	0.05 U	0.12	0.05 U	to 0.26	0.16	± 0.020	12
Total Dissolved Solids (mg/L)		215	201	200	166	to 250	200	± 8.600	12
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4	2.8	± 0.170	12
Sulfate (mg/L)		4.6	4.4	4.5	2 U	to 4.9	4	± 0.220	12
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	12
Alkalinity (CaCO3) (mg/L)		140	140	150	110	to 200	150	± 9.200	12
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.150	12
Chloride (mg/L)		20	19	15	13	to 21	18	± 0.720	12
Bromide (mg/L)		0.22	0.23	0.2	0.14	to 0.33	0.22	± 0.019	12
Turbidity (field) (NTU)		0.2	0.1	0.2	0.1	to 1.2	0.43	± 0.096	12
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 190	43	± 21.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

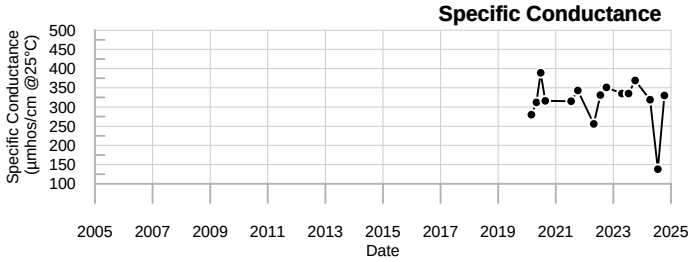
U = Not Detected above the laboratory reporting limit.

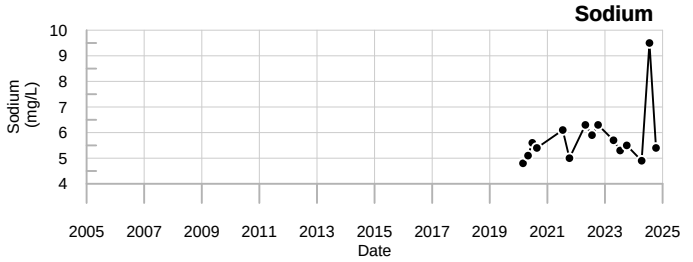
F1 = Well was flowing

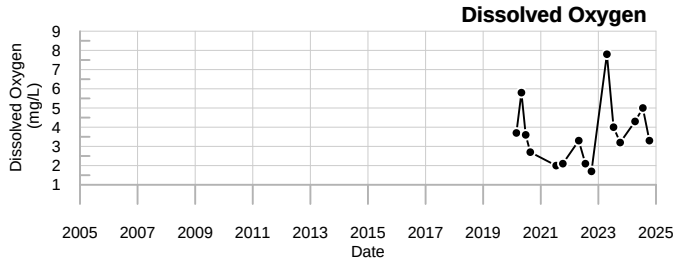
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

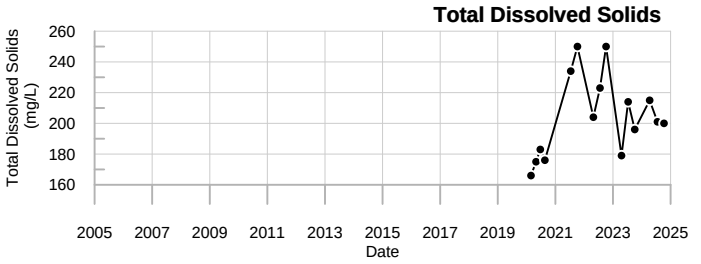
Data Group: 245
Printed: 4/16/2025 11:25

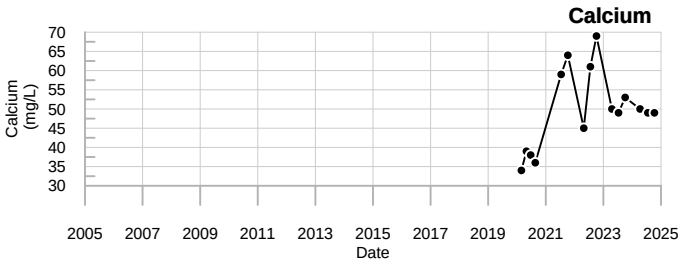
SME SEVEE & MAHER ENGINEERS

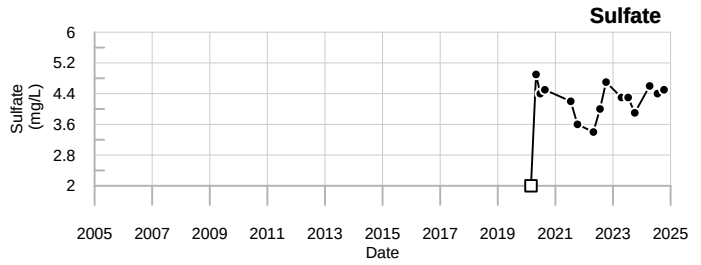


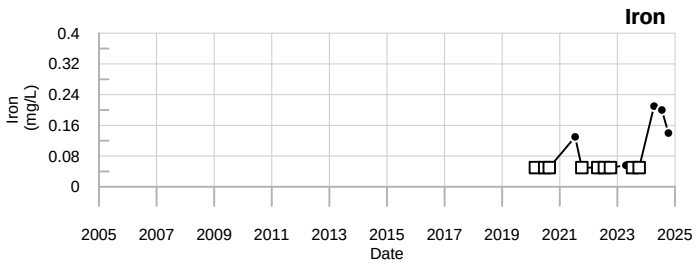


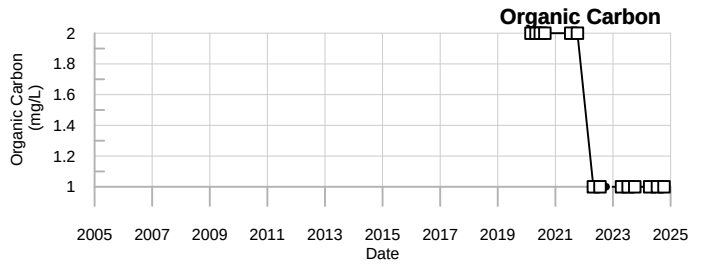


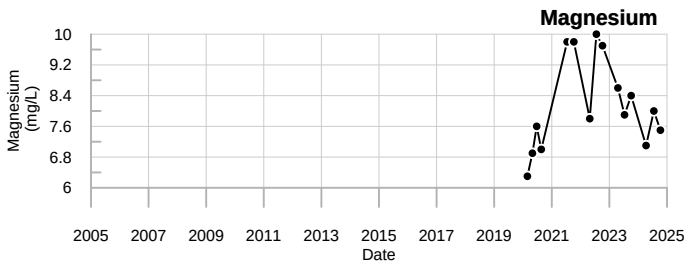


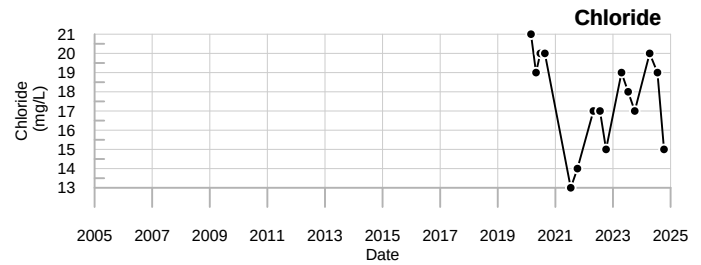


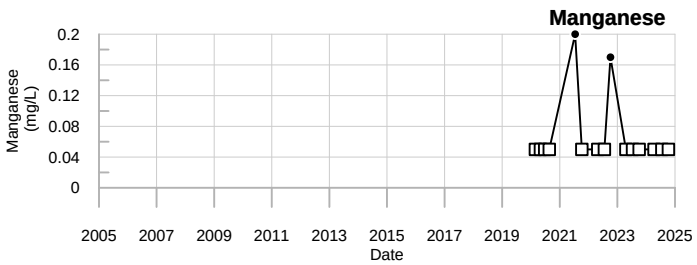


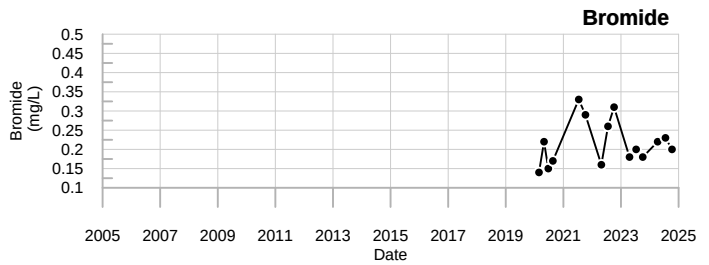












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

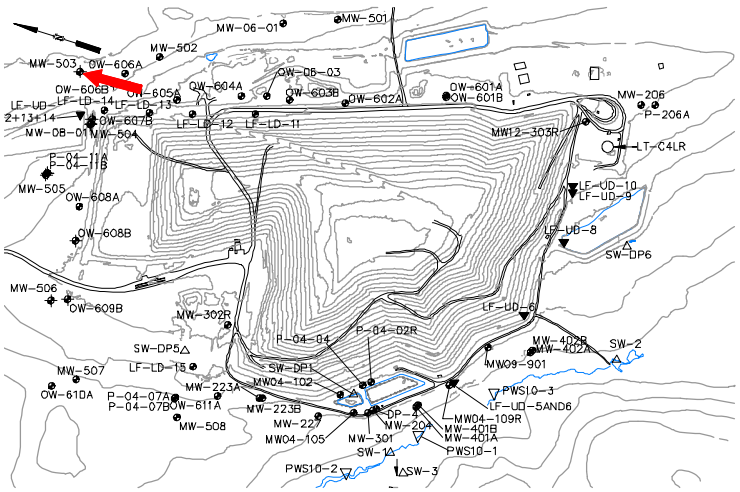
SME
SEVEE & MAHER ENGINEERS

MW-502
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-503 monitors bedrock groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**60 ft. to 70 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**2/9/2021**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		228	230	216	138	to 240	200	± 7.600	11
pH (STU)		7.9	7.8	6.9	6.6	to 7.9	7.4	± 0.097	11
Temperature (Deg C)		7.4	↑15.1	9.7	5.7	to 14.8	10	± 0.810	11
Water Level Depth (Feet)		F1	F1	F1	0	to 0	0	± 0.000	1
Water Level Reference Point (Feet)		163.715	163.715	163.715	163.715	to 163.715	160	± 0.000	1
Eh (mV)		442	361	450	233	to 590	360	± 28.000	11
Dissolved Oxygen (mg/L)		4.2	5.5	2.7	1.2	to 6.5	3.2	± 0.500	11
Well Depth (Feet)				73.02	73.02	to 73.02	73	± 0.000	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.0052	0.005	± 0.000	11
Calcium (mg/L)		28	29	↓24	25	to 37	31	± 0.950	11
Copper (mg/L)		↑0.019	0.0038	0.003 U	0.003 U	to 0.0041	0.0031	± 0.000	11
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Magnesium (mg/L)		6.5	7.1	↓5.9	6.5	to 9.4	7.6	± 0.240	11
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Potassium (mg/L)		0.89	1.5	↓0.77	0.8	to 2	1.1	± 0.110	11
Sodium (mg/L)		5.5	↑9.9	4.9	4.9	to 7.3	5.9	± 0.250	11
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2	0.2 U	0.2 U	to 0.58	0.27	± 0.036	11
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	11
Nitrite/Nitrate - (N) (mg/L)		0.087	↓0.077	↓0.074	0.083	to 0.15	0.11	± 0.007	11
Total Dissolved Solids (mg/L)		155	136	135	134	to 250	160	± 9.800	11
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4 U	2.6	± 0.140	11
Sulfate (mg/L)		9.4	9.8	8.5	6.8	to 12	7.9	± 0.450	11
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	11
Alkalinity (CaCO3) (mg/L)		93	↓77	86	83	to 120	98	± 3.700	11
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.160	11
Chloride (mg/L)		11	16	11	6.1	to 17	11	± 1.200	11
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	11
Turbidity (field) (NTU)		0.3	↓0.1	0.2	0.2	to 1.1	0.44	± 0.100	11
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	11

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

F1 = Well was flowing

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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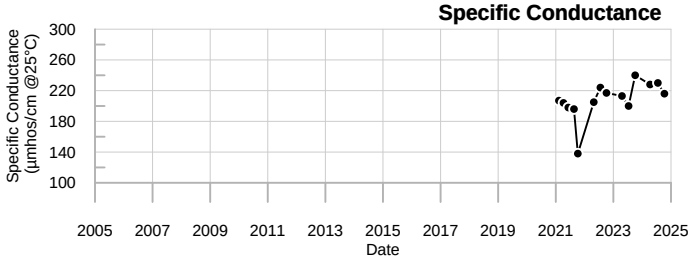
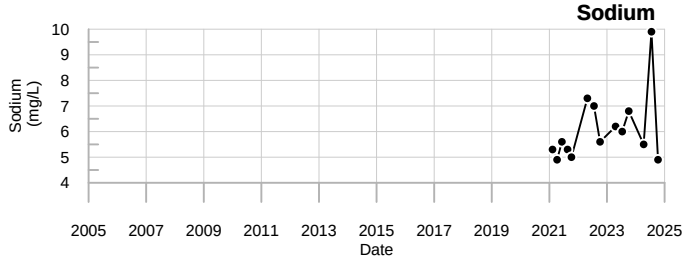
SME SEVEE & MAHER ENGINEERS

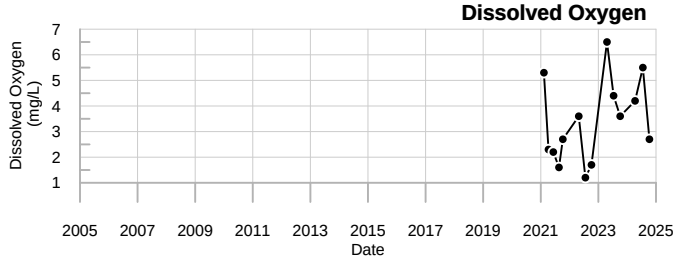
Specific Conductance



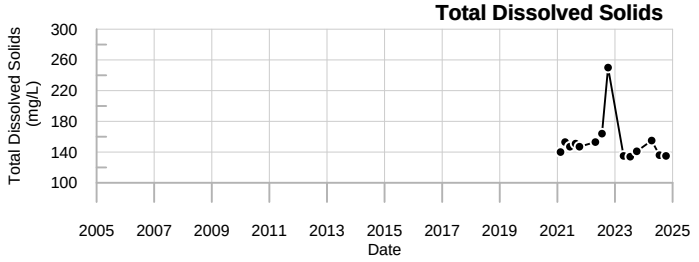
Sodium



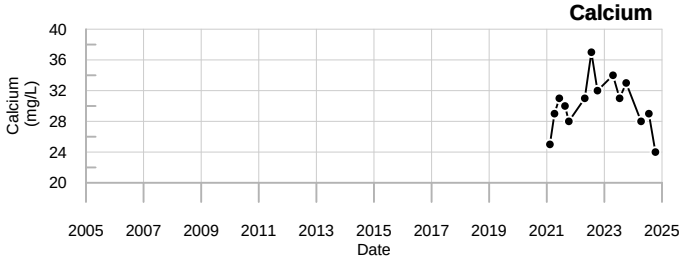
Dissolved Oxygen



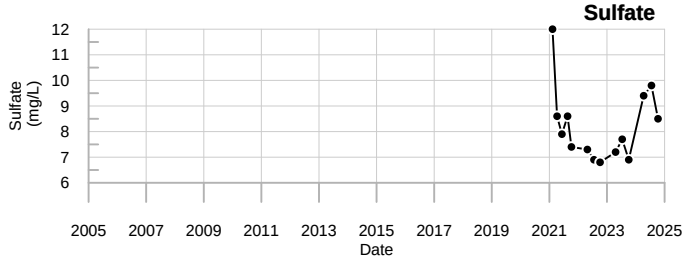
Total Dissolved Solids



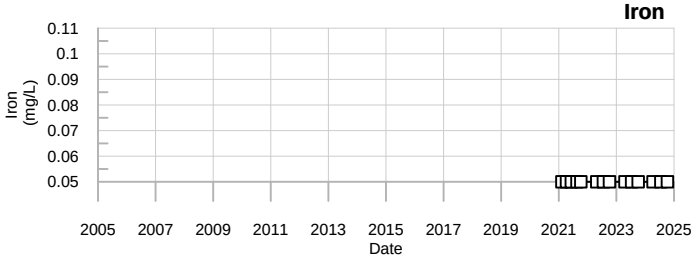
Calcium



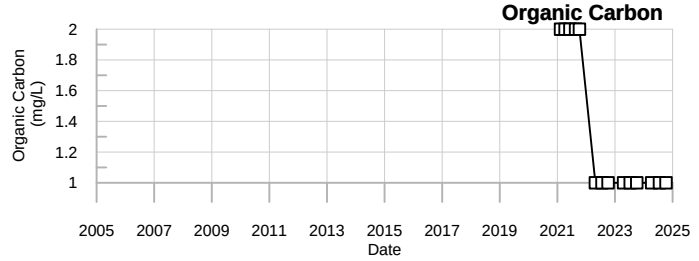
Sulfate



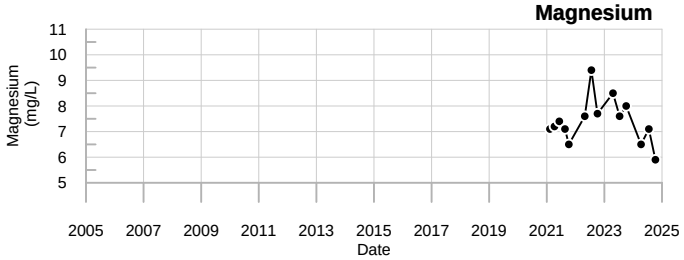
Iron



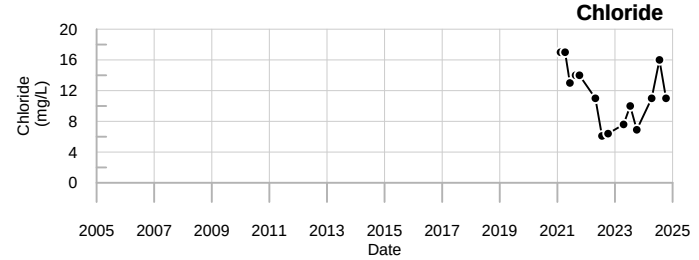
Organic Carbon



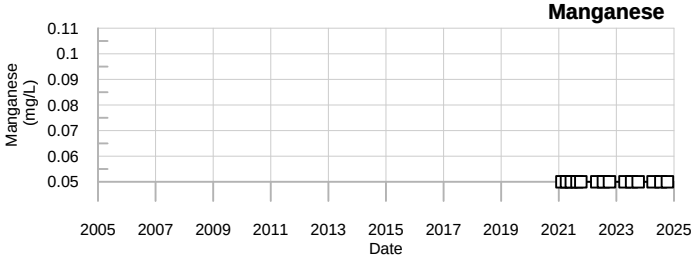
Magnesium



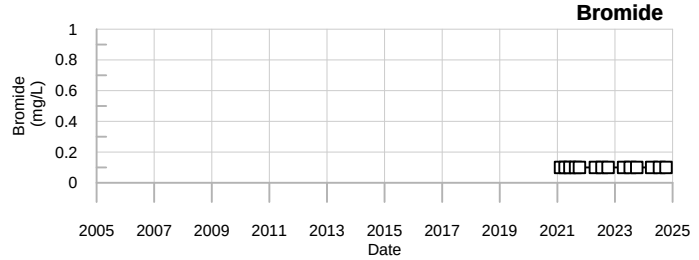
Chloride



Manganese



Bromide



LEGEND

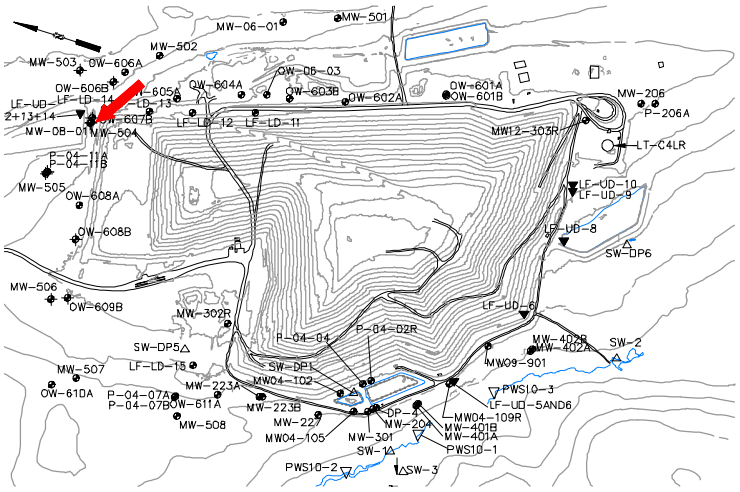
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

MW-503
Juniper Ridge Landfill

Well Description

MW-504 monitors bedrock groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**71.5 ft. to 81.5 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**2/9/2021**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		132	111	136	103	to 139	120	± 4.200	10
pH (STU)		7.8	↓6.9	↓7	7.3	to 8.4	7.8	± 0.110	10
Temperature (Deg C)		7.2	18.6	12.5	5.9	to 19.4	11	± 1.200	10
Water Level Depth (Feet)		25.71	25.52	26.33	18	to 26.8	22	± 1.300	10
Water Level Elevation (Feet)		156.84	157.03	156.22	155.75	to 157.609	160	± 0.210	10
Water Level Reference Point (Feet)		182.55	182.55	182.55	175.609	to 182.55	180	± 1.200	10
Eh (mV)		432	344	451	156	to 465	280	± 30.000	10
Dissolved Oxygen (mg/L)		7.9	4.2	3.5	2.8	to 8.1	5.9	± 0.580	10
Well Depth (Feet)				↑92.24	84.38	to 84.38	84	± 0.000	2
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.01	0.0057	± 0.001	10
Calcium (mg/L)		14	13	13	12	to 16	15	± 0.370	10
Copper (mg/L)		0.011	0.0043	0.003 U	0.003 U	to 0.015	0.0042	± 0.001	10
Iron (mg/L)		0.05 U	0.13	0.05 U	0.05 U	to 6	0.68	± 0.590	10
Magnesium (mg/L)		4.1	4.3	4.2	3.6	to 5.8	4.5	± 0.200	10
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.89	0.15	± 0.083	10
Potassium (mg/L)		↓0.75	0.95	↓0.73	0.78	to 2	1.2	± 0.130	10
Sodium (mg/L)		↓5.5	9.2	5.8	5.7	to 12	7.4	± 0.640	10
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	10
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 1.8	0.51	± 0.190	10
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	10
Nitrite/Nitrate - (N) (mg/L)		0.078	0.05 U	0.069	0.05 U	to 0.22	0.089	± 0.015	10
Total Dissolved Solids (mg/L)		103	88	91	15	to 112	86	± 8.500	10
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 110	22	± 10.000	10
Sulfate (mg/L)		7.6	6.9	7.1	5.4	to 14	6.8	± 0.810	10
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.010	10
Alkalinity (CaCO3) (mg/L)		64	59	64	58	to 66	62	± 0.980	10
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.170	10
Chloride (mg/L)		1.3	1.3	1.2	1.1	to 3.2	1.4	± 0.200	10
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	10
Turbidity (field) (NTU)		0.5	0.8	0.6	0.5	to 3.9	2.3	± 0.460	10
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	10

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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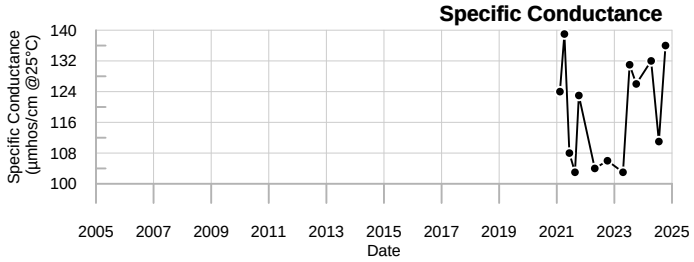
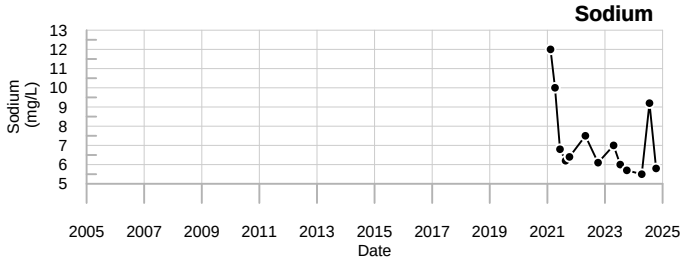
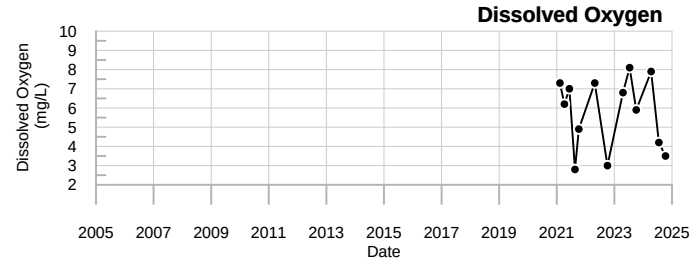
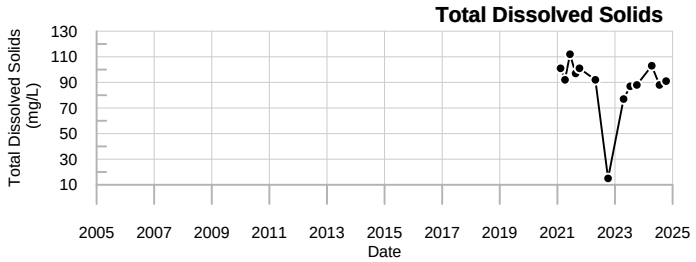
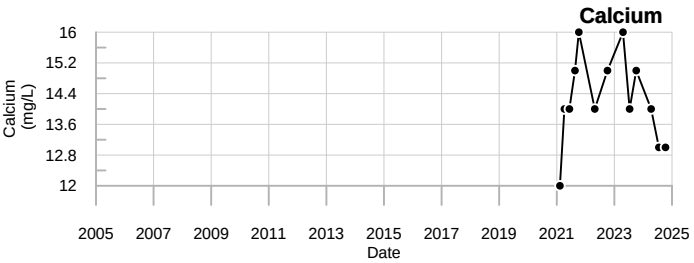
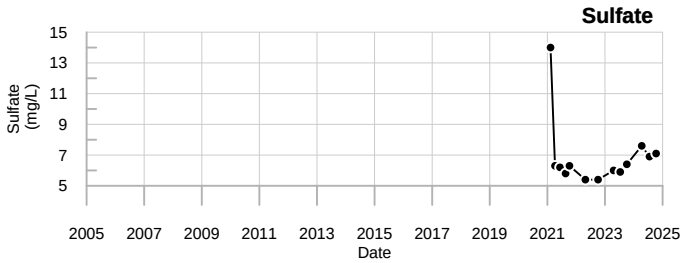


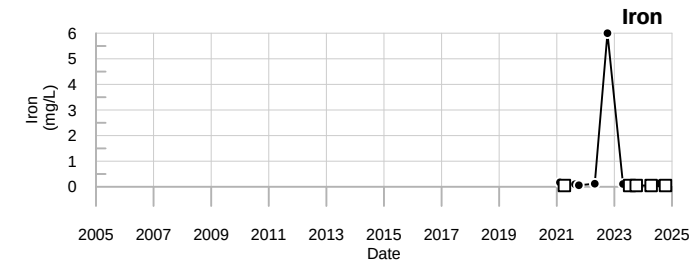


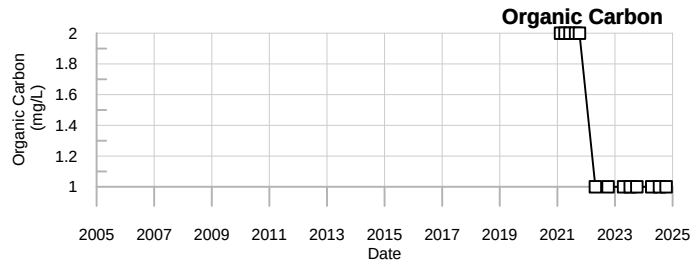


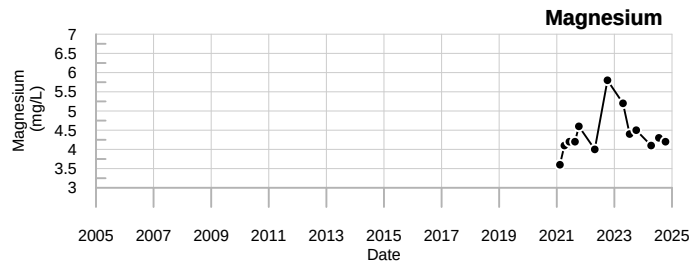


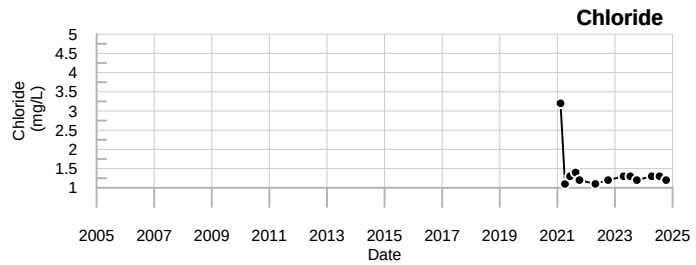


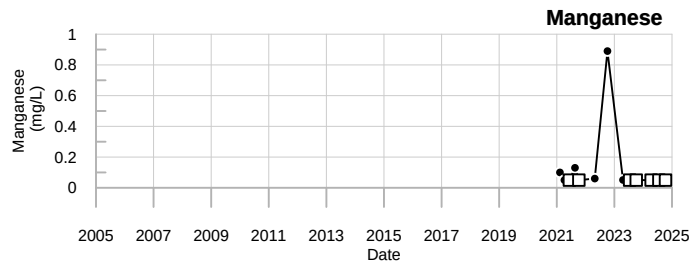


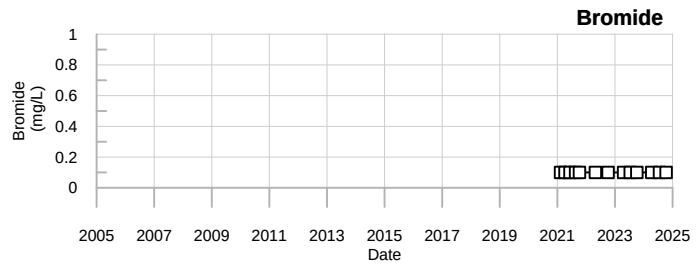












LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

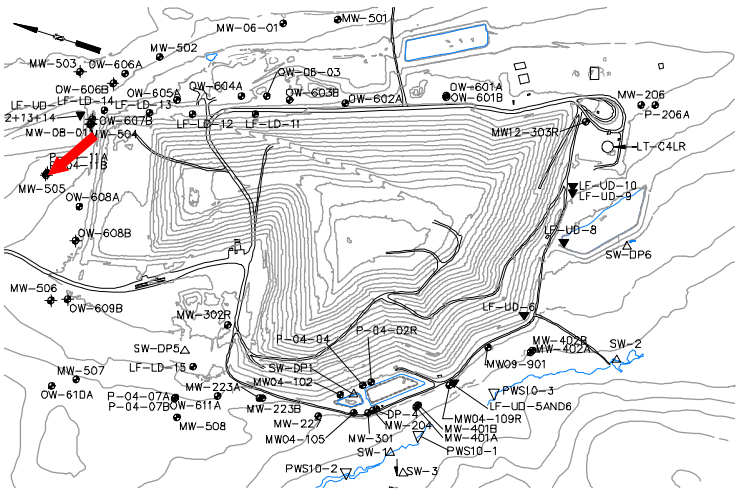
SME
SEVEE & MAHER ENGINEERS

MW-504
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-505 monitors bedrock groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**72.2 ft. to 82.2 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**2/10/2021**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		210	230	222	210	to 329	250	± 12.000	11
pH (STU)		7.9	7.2	6.9	6.9	to 7.9	7.5	± 0.098	11
Temperature (Deg C)		7.1	↑15.2	10.6	5.1	to 13.3	9.8	± 0.800	11
Water Level Depth (Feet)		13.58	16.15	↑19.64	11.78	to 18.53	15	± 0.660	11
Water Level Elevation (Feet)		172.96	170.39	↓166.9	168.01	to 174.76	170	± 0.660	11
Water Level Reference Point (Feet)		186.54	186.54	186.54	186.54	to 186.54	190	± 0.000	11
Eh (mV)		187	230	↑438	25	to 396	170	± 40.000	11
Dissolved Oxygen (mg/L)		0.7	1.6	2.4	0.3	to 4.3	1.3	± 0.360	11
Well Depth (Feet)				↑84.9	84.8	to 84.8	85	± 0.000	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.011	0.0061	± 0.001	11
Calcium (mg/L)		19	20	17	17	to 22	20	± 0.400	11
Copper (mg/L)		↑0.093	0.003 U	0.003 U	0.003 U	to 0.0032	0.003	± 0.000	11
Iron (mg/L)		0.27	0.17	0.19	0.1	to 0.9	0.28	± 0.070	11
Magnesium (mg/L)		6.2	7	6	5.9	to 7.5	6.8	± 0.160	11
Manganese (mg/L)		↓0.14	0.18	↓0.15	0.16	to 0.73	0.37	± 0.060	11
Potassium (mg/L)		1.1	1.3	↓0.97	1	to 1.9	1.3	± 0.073	11
Sodium (mg/L)		↓15	**25**	↓15	18	to 55	29	± 3.300	11
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	11
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.29	0.23	± 0.010	11
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	11
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.16	0.065	± 0.010	11
Total Dissolved Solids (mg/L)		143	146	136	63	to 237	170	± 14.000	11
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4	2.8	± 0.180	11
Sulfate (mg/L)		↓20	36	21	21	to 55	37	± 3.500	11
Sulfide (mg/L)		0.19	0.28	0.19	0.1 U	to 0.61	0.24	± 0.045	11
Alkalinity (CaCO3) (mg/L)		89	↓82	↓87	88	to 110	94	± 1.800	11
Organic Carbon (mg/L)		1.3	1.8	1.5	1.2	to 3.5	1.9	± 0.200	11
Chloride (mg/L)		↓1.9	2.5	↓2	2.1	to 22	7.5	± 1.800	11
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	11
Turbidity (field) (NTU)		0.3	0.3	0.8	0.3	to 6.4	1.5	± 0.610	11
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	11

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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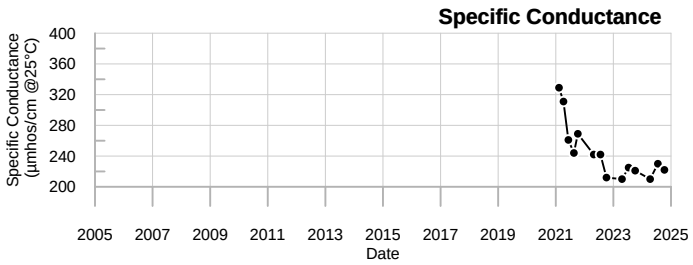
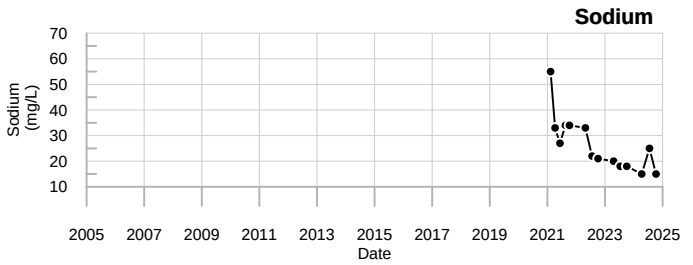
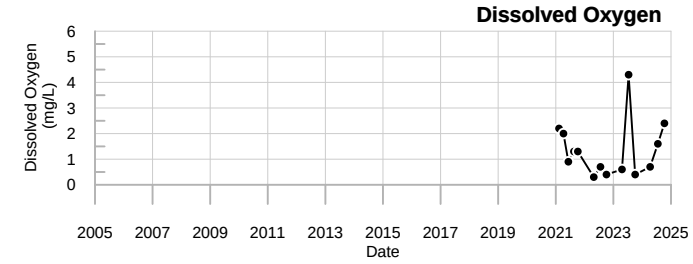
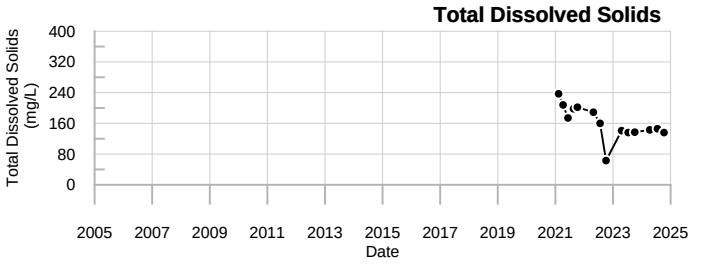
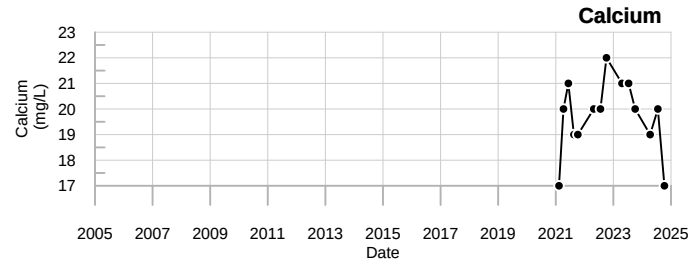
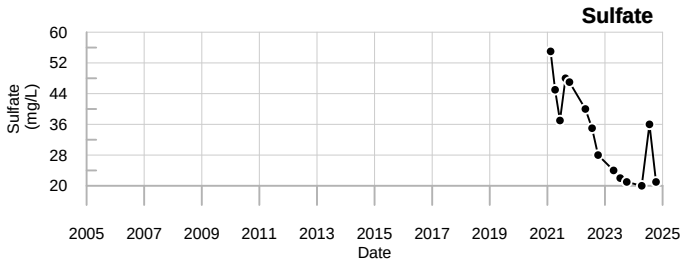


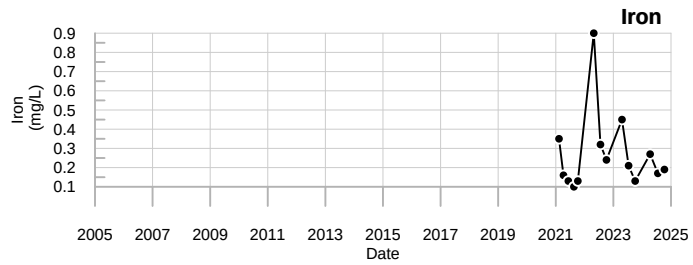


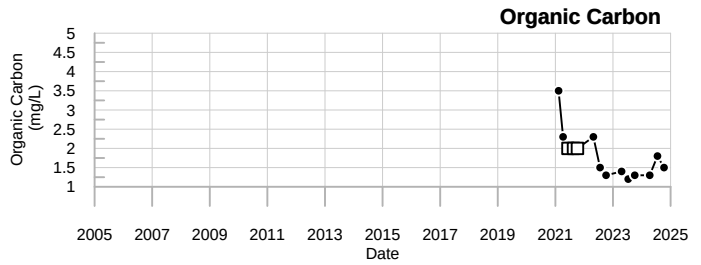


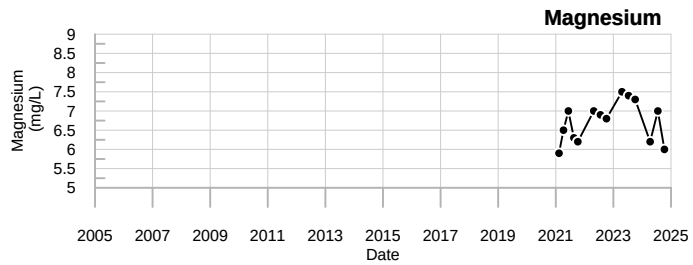


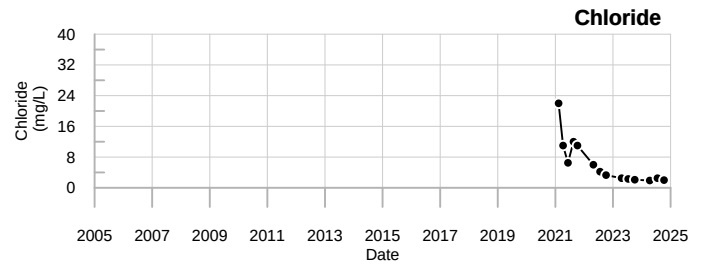


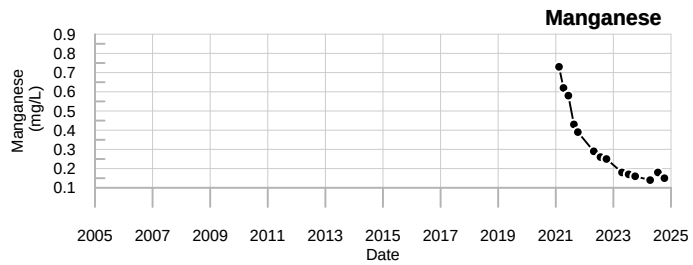


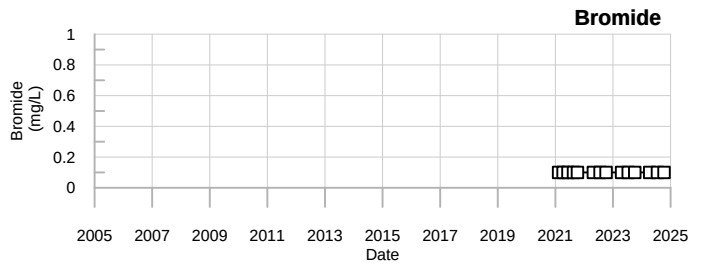












LEGEND

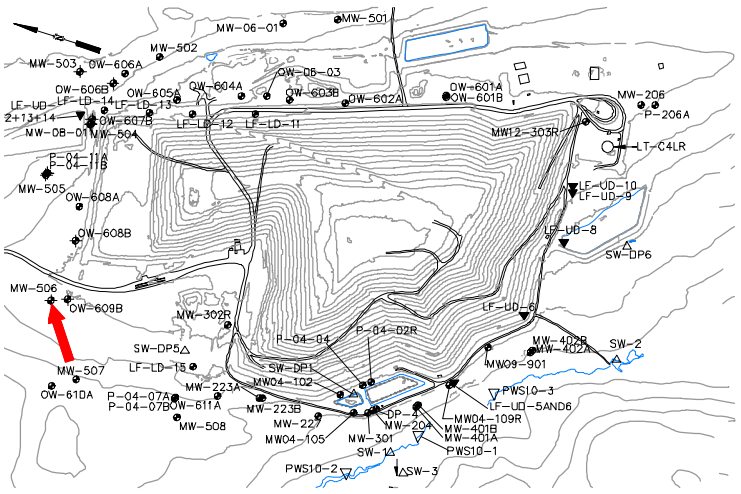
- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

MW-505
Juniper Ridge Landfill

Well Description

MW-506 monitors bedrock groundwater downgradient of and northwest of the landfill expansion.



Screen Interval:	**50 ft. to 60 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**2/18/2021**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		!	!	!	319	837	580	54.000	11
pH (STU)		!	!	!	7.2	8.8	7.8	0.140	11
Temperature (Deg C)		!	!	!	5.1	16.8	11	1.000	11
Water Level Depth (Feet)		↓10	↓4.8	33.2	25.5	33.56	28	0.650	12
Water Level Elevation (Feet)		↑188.758	↑193.958	165.558	165.198	173.258	170	0.650	12
Water Level Reference Point (Feet)		198.758	198.758	198.758	198.758	198.758	200	0.000	12
Eh (mV)		!	!	!	28	254	95	24.000	11
Dissolved Oxygen (mg/L)		!	!	!	0.9	4.7	2.5	0.350	11
Well Depth (Feet)				↓64.72	64.75	64.75	65	0.000	3
Arsenic (mg/L)		!	!	!	0.005 U	0.01	0.0071	0.001	11
Calcium (mg/L)		!	!	!	15	34	23	1.900	11
Copper (mg/L)		!	!	!	0.003 U	0.015	0.0046	0.001	11
Iron (mg/L)		!	!	!	0.11	2.1	0.52	0.170	11
Magnesium (mg/L)		!	!	!	7	8.7	7.6	0.150	11
Manganese (mg/L)		!	!	!	0.16	1.1	0.56	0.097	11
Potassium (mg/L)		!	!	!	0.86	2.6	1.5	0.150	11
Sodium (mg/L)		!	!	!	46	200	99	13.000	11
Boron (mg/L)		!	!	!	0.05 U	0.069	0.053	0.002	11
Total Kjeldahl Nitrogen (mg/L)		!	!	!	0.2 U	3.8	0.89	0.340	11
Ammonia (N) (mg/L)		!	!	!	0.5 U	0.5 U	0.5	0.000	11
Nitrite/Nitrate - (N) (mg/L)		!	!	!	0.05 U	0.27	0.084	0.021	11
Total Dissolved Solids (mg/L)		!	!	!	193	802	420	56.000	11
Total Suspended Solids (mg/L)		!	!	!	2.5 U	130	36	12.000	11
Sulfate (mg/L)		!	!	!	2 U	340	120	28.000	11
Sulfide (mg/L)		!	!	!	0.1 U	1.5	0.49	0.130	11
Alkalinity (CaCO3) (mg/L)		!	!	!	120	140	130	2.100	11
Organic Carbon (mg/L)		!	!	!	2.8	25	12	2.000	11
Chloride (mg/L)		!	!	!	4	57	19	5.200	11
Bromide (mg/L)		!	!	!	0.1 U	0.5 U	0.15	0.039	11
Turbidity (field) (NTU)		!	!	!	0.8	15.2	6.4	1.300	11
Methane (ug/L)		!	!		20 U	20 U	20	0.000	11

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

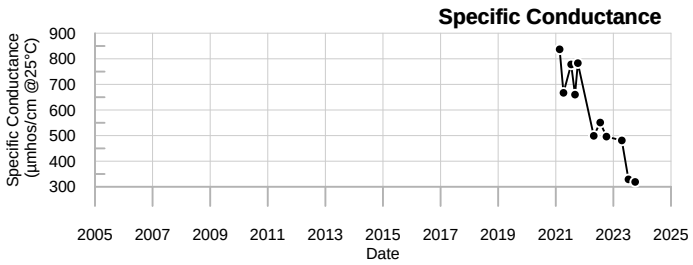
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

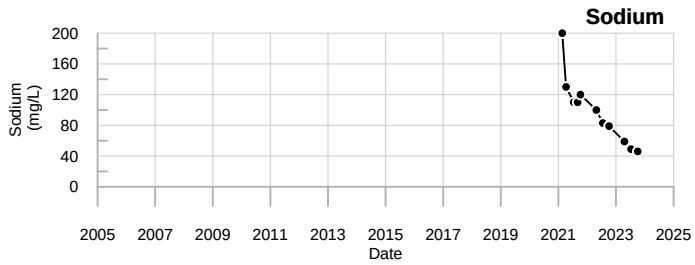
! = The sampling location was damaged or destroyed.

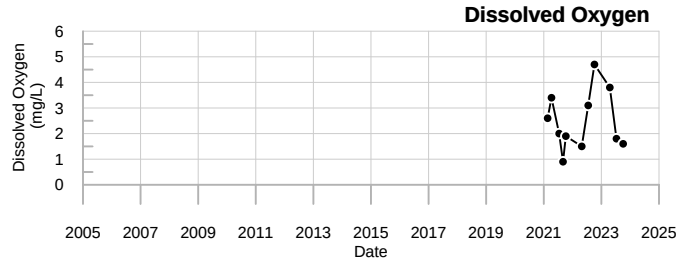
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

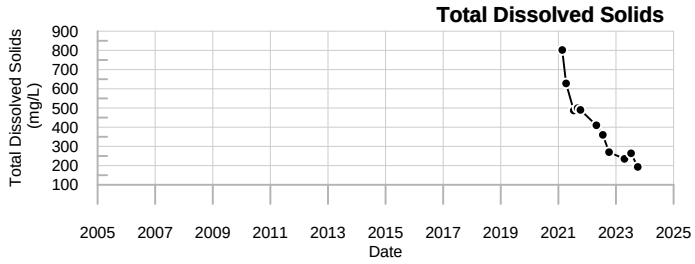
Data Group: 245
Printed: 4/16/2025 11:25

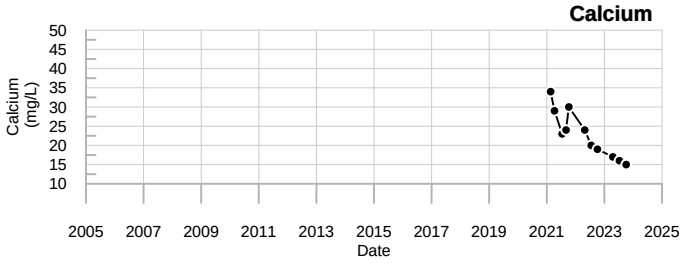
SME SEVEE & MAHER ENGINEERS

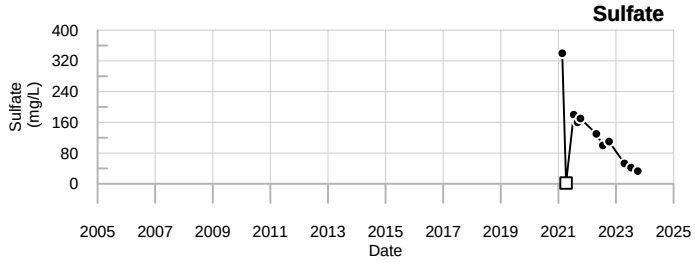


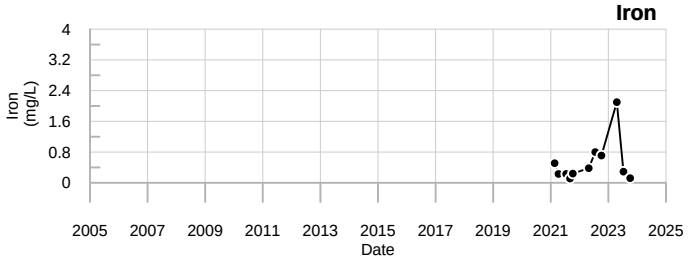


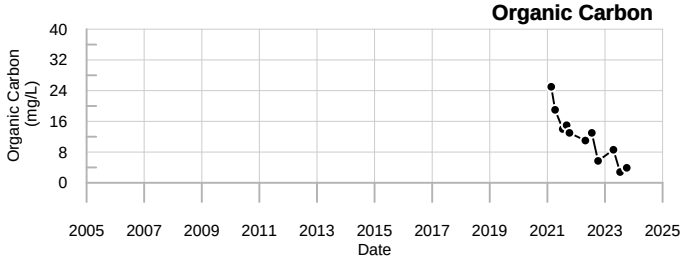


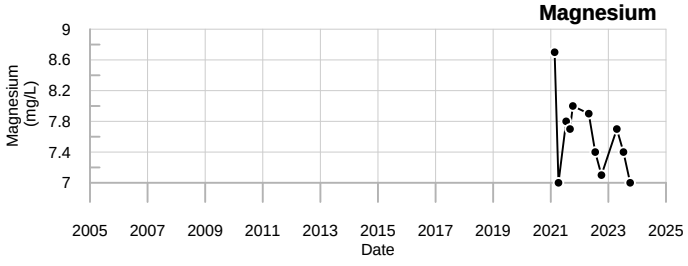


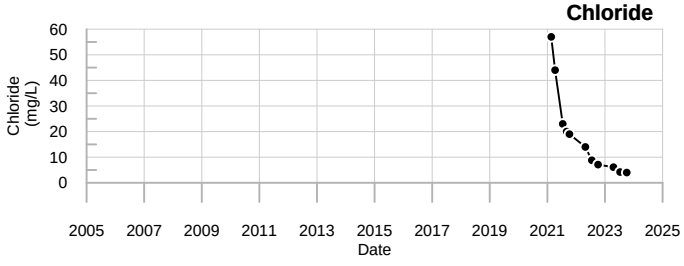


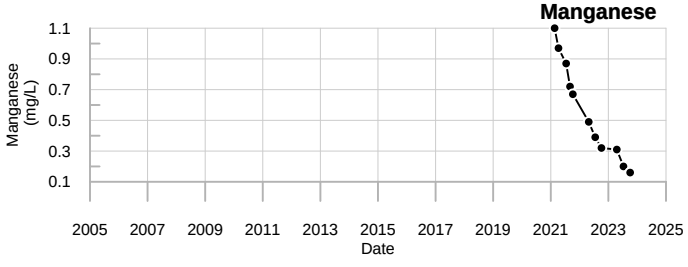


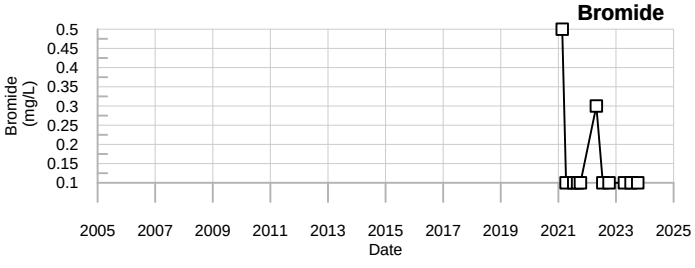












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

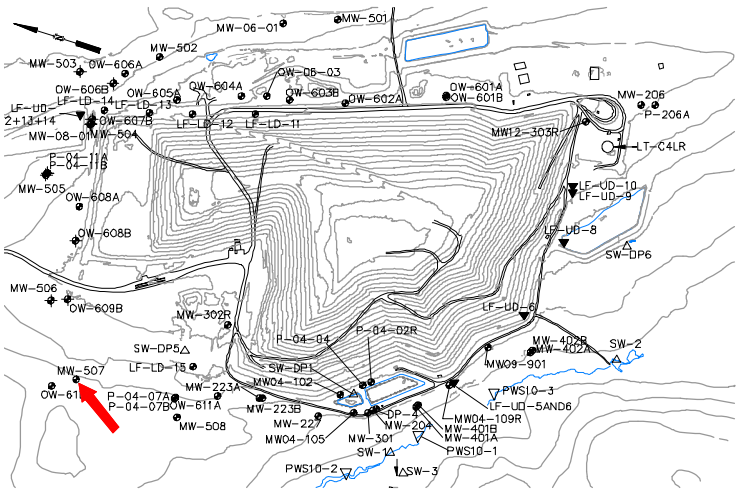
SME
SEVEE & MAHER
ENGINEERS

MW-506
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-507 monitors bedrock groundwater downgradient and west of the landfill expansion.



Screen Interval:

Sampled: **2 Times Annually**

Sampled Since: **Apr-18**

Material Screened: **Bedrock (Open Borehole)**

Well Condition: **Good**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		192	297	303	90	to 324	230	± 20.000	12
pH (STU)		7	6.7	↓6.3	6.6	to 8	7.1	± 0.140	12
Temperature (Deg C)		6.7	11.4	11.3	4.1	to 13.9	10	± 0.830	12
Water Level Depth (Feet)		3.3	5.22	↑9.1	2.14	to 7.52	4	± 0.510	12
Water Level Elevation (Feet)		173.53	171.61	↓167.73	169.31	to 174.69	170	± 0.510	12
Water Level Reference Point (Feet)		176.83	176.83	176.83	176.83	to 176.83	180	± 0.000	12
Eh (mV)		266	304	297	206	to 427	280	± 16.000	12
Dissolved Oxygen (mg/L)		5.3	2.1	↓1	2	to 7.1	4.9	± 0.460	12
Well Depth (Feet)				35	35	to 35	35	± 0.000	2
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.007	0.0052	± 0.000	12
Calcium (mg/L)		26	42	41	16	to 52	32	± 3.100	12
Copper (mg/L)		↑0.0091	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003	± 0.000	10
Iron (mg/L)		0.33	↑1.2	0.37	0.05 U	to 0.97	0.37	± 0.094	12
Magnesium (mg/L)		3.2	5.7	5.6	2.2	to 6.6	4	± 0.410	12
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	12
Potassium (mg/L)		↓0.45	0.67	0.65	0.46	to 1.1	0.63	± 0.061	12
Sodium (mg/L)		2.6	5	4.9	2	to 6.4	3.6	± 0.350	12
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.37	0.24	± 0.014	12
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	10
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.051	0.05 U	to 0.21	0.076	± 0.013	12
Total Dissolved Solids (mg/L)		139	202	203	65	to 451	170	± 30.000	12
Total Suspended Solids (mg/L)		↑8.3 U	↑8.3 U	↑8.3 U	2.5 U	to 4.7	2.8	± 0.210	12
Sulfate (mg/L)		3.4	2.9	3.2	2 U	to 4.3	3.3	± 0.160	12
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	10
Alkalinity (CaCO3) (mg/L)		75	97	110	47	to 110	74	± 5.200	12
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.5	± 0.150	12
Chloride (mg/L)		14	34	34	1.2	to 43	20	± 4.300	12
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	12
Turbidity (field) (NTU)		3.7	3.5	1.5	0.3	to 6.1	2.8	± 0.570	12
Methane (ug/L)		↓5.2 U	↓5.2 U	↑35	20 U	to 20 U	20	± 0.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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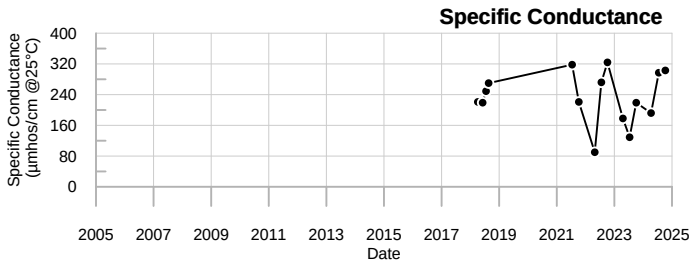

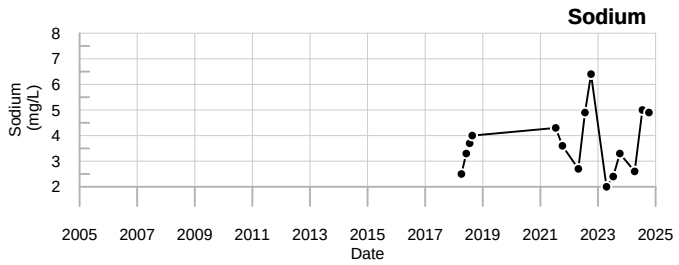

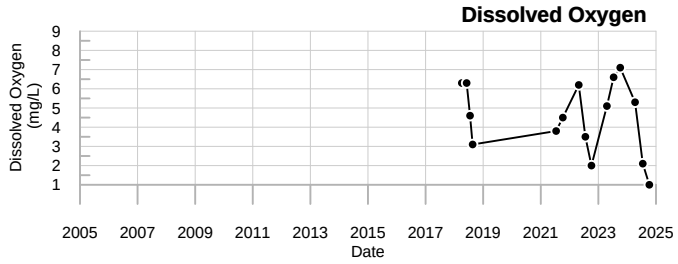

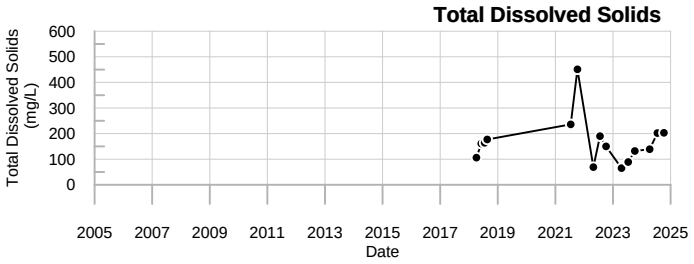

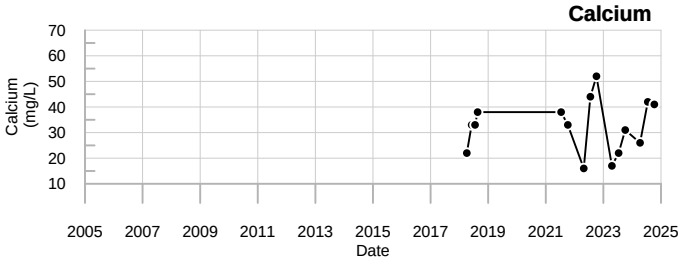

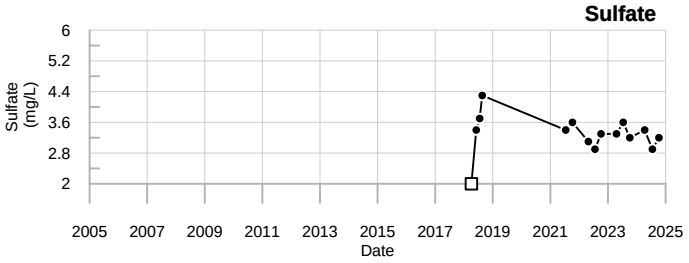

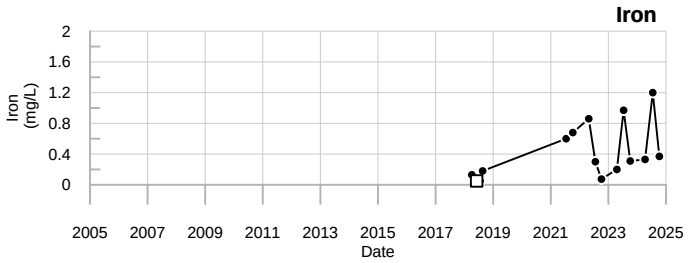

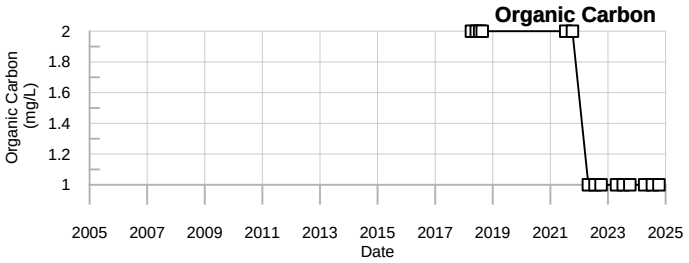

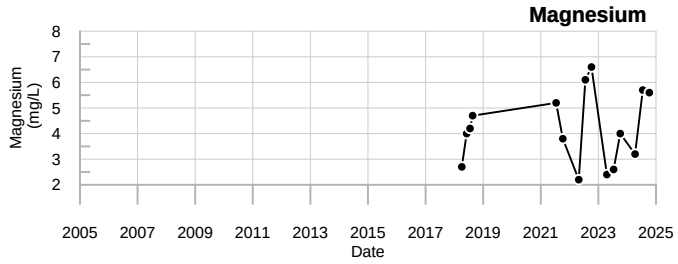

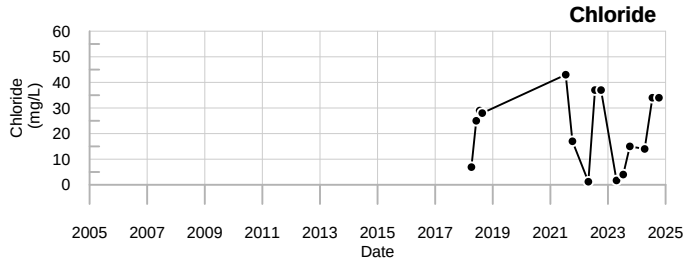

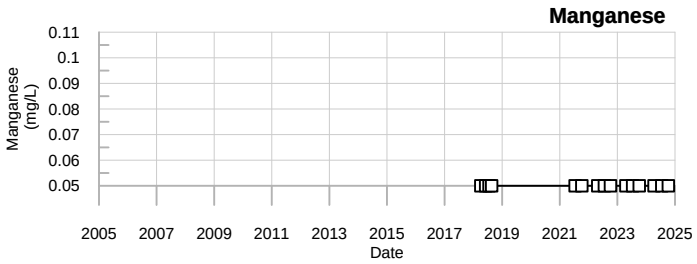

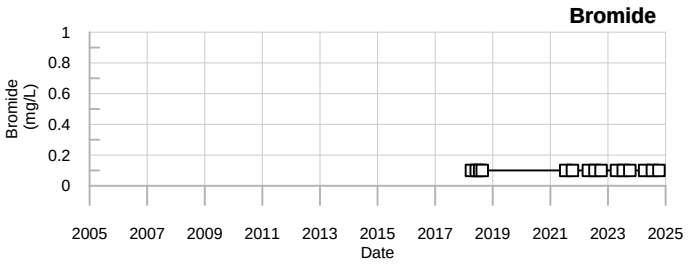

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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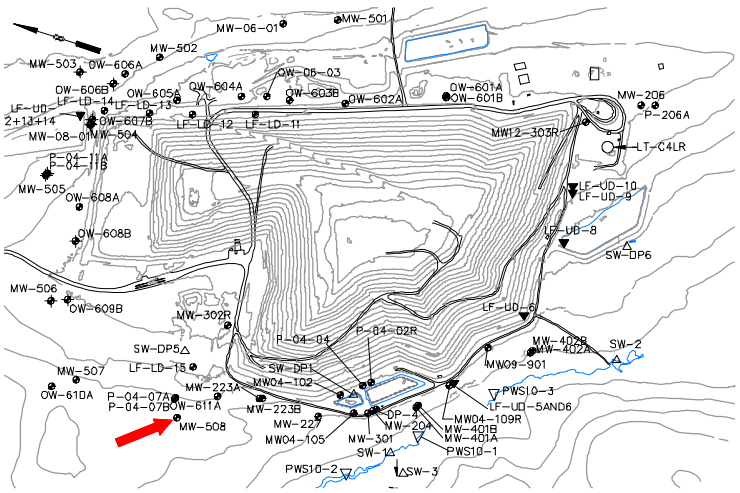
MW-507
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

MW-508 monitors bedrock groundwater downgradient of and southwest of the landfill expansion.

Screen Interval:	**26 ft. to 36 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**10/5/2022**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		294	287	297	269	to 334	300	± 9.400	6
pH (STU)		7.5	7.3	7.3	5.5	to 8.4	7.3	± 0.390	6
Temperature (Deg C)		7.1	12.2	9.7	5.7	to 14.3	9.9	± 1.200	6
Water Level Depth (Feet)		1.62	↑2.76	↑4.84	0.37	to 2.23	1.6	± 0.290	6
Water Level Elevation (Feet)		187.65	↓186.51	↓184.43	187.04	to 188.9	190	± 0.290	6
Water Level Reference Point (Feet)		189.27	189.27	189.27	189.27	to 189.27	190	± 0.000	6
Eh (mV)		458	238	↑469	215	to 464	390	± 38.000	6
Dissolved Oxygen (mg/L)		3.7	↑4.7	2	1.9	to 4.4	3.5	± 0.360	6
Well Depth (Feet)				↓38.77	38.78	to 38.78	39	± 0.000	3
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.0059	0.0052	± 0.000	6
Calcium (mg/L)		↓42	44	↓39	44	to 54	49	± 1.500	6
Copper (mg/L)		↑0.0089	0.003 U	0.003 U	0.003 U	to 0.003 U	0.003	± 0.000	6
Iron (mg/L)		0.05 U	0.075	0.05 U	0.05 U	to 0.21	0.1	± 0.029	6
Magnesium (mg/L)		↓4.5	↓5	↓4.3	5.2	to 5.8	5.5	± 0.089	6
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.082	0.055	± 0.005	6
Potassium (mg/L)		↓0.74	0.93	↓0.76	0.79	to 1.1	0.92	± 0.047	6
Sodium (mg/L)		↓6.3	6.8	↓6.4	6.5	to 7.6	7.2	± 0.150	6
Boron (mg/L)		0.05 U	↑0.13	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	6
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.48	0.25	± 0.047	6
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	6
Nitrite/Nitrate - (N) (mg/L)		↓0.16	↓0.11	↓0.15	0.18	to 0.42	0.26	± 0.035	6
Total Dissolved Solids (mg/L)		194	171	178	150	to 209	190	± 8.400	6
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 20	5.8	± 2.900	6
Sulfate (mg/L)		12	12	14	11	to 16	12	± 0.790	6
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	6
Alkalinity (CaCO3) (mg/L)		110	110	↑120	110	to 110	110	± 0.000	6
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 1 U	1	± 0.000	6
Chloride (mg/L)		22	↓15	↓14	19	to 29	24	± 1.400	6
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	6
Turbidity (field) (NTU)		0.3	0.4	↓0.2	0.3	to 1.7	0.63	± 0.220	6
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	6

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

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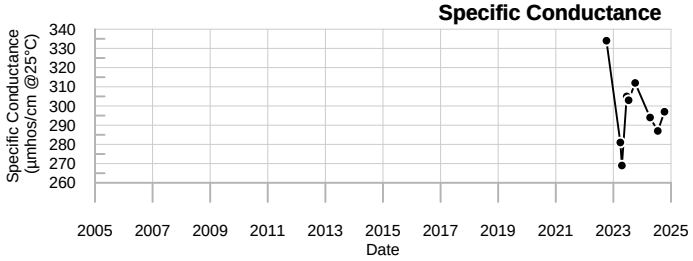
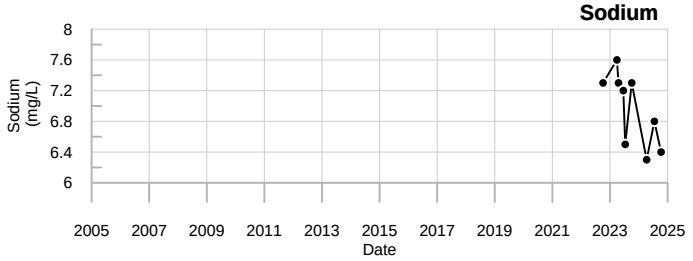
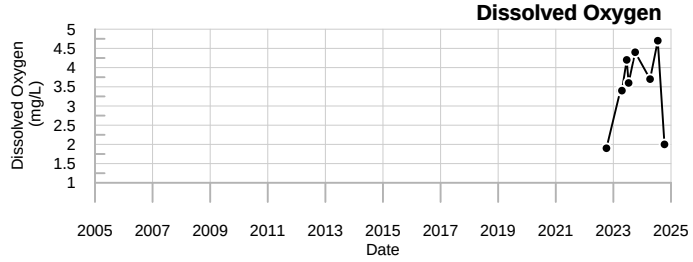
Specific Conductance



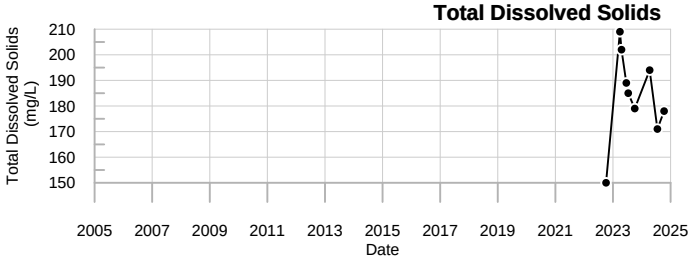
Sodium



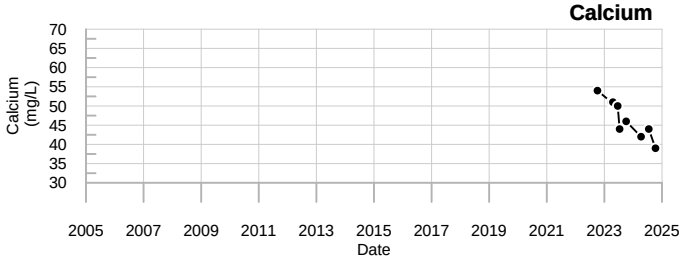
Dissolved Oxygen



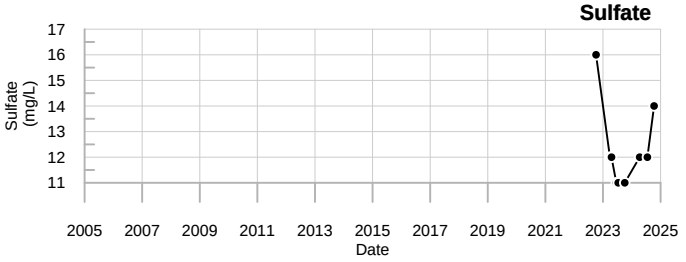
Total Dissolved Solids



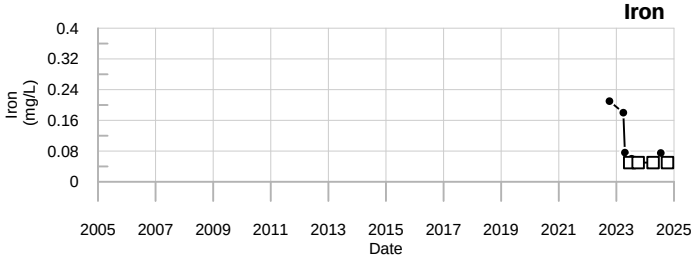
Calcium



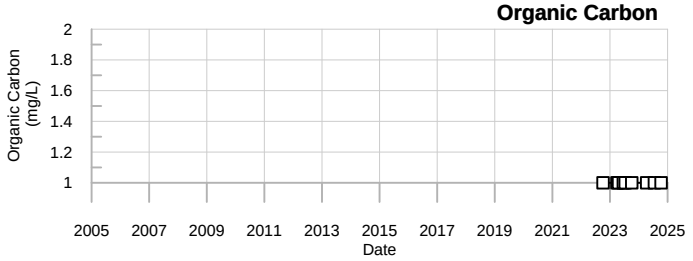
Sulfate



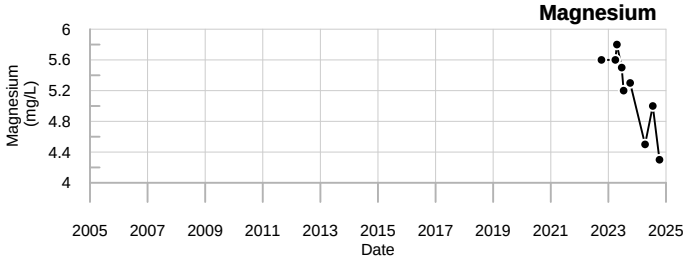
Iron



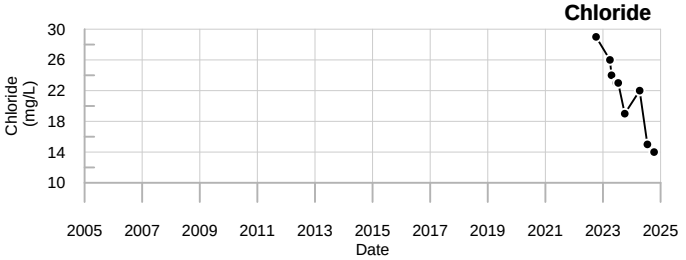
Organic Carbon



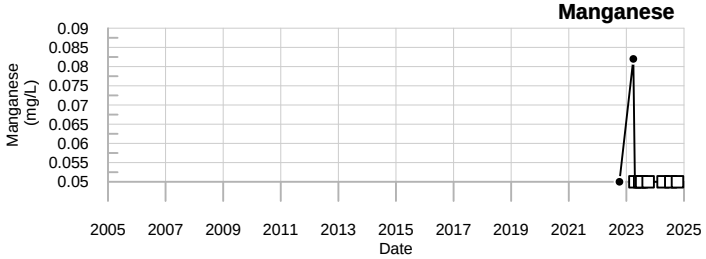
Magnesium



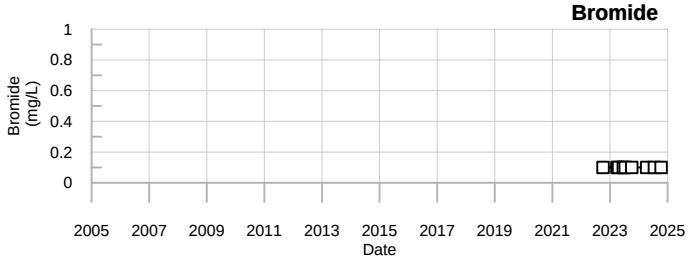
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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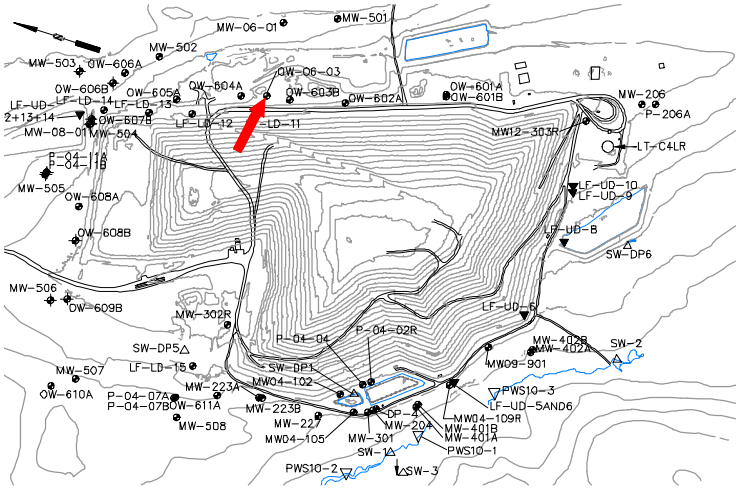
MW-508
Juniper Ridge Landfill

Well Description

OW-06-03 monitors overburden groundwater downgradient and east of the landfill expansion.



Screen Interval:	**10 ft. to 15 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-18**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		256	I	I	193	1035	590	74.000	11
pH (STU)		5.9	I	I	5.6	7.8	6.2	0.170	11
Temperature (Deg C)		10.4	I	I	6.2	16.4	10	1.100	11
Water Level Depth (Feet)		↓20.1	24.1	25.5	20.5	25.68	24	0.400	13
Water Level Elevation (Feet)		↑185.94	181.94	180.54	180.36	185.54	180	0.400	13
Water Level Reference Point (Feet)		206.04	206.04	206.04	206.04	206.04	210	0.000	16
Eh (mV)		168	I	I	87	401	190	30.000	11
Dissolved Oxygen (mg/L)		3.7	I	I	0.5	6	1.9	0.460	11
Well Depth (Feet)				25.8	25.8	25.81	26	0.002	5
Arsenic (mg/L)			I		0.005 U	0.01	0.0075	0.003	2
Calcium (mg/L)			I		17	78	48	31.000	2
Copper (mg/L)			I		0.003 U	0.003 U	0.003	0.000	2
Iron (mg/L)			I		0.32	23	12	11.000	2
Magnesium (mg/L)			I		4.4	6.5	5.5	1.100	2
Manganese (mg/L)			I		0.65	8.7	4.7	4.000	2
Potassium (mg/L)			I		1.1	3.7	2.4	1.300	2
Sodium (mg/L)			I		4.7	6.6	5.7	0.950	2
Boron (mg/L)			I		0.05 U	0.05 U	0.05	0.000	1
Total Kjeldahl Nitrogen (mg/L)			I		0.25 U	8.4	4.3	4.100	2
Ammonia (N) (mg/L)			I		0.5 U	6.7	3.6	3.100	2
Nitrite/Nitrate - (N) (mg/L)			I		0.05 U	0.1	0.075	0.025	2
Total Dissolved Solids (mg/L)			I		84	491	290	200.000	2
Total Suspended Solids (mg/L)			I		2.5 U	16	9.3	6.800	2
Sulfate (mg/L)			I		2.1	12	7.1	5.000	2
Sulfide (mg/L)			I		0.1 U	5 U	2.6	2.500	2
Alkalinity (CaCO3) (mg/L)			I		65	270	170	100.000	2
Organic Carbon (mg/L)			I		2	68	35	33.000	2
Chloride (mg/L)			I		1.6	6.3	4	2.400	2
Bromide (mg/L)			I		0.51	0.58	0.55	0.035	2
Turbidity (field) (NTU)		↓1	I	I	2.7	43.8	10	3.500	11
Methane (ug/L)			I		2900	2900	2900	0.000	1

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

*Only field parameters are collected during the summer and fall sampling events.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

I = The sampling location yielded insufficient quantity to collect a sample.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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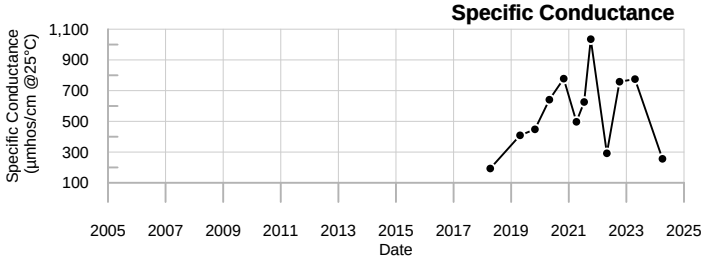
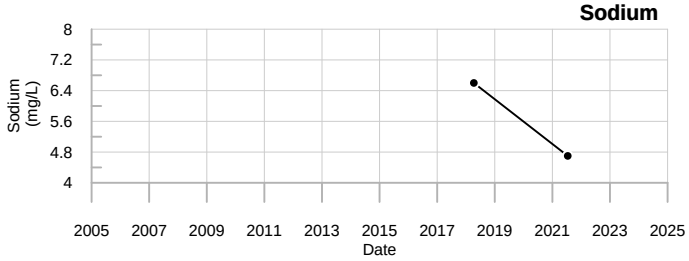
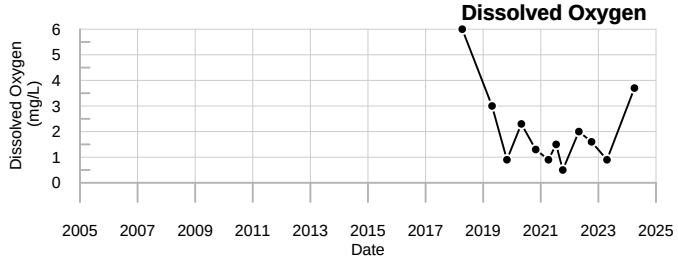
Specific Conductance



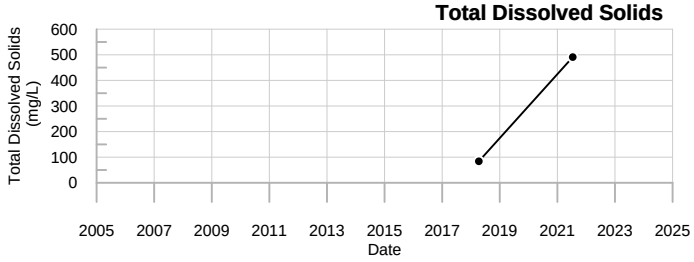
Sodium



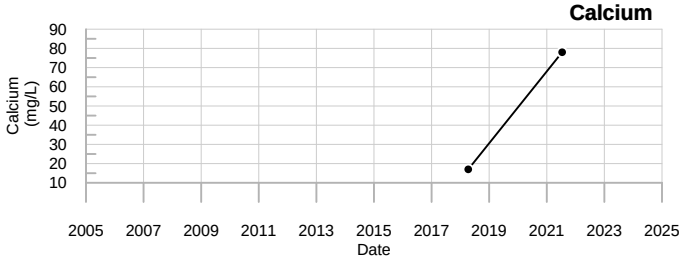
Dissolved Oxygen



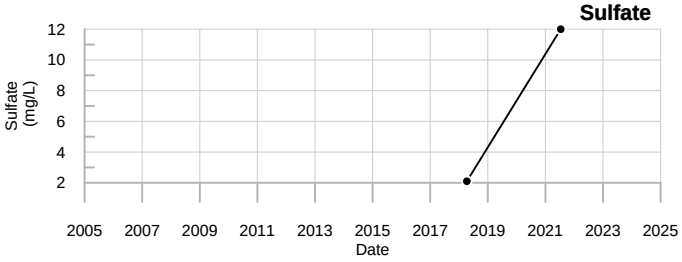
Total Dissolved Solids



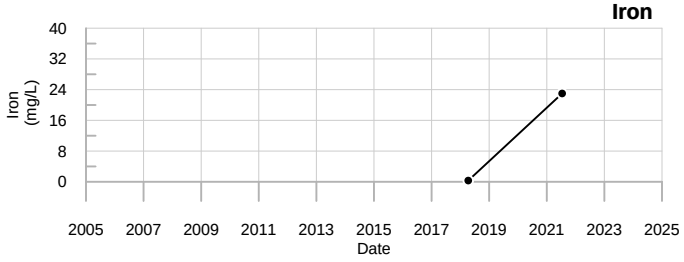
Calcium



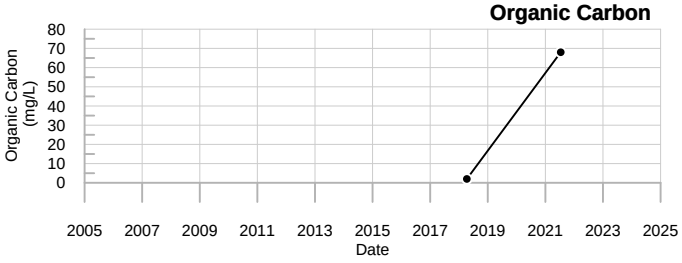
Sulfate



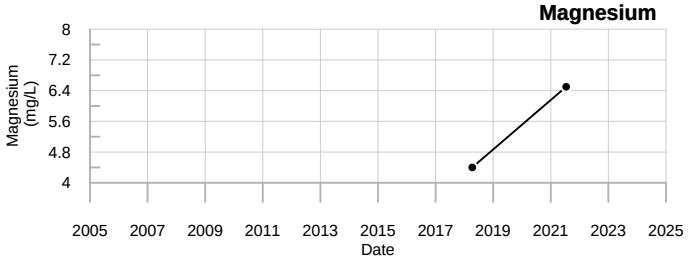
Iron



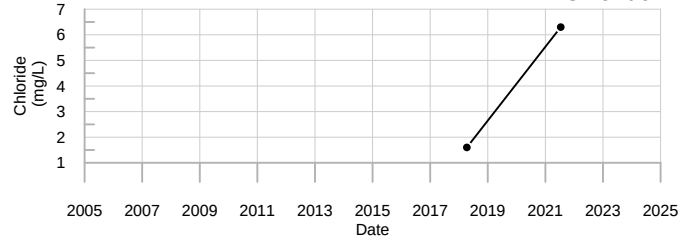
Organic Carbon



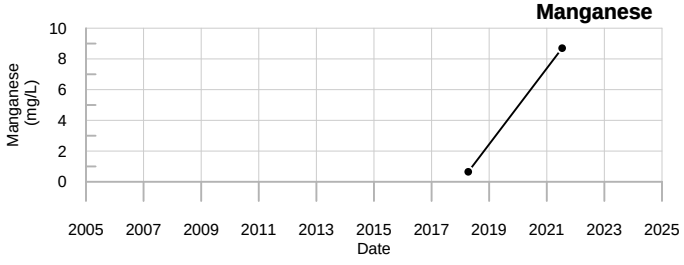
Magnesium



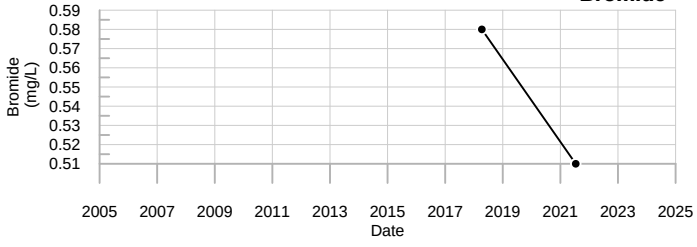
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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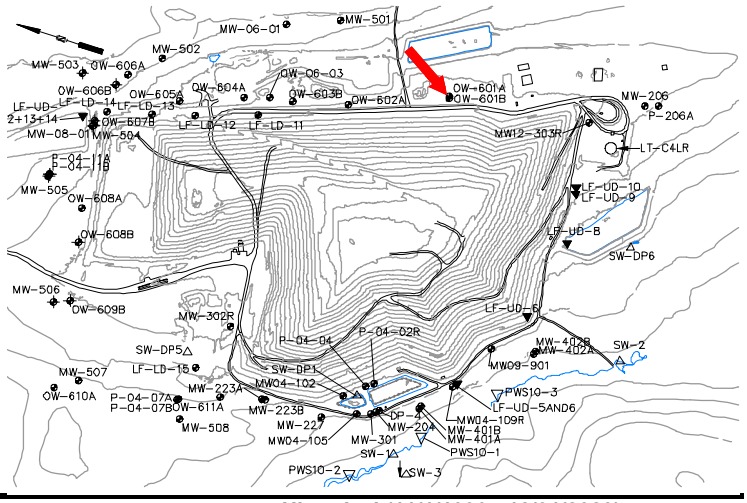
OW-06-03
Juniper Ridge Landfill

Well Description

OW-601A monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**88 ft. to 98 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-18**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓215	↓261	351	311	to 545	400	± 12.000	19
pH (STU)		7	6.9	6.5	5.9	to 7.7	7	± 0.093	19
Temperature (Deg C)		9.7	13.7	10.3	6.4	to 17.7	11	± 0.690	19
Water Level Depth (Feet)		37.15	38.35	40.7	35.6	to 42.6	39	± 0.490	19
Water Level Elevation (Feet)		180.79	179.59	177.24	175.34	to 182.34	180	± 0.490	19
Water Level Reference Point (Feet)		217.94	217.94	217.94	217.94	to 217.94	220	± 0.000	19
Eh (mV)		258	305	354	107	to 402	250	± 17.000	19
Dissolved Oxygen (mg/L)		↑8.9	5.9	1.9	0.9	to 7.9	2.7	± 0.410	19
Well Depth (Feet)				↑79.09	79.02	to 79.02	79	± 0.000	5
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005	± 0.000	10
Calcium (mg/L)			38		36	to 55	44	± 2.000	10
Copper (mg/L)			↑0.0096		0.003 U	to 0.004	0.0032	± 0.000	6
Iron (mg/L)			0.12		0.05 U	to 0.97	0.27	± 0.110	10
Magnesium (mg/L)			↓5.7		8.8	to 15	11	± 0.570	10
Manganese (mg/L)			0.05 U		0.05 U	to 0.29	0.14	± 0.029	10
Potassium (mg/L)			1.9		1.8	to 2.8	2.1	± 0.110	10
Sodium (mg/L)			15		6.6	to 25	13	± 1.900	10
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	3
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.86	0.31	± 0.069	9
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			0.26		0.18	to 0.62	0.37	± 0.052	9
Total Dissolved Solids (mg/L)			↓171		180	to 264	230	± 9.500	9
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 7100	820	± 780.000	9
Sulfate (mg/L)			12		2.1	to 25	9.8	± 2.200	9
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			120		120	to 170	140	± 8.700	7
Organic Carbon (mg/L)			1		1 U	to 42	6.2	± 4.500	9
Chloride (mg/L)			↓12		16	to 31	23	± 1.600	9
Bromide (mg/L)			↓0.1 U		0.13	to 1.1	0.28	± 0.100	9
Turbidity (field) (NTU)		0.7	10.5	1.2	0.6	to 1355	77	± 71.000	19
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	3

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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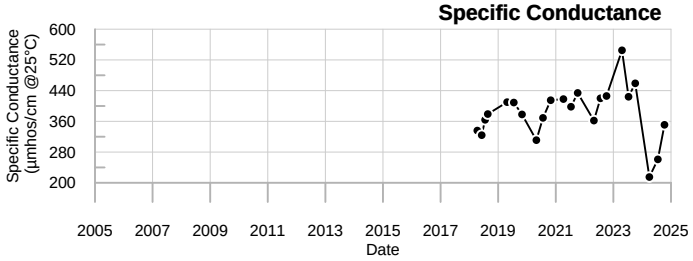
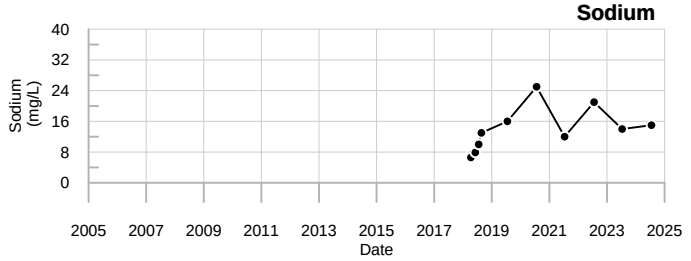
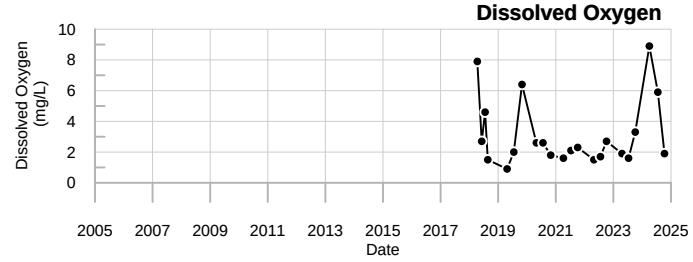
Specific Conductance



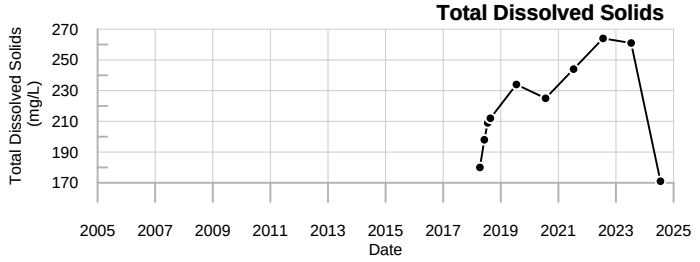
Sodium



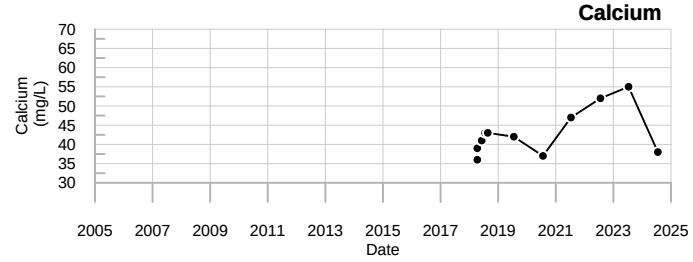
Dissolved Oxygen



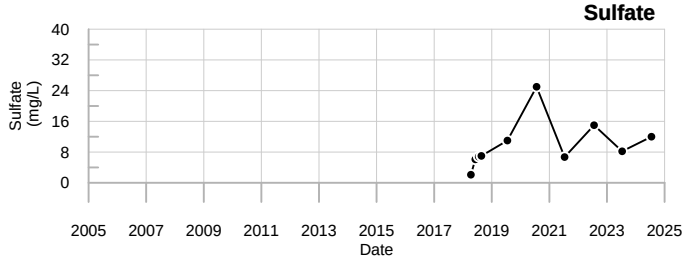
Total Dissolved Solids



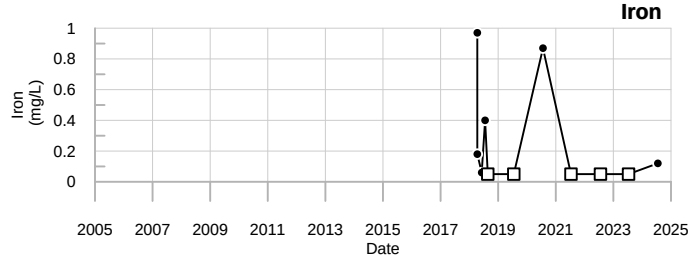
Calcium



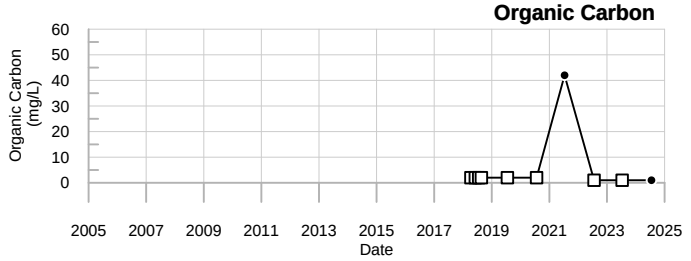
Sulfate



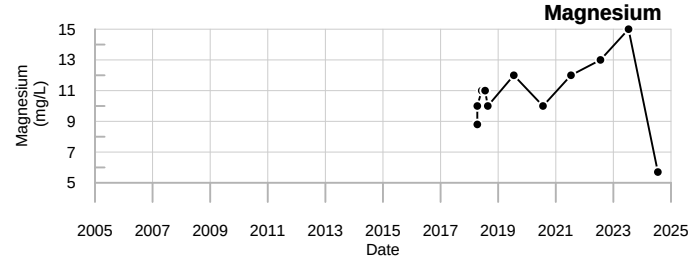
Iron



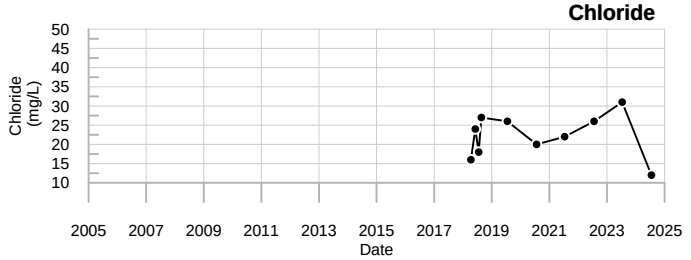
Organic Carbon



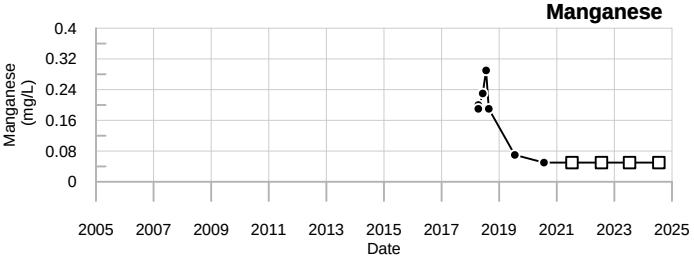
Magnesium



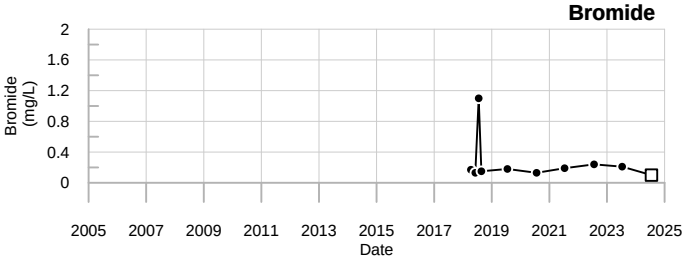
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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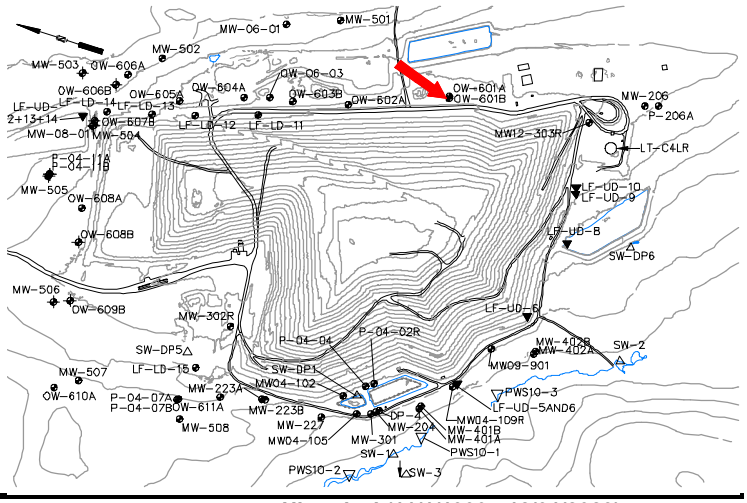
OW-601A
Juniper Ridge Landfill

OW-601B
Annual Stats

Well Description

OW-601B monitors overburden groundwater downgradient and east of the landfill expansion.



Screen Interval:	**51 ft. to 61 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-18**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		359	326	366	296	to 427	360	± 7.300	19
pH (STU)		6.3	6.1	5.9	5.9	to 6.8	6.3	± 0.057	19
Temperature (Deg C)		9.7	13.2	11.5	7.7	to 25	12	± 0.890	19
Water Level Depth (Feet)		37.1	38.25	40.65	35.55	to 42.55	39	± 0.480	19
Water Level Elevation (Feet)		180.4	179.25	176.85	174.95	to 181.95	180	± 0.480	19
Water Level Reference Point (Feet)		217.5	217.5	217.5	217.5	to 217.5	220	± 0.000	19
Eh (mV)		270	342	366	162	to 406	300	± 15.000	19
Dissolved Oxygen (mg/L)		2.3	2.2	3	1.4	to 5.5	3.2	± 0.230	19
Well Depth (Feet)				↑59.37	59.19	to 59.2	59	± 0.003	4
Arsenic (mg/L)			0.005 U		0.005 U	to 0.007	0.0053	± 0.000	9
Calcium (mg/L)			38		34	to 44	39	± 1.100	9
Copper (mg/L)			↑0.0033		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			0.05 U		0.05 U	to 0.74	0.21	± 0.074	9
Magnesium (mg/L)			12		11	to 14	13	± 0.290	9
Manganese (mg/L)			0.05 U		0.05 U	to 1	0.23	± 0.120	9
Potassium (mg/L)			1.3		1.2	to 2	1.6	± 0.100	9
Sodium (mg/L)			↑11		6.8	to 8.7	7.8	± 0.210	9
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	3
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.24	± 0.007	9
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			0.53		0.23	to 0.64	0.45	± 0.050	9
Total Dissolved Solids (mg/L)			206		184	to 277	230	± 9.900	9
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 16	5.8	± 1.600	9
Sulfate (mg/L)			2.3		2 U	to 10 U	3.5	± 0.840	9
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			110		88	to 120	110	± 4.400	7
Organic Carbon (mg/L)			1 U		1 U	to 55	7.7	± 5.900	9
Chloride (mg/L)			36		22	to 61	40	± 4.000	9
Bromide (mg/L)			0.2		0.16	to 0.5 U	0.25	± 0.033	9
Turbidity (field) (NTU)		1	2.2	↓0.1	0.6	to 7.6	3	± 0.450	19
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	3

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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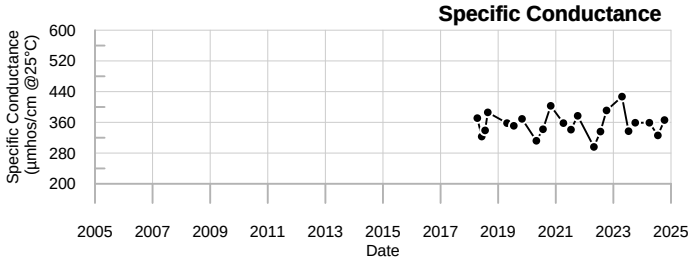

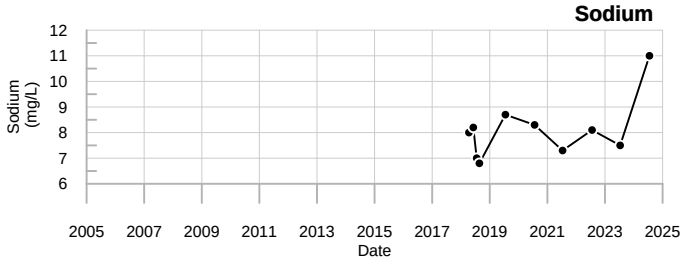

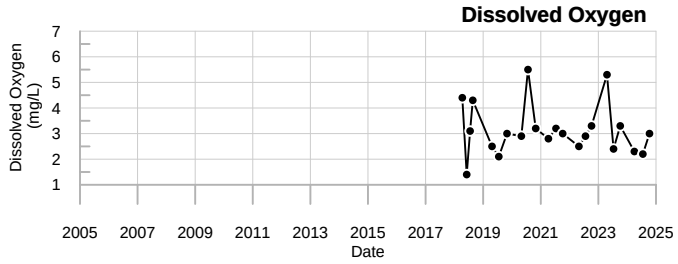

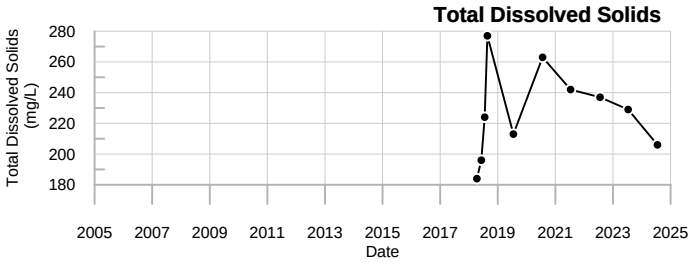

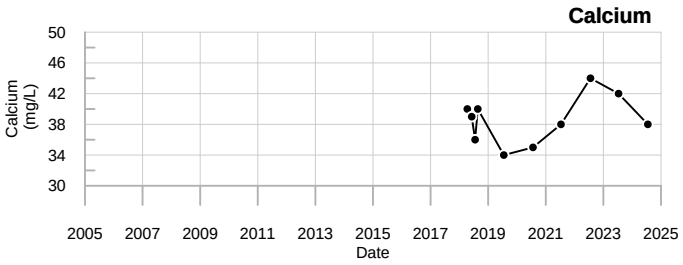

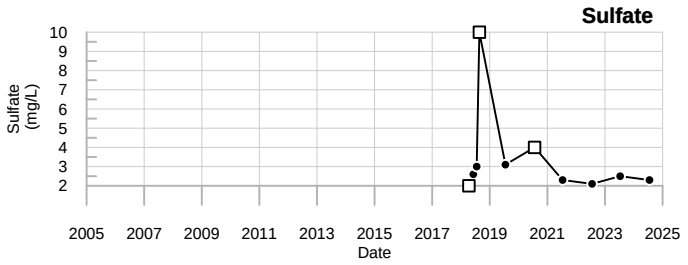

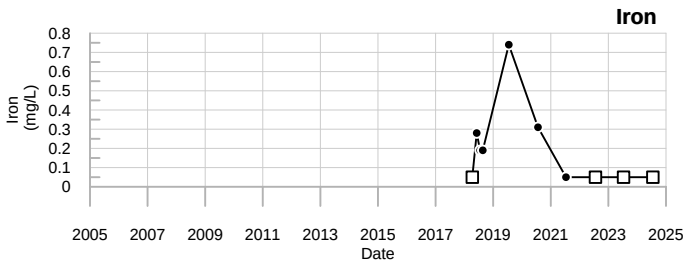

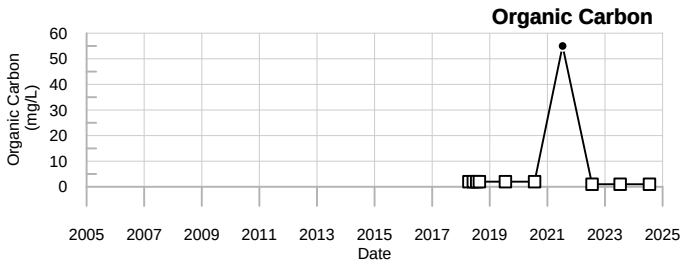

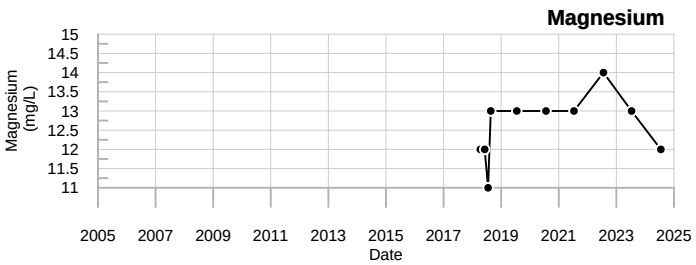

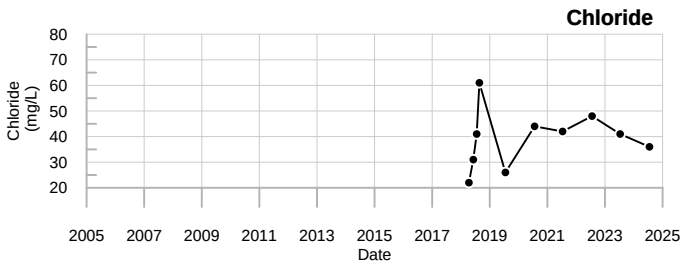

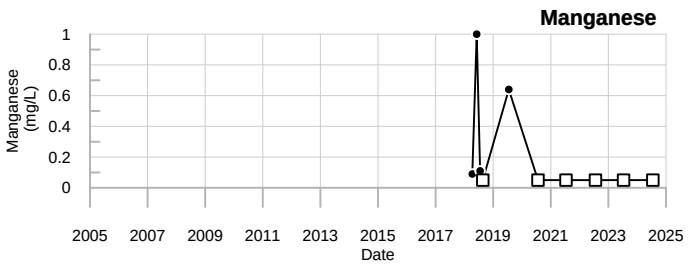

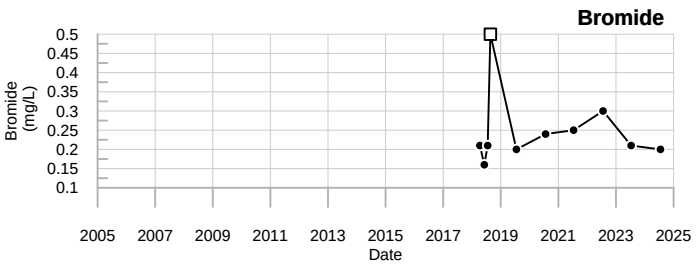

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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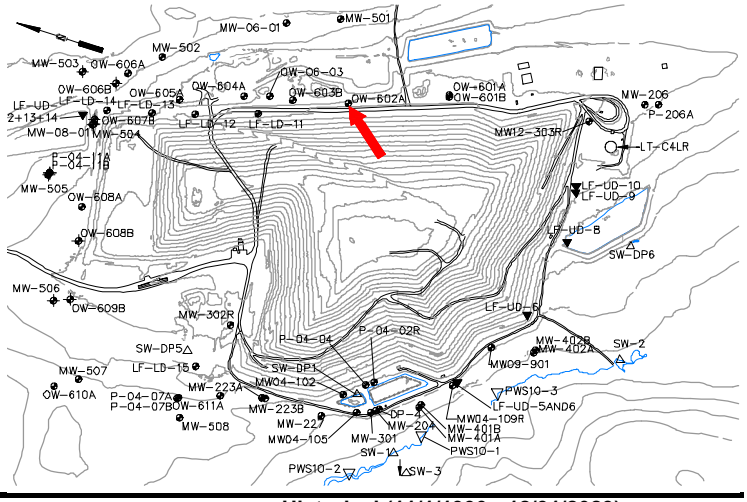
OW-601B
Juniper Ridge Landfill

Well Description

OW-602A monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**52 ft. to 62 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-18**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		397	387	363	93	to 436	230	± 25.000	19
pH (STU)		6.5	6.4	↓6.1	6.2	to 8.2	6.9	± 0.110	19
Temperature (Deg C)		9.6	12.7	9.6	5.2	to 17.5	9.5	± 0.590	19
Water Level Depth (Feet)		35.8	36.8	38.85	29.92	to 39.9	36	± 0.600	19
Water Level Elevation (Feet)		177.37	176.37	174.32	173.27	to 183.25	180	± 0.600	19
Water Level Reference Point (Feet)		213.17	213.17	213.17	213.17	to 213.17	210	± 0.000	19
Eh (mV)		212	333	363	108	to 467	280	± 20.000	19
Dissolved Oxygen (mg/L)		↓0.4	↓0.4	0.9	0.6	to 12.9	5.6	± 0.980	19
Well Depth (Feet)				239.4	239.4	to 240	240	± 0.120	5
Arsenic (mg/L)			0.005 U		0.005 U	to 0.008	0.0053	± 0.000	9
Calcium (mg/L)			↑56		13	to 52	26	± 5.200	9
Copper (mg/L)			↑0.0036		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			0.05 U		0.05 U	to 0.1	0.056	± 0.006	9
Magnesium (mg/L)			↑13		2.8	to 12	5.8	± 1.200	9
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	9
Potassium (mg/L)			0.93		0.4	to 1.3	0.6	± 0.095	9
Sodium (mg/L)			↑9.7		2.5	to 5.8	3.6	± 0.410	9
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	3
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.72	0.3	± 0.054	9
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			0.4		0.05 U	to 0.9	0.32	± 0.110	9
Total Dissolved Solids (mg/L)			↑231		59	to 221	130	± 20.000	9
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 2.5 U	2.5	± 0.000	9
Sulfate (mg/L)			↑5.9		2.4	to 4.6	3.6	± 0.270	9
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			170		44	to 170	86	± 20.000	7
Organic Carbon (mg/L)			1.1		1 U	to 36	5.6	± 3.800	9
Chloride (mg/L)			17		2.3	to 20	12	± 1.900	9
Bromide (mg/L)			0.33		0.1 U	to 0.33	0.15	± 0.029	9
Turbidity (field) (NTU)		0.8	2	↓0.1	0.5	to 3.7	1.5	± 0.190	19
Methane (ug/L)			↑140		20 U	to 130	64	± 34.000	3

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:25

SME
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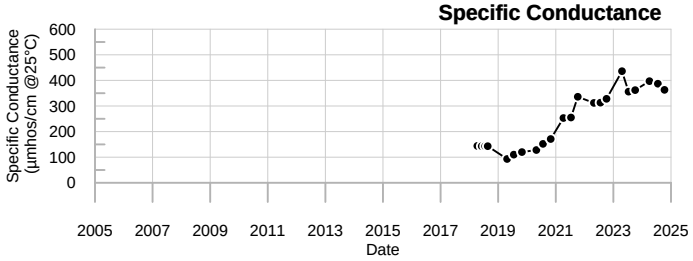
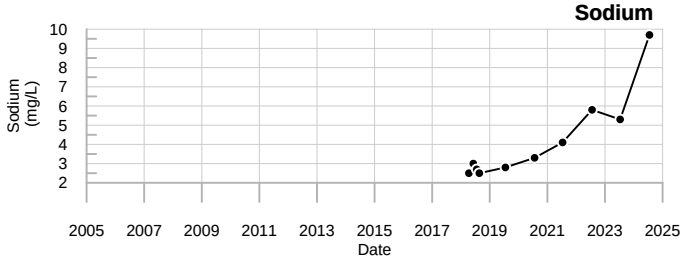
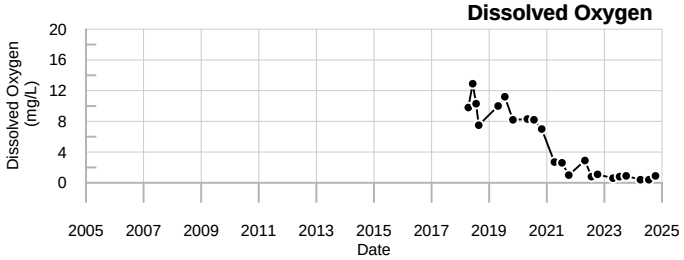
Specific Conductance



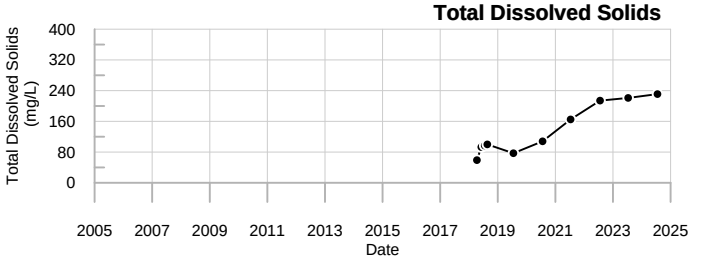
Sodium



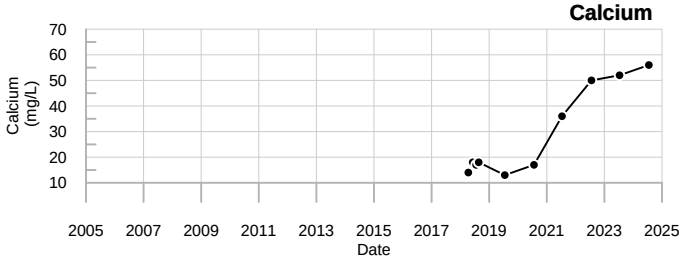
Dissolved Oxygen



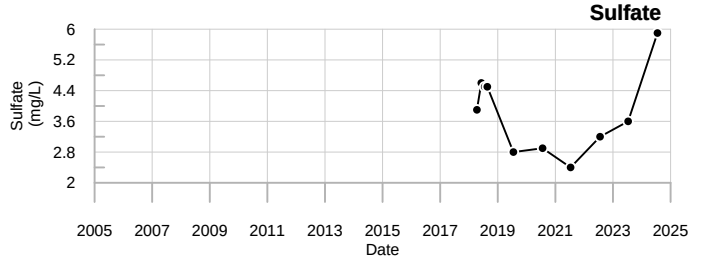
Total Dissolved Solids



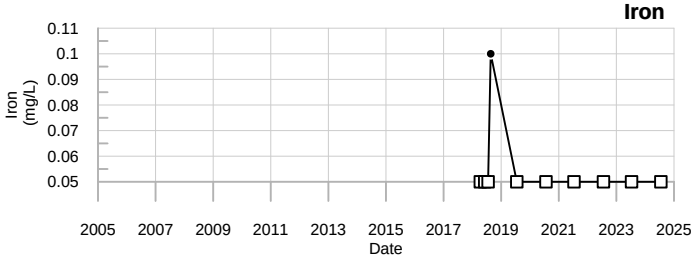
Calcium



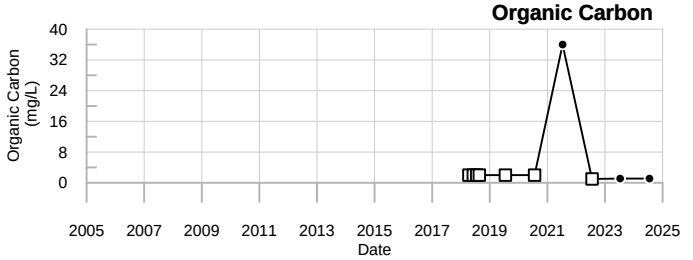
Sulfate



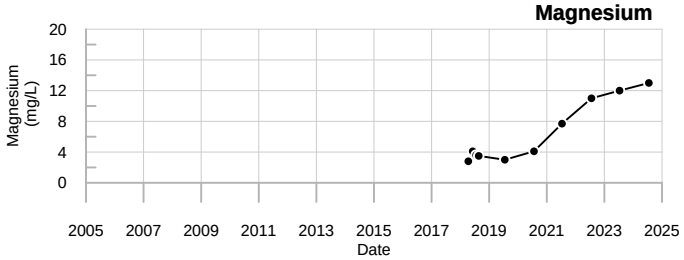
Iron



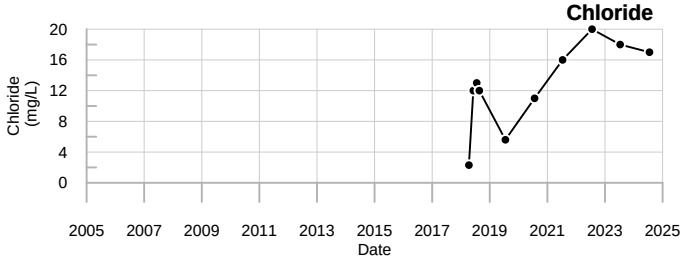
Organic Carbon



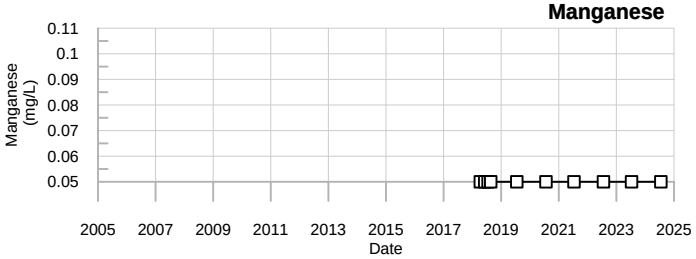
Magnesium



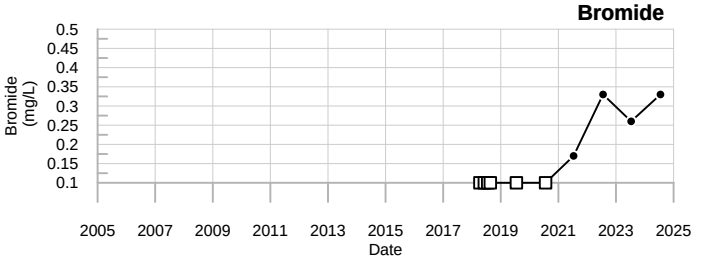
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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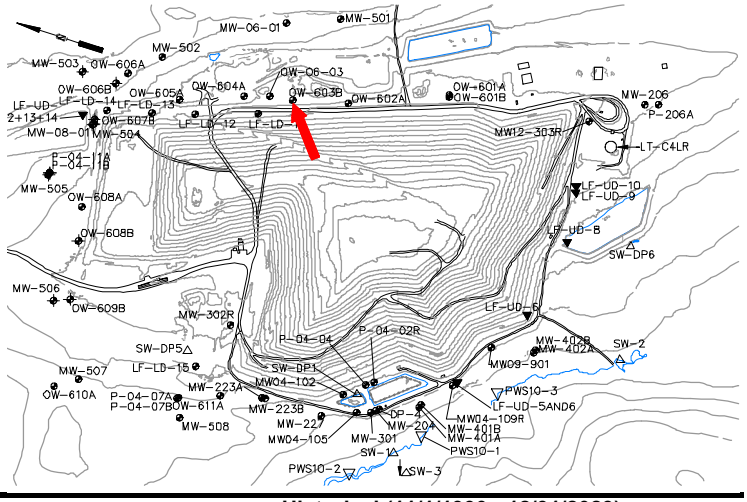
OW-602A
Juniper Ridge Landfill

Well Description

OW-603B monitors overburden groundwater downgradient and east of the landfill expansion.



Screen Interval: **34 ft. to 44 ft.**

Sampled: **3 Times Annually***

Sampled Since: **Apr-18**

Material Screened: **Overburden**

Well Condition: **Good**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		D	D	D	122	to 302	180	± 22.000	8
pH (STU)		D	D	D	5.7	to 7.1	6.3	± 0.150	8
Temperature (Deg C)		D	D	D	6.3	to 19.7	11	± 1.700	8
Water Level Depth (Feet)		D	D	D	20.44	to 28.75	26	± 0.710	13
Water Level Elevation (Feet)		D	D	D	179.32	to 187.63	180	± 0.710	13
Water Level Reference Point (Feet)		208.07	208.07	208.07	208.07	to 208.07	210	± 0.000	19
Eh (mV)		D	D	D	304	to 415	370	± 15.000	8
Dissolved Oxygen (mg/L)		D	D	D	0.1	to 7.5	3.9	± 1.100	8
Well Depth (Feet)				↓28.77	28.82	to 28.84	29	± 0.005	5
Arsenic (mg/L)		D	D		0.005 U	to 0.017	0.0075	± 0.002	6
Calcium (mg/L)		D	D		12	to 34	20	± 3.700	6
Copper (mg/L)		D	D		0.003 U	to 0.003 U	0.003	± 0.000	2
Iron (mg/L)		D	D		0.05	to 19	3.5	± 3.100	6
Magnesium (mg/L)		D	D		4.5	to 11	6.9	± 1.100	6
Manganese (mg/L)		D	D		0.11	to 0.93	0.42	± 0.140	6
Potassium (mg/L)		D	D		1	to 3.7	1.7	± 0.400	6
Sodium (mg/L)		D	D		3.9	to 8.5	5.5	± 0.680	6
Boron (mg/L)		D	D		No historical data for Boron.				
Total Kjeldahl Nitrogen (mg/L)		D	D		0.25 U	to 11	2.6	± 2.100	5
Ammonia (N) (mg/L)		D	D		0.5 U	to 0.5 U	0.5	± 0.000	2
Nitrite/Nitrate - (N) (mg/L)		D	D		0.054	to 0.28	0.12	± 0.040	5
Total Dissolved Solids (mg/L)		D	D		99	to 161	120	± 12.000	5
Total Suspended Solids (mg/L)		D	D		2.5 U	to 1500	310	± 300.000	5
Sulfate (mg/L)		D	D		2.1	to 2.9	2.4	± 0.140	5
Sulfide (mg/L)		D	D		0.1 U	to 0.1 U	0.1	± 0.000	2
Alkalinity (CaCO3) (mg/L)		D	D		58	to 120	83	± 14.000	4
Organic Carbon (mg/L)		D	D		2 U	to 4	2.4	± 0.400	5
Chloride (mg/L)		D	D		1.2	to 2.5	1.9	± 0.220	5
Bromide (mg/L)		D	D		0.1 U	to 1.1	0.33	± 0.190	5
Turbidity (field) (NTU)		D	D	D	2.2	to 430	66	± 52.000	8
Methane (ug/L)		D	D		No historical data for Methane.				

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

D = The sampling location was dry.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

SME
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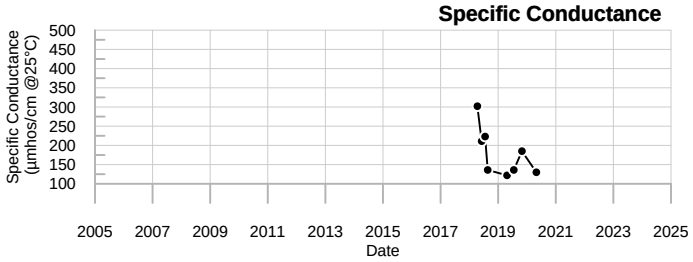
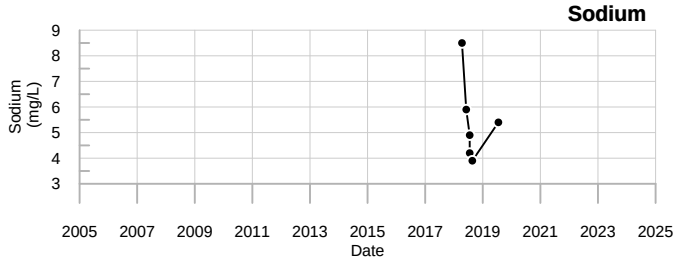
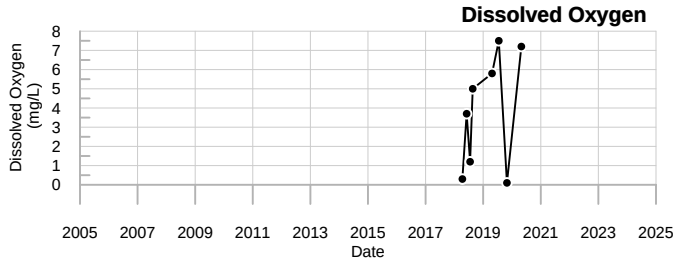
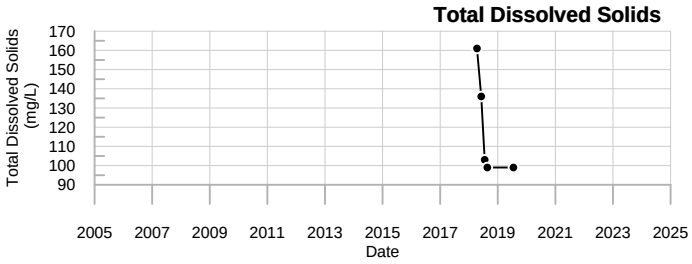
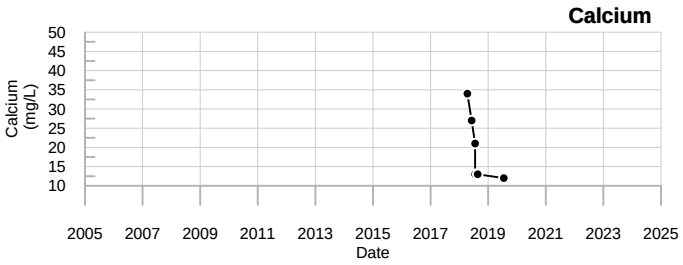
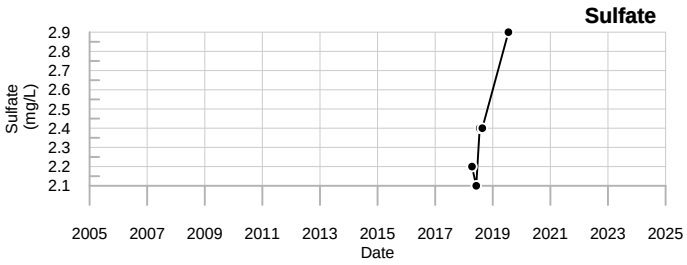


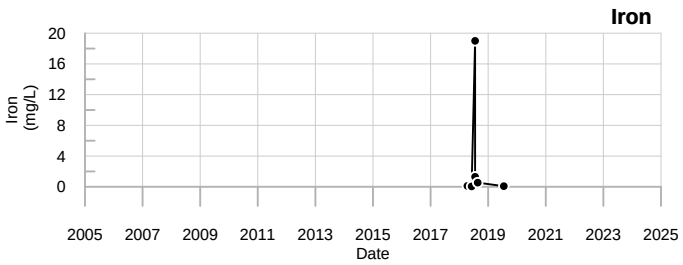


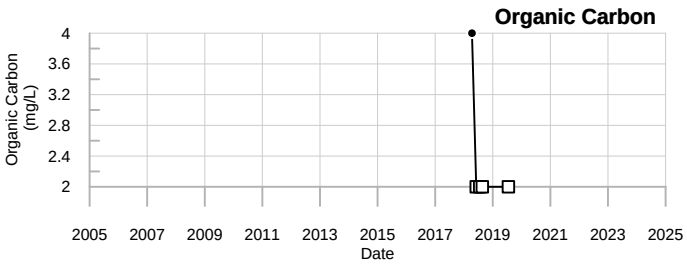


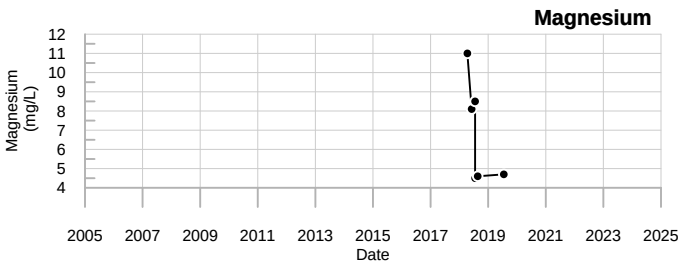


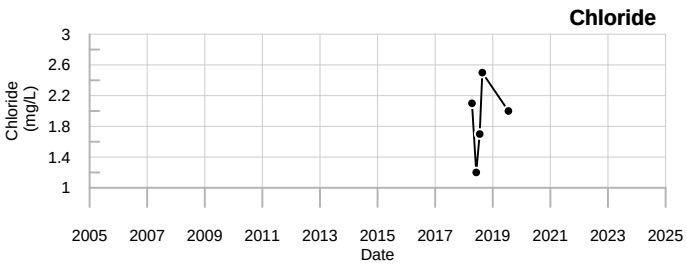


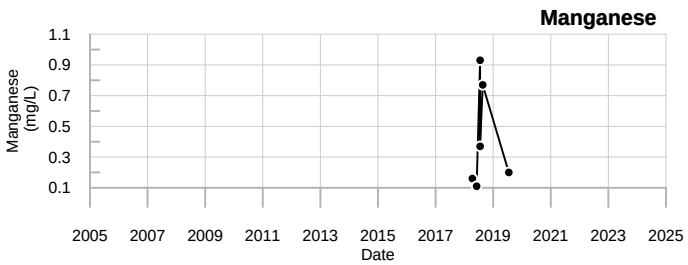


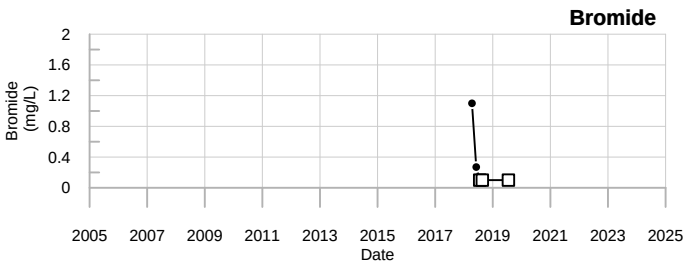












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

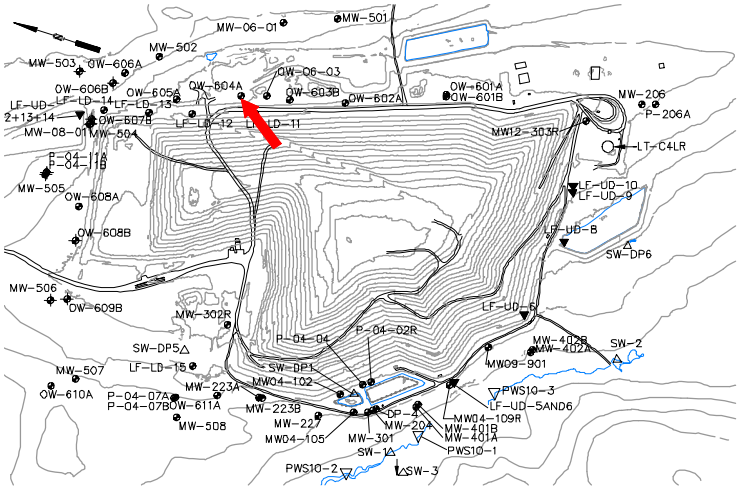
SME
SEVEE & MAHER
ENGINEERS

OW-603B
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-604A monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**39 ft. to 49 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-18**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		356	379	369	78	to 411	200	± 22.000	19
pH (STU)		6.3	6.2	5.9	5.9	to 7.8	6.4	± 0.100	19
Temperature (Deg C)		9.4	16.3	10.2	6.2	to 16.9	12	± 0.890	19
Water Level Depth (Feet)		21.4	22.55	25.35	14.3	to 25.9	22	± 0.680	19
Water Level Elevation (Feet)		177.4	176.25	173.45	172.9	to 184.5	180	± 0.680	19
Water Level Reference Point (Feet)		198.8	198.8	198.8	198.8	to 198.8	200	± 0.000	19
Eh (mV)		231	345	376	208	to 548	330	± 20.000	19
Dissolved Oxygen (mg/L)		3.9	2.7	4.4	0.1 U	to 7.5	4.3	± 0.420	19
Well Depth (Feet)				36.7	33.71	to 36.8	35	± 0.740	5
Arsenic (mg/L)			0.005 U		0.005 U	to 0.007	0.0052	± 0.000	9
Calcium (mg/L)			↑49		8.9	to 48	20	± 4.600	9
Copper (mg/L)			↑0.0042		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			↑0.076		0.05 U	to 0.05	0.05	± 0.000	9
Magnesium (mg/L)			↑12		2.3	to 9	4.9	± 0.880	9
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	9
Potassium (mg/L)			1.1		0.5	to 3.1	0.91	± 0.280	9
Sodium (mg/L)			↑10		2.7	to 9.8	4.6	± 0.730	9
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	3
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.62	0.32	± 0.048	9
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			3.6		0.16	to 4	1.3	± 0.490	9
Total Dissolved Solids (mg/L)			↑247		62	to 216	120	± 19.000	9
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 3	2.6	± 0.056	9
Sulfate (mg/L)			2.8		2.4	to 6.9	3.2	± 0.480	9
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			130		36	to 140	72	± 15.000	7
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.9	± 0.110	9
Chloride (mg/L)			↑39		1.1	to 12	4.6	± 1.400	9
Bromide (mg/L)			0.1 U		0.1 U	to 0.12	0.1	± 0.002	9
Turbidity (field) (NTU)		1.6	1.8	↓0.4	0.7	to 10.9	2.8	± 0.540	19
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	3

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

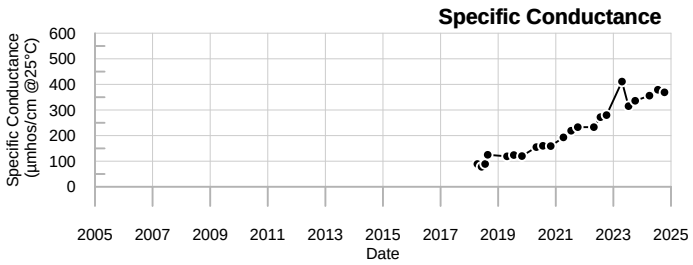
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

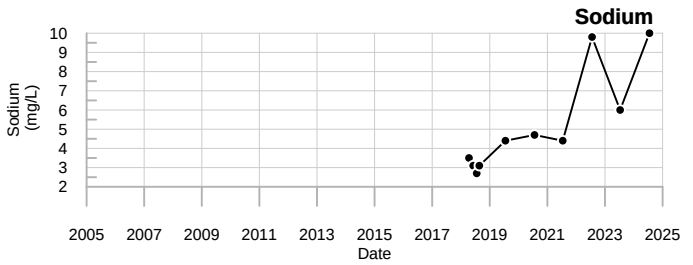
U = Not Detected above the laboratory reporting limit.

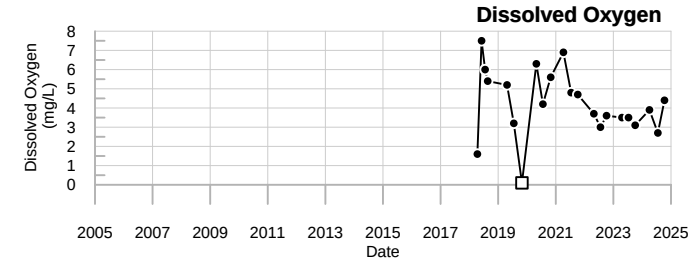
		Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

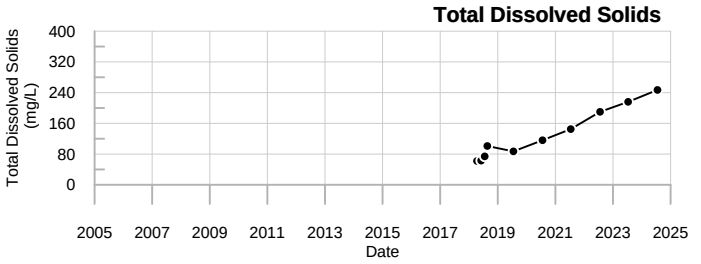
Data Group: 245
Printed: 4/16/2025 11:26

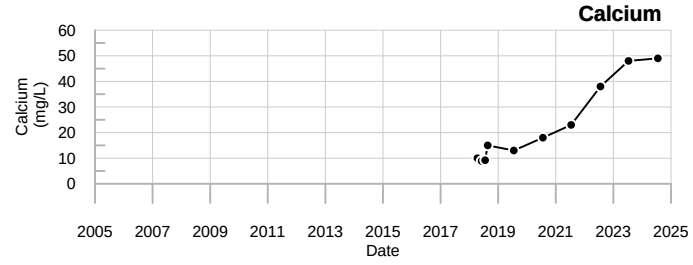
SME
SEVEE & MAHER ENGINEERS

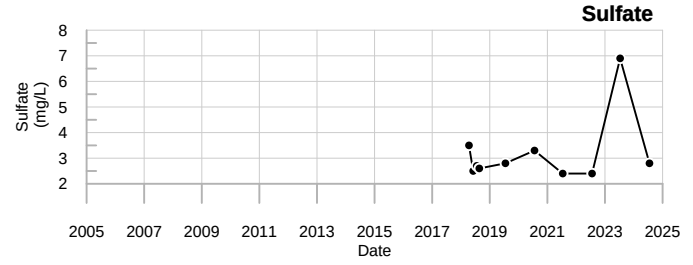


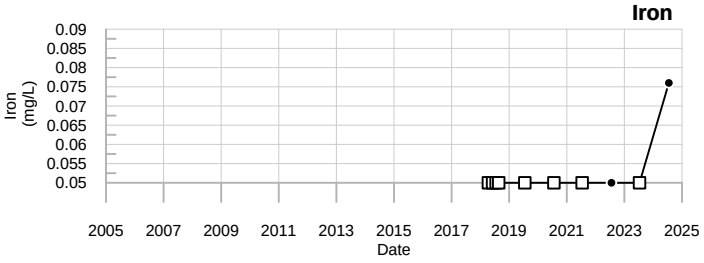


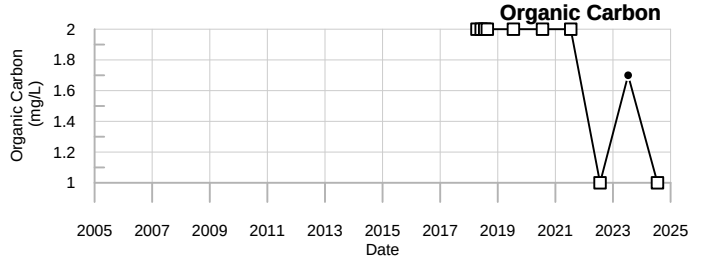


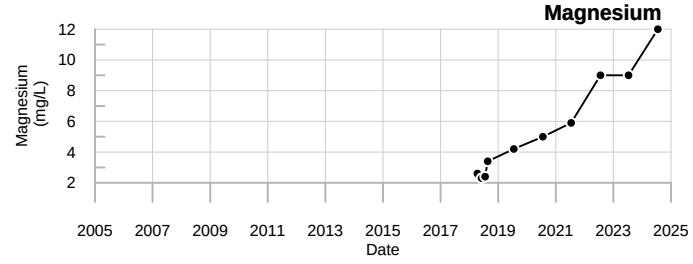


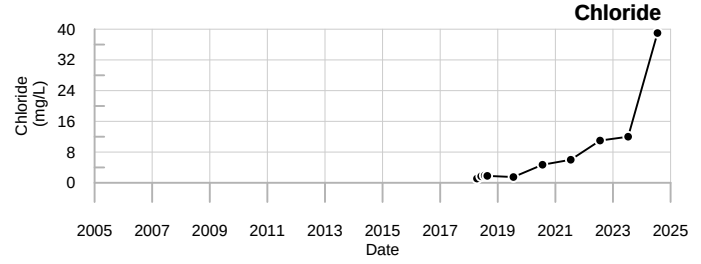


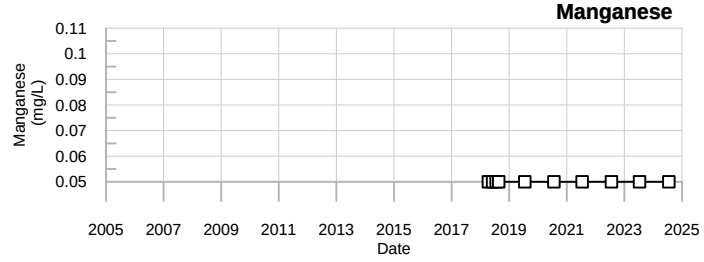


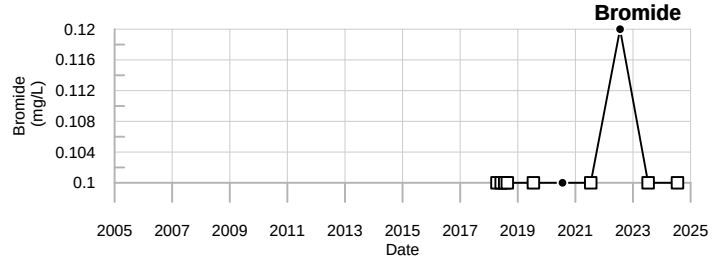












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

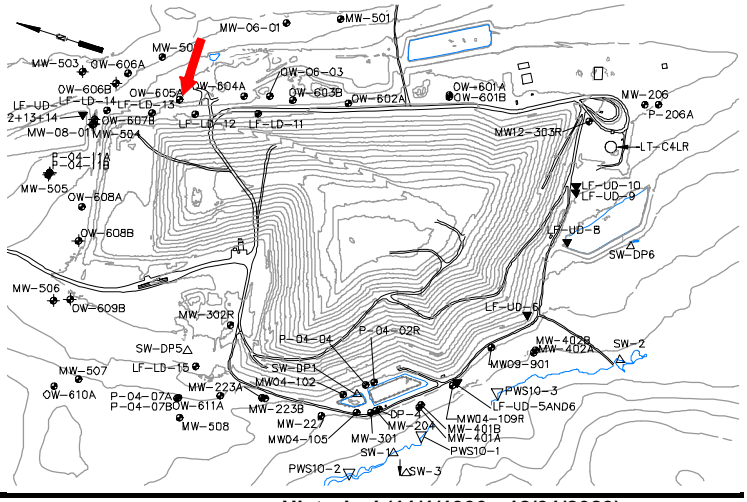
SME
SEVEE & MAHER ENGINEERS

OW-604A
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-605A monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**60 ft. to 260 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-2018**
Material Screened:	**Bedrock (Open Borehole)**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		102	262	261	83	to 272	190	± 17.000	12
pH (STU)		7.7	6.6	6.9	6.4	to 7.7	7.1	± 0.120	12
Temperature (Deg C)		11.1	14.2	11	7.5	to 15.2	11	± 0.770	12
Water Level Depth (Feet)		↓20.6	21.47	21.9	20.65	to 25.25	23	± 0.460	12
Water Level Elevation (Feet)		↑166.16	165.29	164.86	161.51	to 166.11	160	± 0.460	12
Water Level Reference Point (Feet)		186.76	186.76	186.76	186.76	to 186.76	190	± 0.000	12
Eh (mV)		↑399	358	333	203	to 397	290	± 19.000	12
Dissolved Oxygen (mg/L)		2.7	3	5.3	1.2	to 7.5	3.7	± 0.760	12
Well Depth (Feet)				160.45	155	to 260	190	± 35.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005	± 0.000	8
Calcium (mg/L)			36		17	to 39	26	± 3.500	8
Copper (mg/L)			0.003 U		0.003 U	to 0.015	0.005	± 0.002	6
Iron (mg/L)			7.6		0.1	to 8.9	1.5	± 1.100	8
Magnesium (mg/L)			7.9		3.8	to 9.1	6.1	± 0.790	8
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	8
Potassium (mg/L)			0.81		0.4	to 0.89	0.56	± 0.059	8
Sodium (mg/L)			↑9.2		3.4	to 6.3	4.8	± 0.430	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.23	± 0.009	8
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	6
Nitrite/Nitrate - (N) (mg/L)			↓0.05 U		0.086	to 0.23	0.14	± 0.019	8
Total Dissolved Solids (mg/L)			167		61	to 179	120	± 13.000	8
Total Suspended Solids (mg/L)			14		2.5 U	to 35	7.4	± 4.000	8
Sulfate (mg/L)			2 U		2 U	to 3.4	2.6	± 0.210	8
Sulfide (mg/L)			↑0.5 U		0.1 U	to 0.1 U	0.1	± 0.000	6
Alkalinity (CaCO3) (mg/L)			110		27	to 120	70	± 11.000	8
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.8	± 0.160	8
Chloride (mg/L)			↑17		9.4	to 16	12	± 0.740	8
Bromide (mg/L)			0.1		0.1 U	to 0.13	0.1	± 0.004	8
Turbidity (field) (NTU)		2.1	1.2	0.4	0.2	to 8.9	3.1	± 0.960	12
Methane (ug/L)			↓5.2 U		20 U	to 430	120	± 100.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

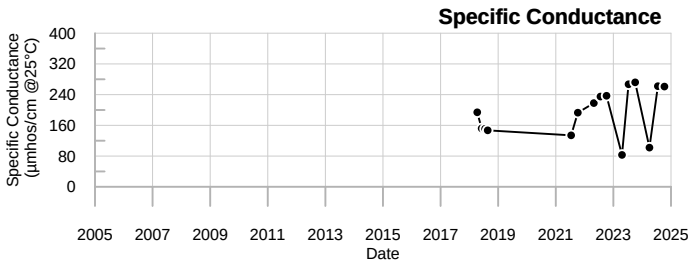
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

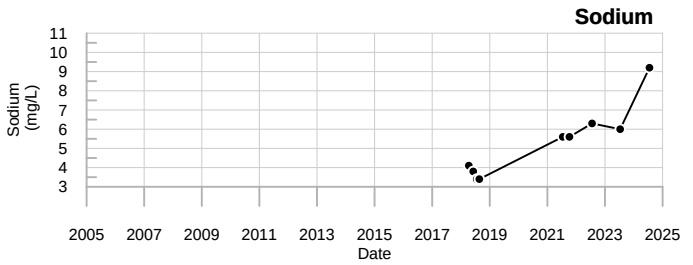
U = Not Detected above the laboratory reporting limit.

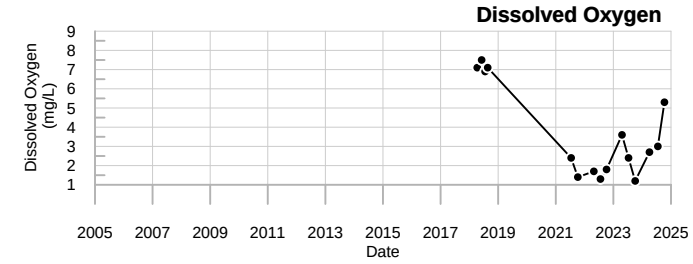
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

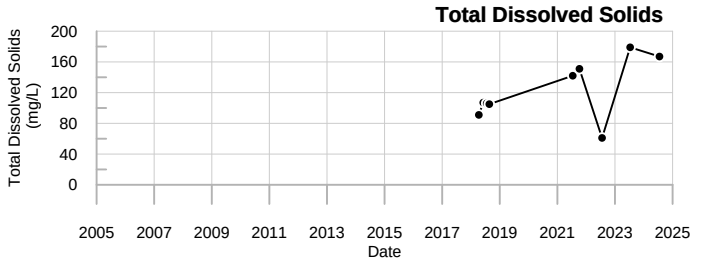
Data Group: 245
Printed: 4/16/2025 11:26

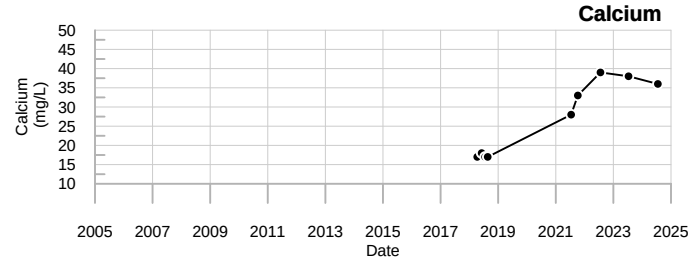
SME
SEVEE & MAHER ENGINEERS

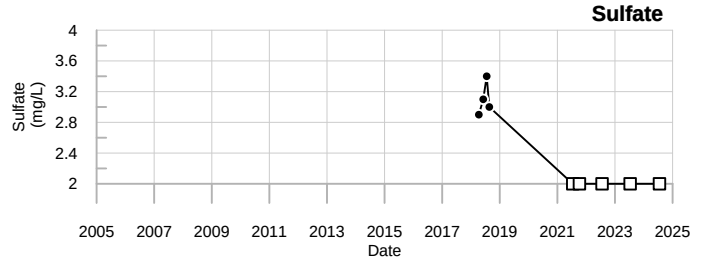


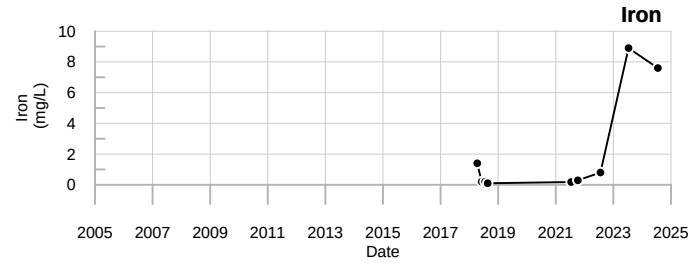


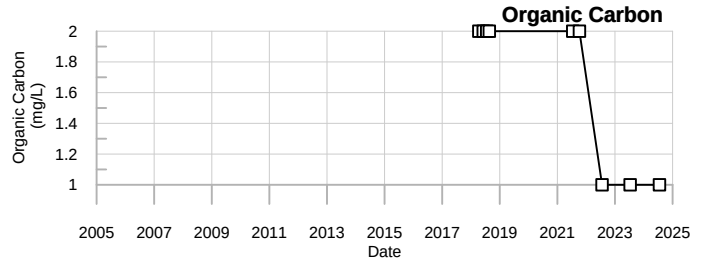


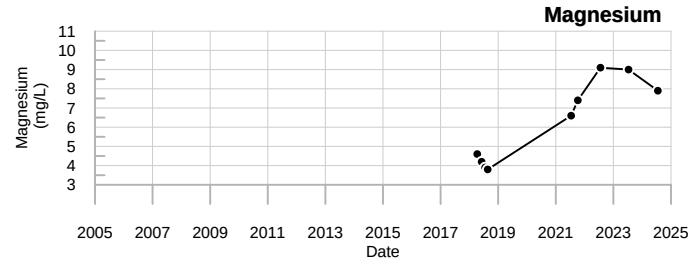


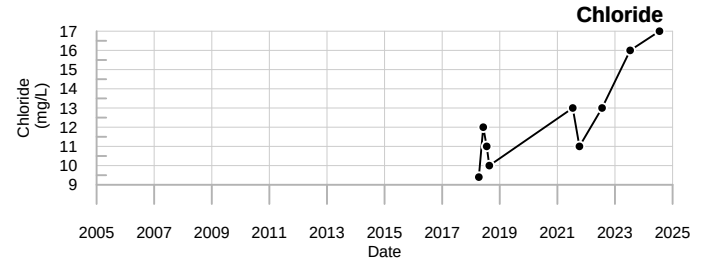


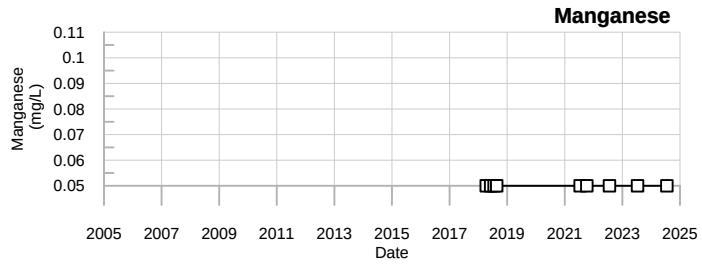


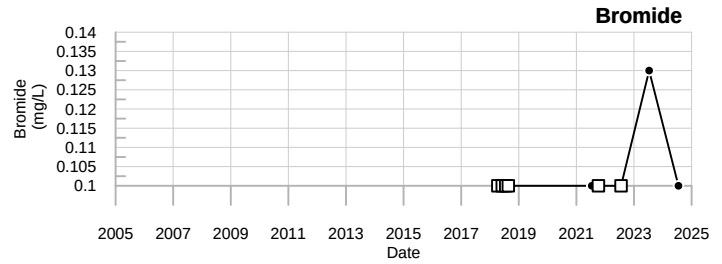












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

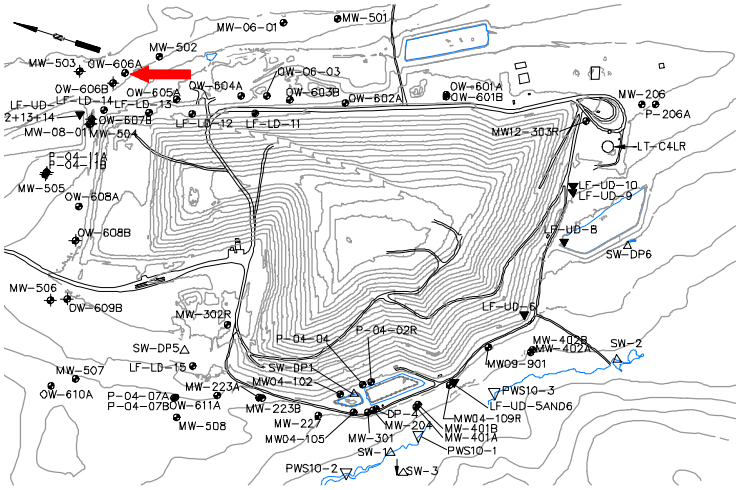
SME
SEVEE & MAHER ENGINEERS

OW-605A
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-606A monitors bedrock groundwater downgradient and east of the landfill expansion.



Screen Interval:	**40 ft. to 240 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-2018**
Material Screened:	**Bedrock (Open Borehole)**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		371	385	346	167	to 427	320	± 18.000	12
pH (STU)		8	7.8	7.6	7.4	to 8.4	7.8	± 0.088	12
Temperature (Deg C)		9.1	8.2	12	5.5	to 13	9.8	± 0.640	12
Water Level Depth (Feet)		F1	F1	↓0.04	3.95	to 3.95	4	± 0.000	1
Water Level Elevation (Feet)				↑159.58	155.67	to 155.67	160	± 0.000	1
Water Level Reference Point (Feet)		159.62	159.62	159.62	159.62	to 159.62	160	± 0.000	4
Eh (mV)		398	329	439	248	to 485	350	± 24.000	12
Dissolved Oxygen (mg/L)		6.2	5.1	4.6	2.6	to 8.3	4.1	± 0.420	12
Well Depth (Feet)				200 >	200	to 240	210	± 13.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005	0.005	± 0.000	8
Calcium (mg/L)			↑48		38	to 47	43	± 1.200	8
Copper (mg/L)			↑0.0071		0.003 U	to 0.003 U	0.003	± 0.000	6
Iron (mg/L)			0.05 U		0.05 U	to 3.5	0.56	± 0.420	8
Magnesium (mg/L)			11		8.4	to 11	9.5	± 0.370	8
Manganese (mg/L)			0.05 U		0.05 U	to 0.11	0.06	± 0.008	8
Potassium (mg/L)			1.3		1	to 1.6	1.2	± 0.068	8
Sodium (mg/L)			9.7		8.3	to 10	9.1	± 0.230	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.3	0.24	± 0.011	8
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	6
Nitrite/Nitrate - (N) (mg/L)			↓0.25		0.26	to 0.49	0.35	± 0.030	8
Total Dissolved Solids (mg/L)			↑235		195	to 234	220	± 5.800	8
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 16	4.2	± 1.700	8
Sulfate (mg/L)			7.7		7.6	to 36	12	± 3.500	8
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	6
Alkalinity (CaCO3) (mg/L)			↑150		91	to 130	100	± 4.700	8
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.8	± 0.160	8
Chloride (mg/L)			35		35	to 44	39	± 1.300	8
Bromide (mg/L)			↑0.2		0.1 U	to 0.16	0.11	± 0.008	8
Turbidity (field) (NTU)		0.2	↓0.1	0.2	0.2	to 3.1	0.89	± 0.270	12
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

F1 = Well was flowing

> = Greater than specified amount.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

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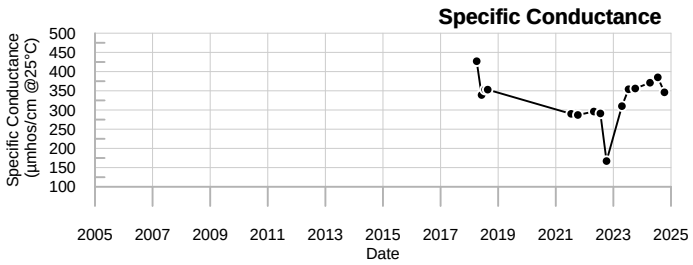
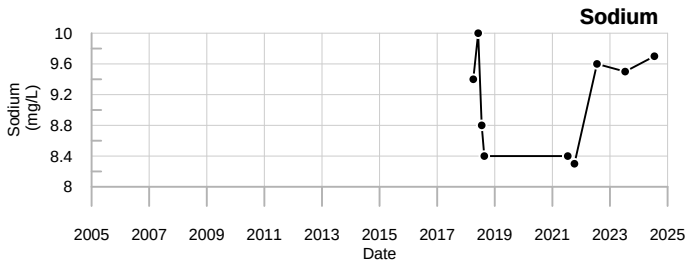
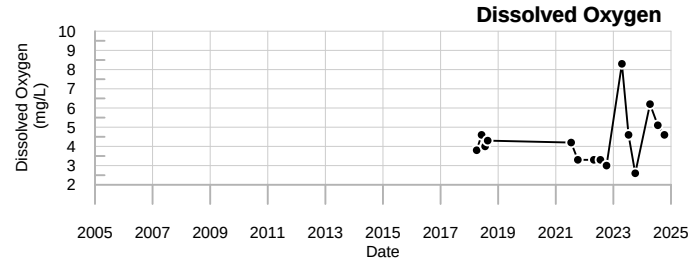
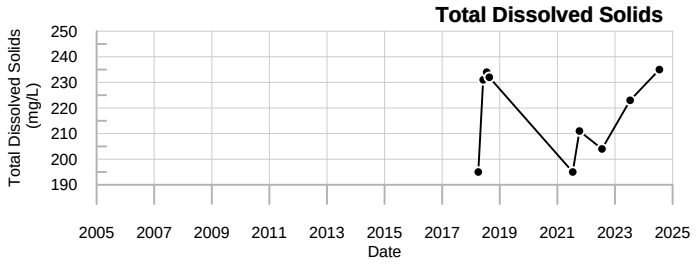
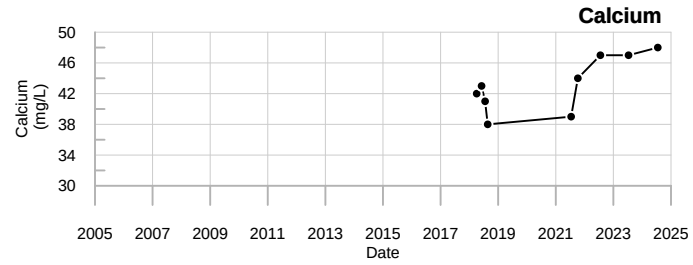
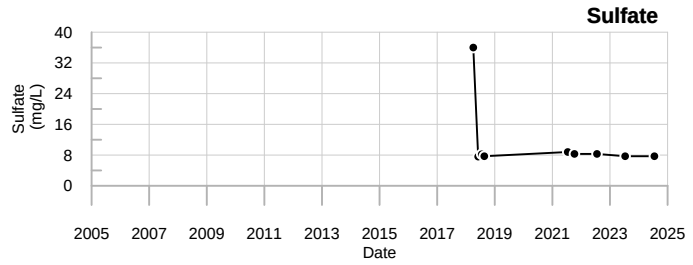


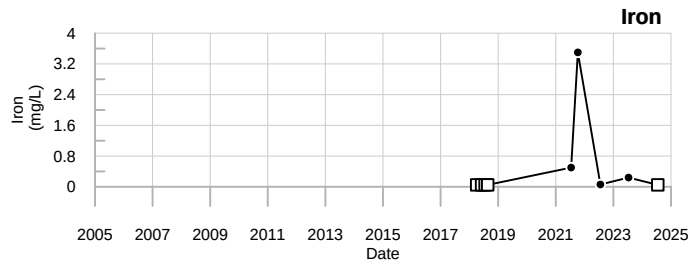


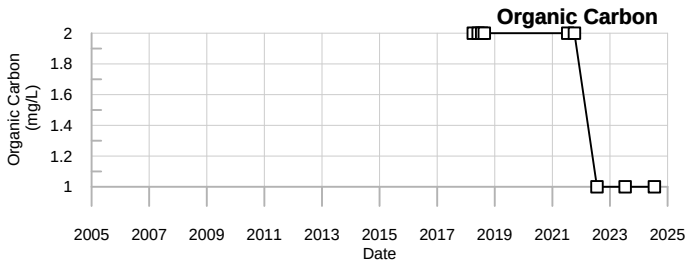


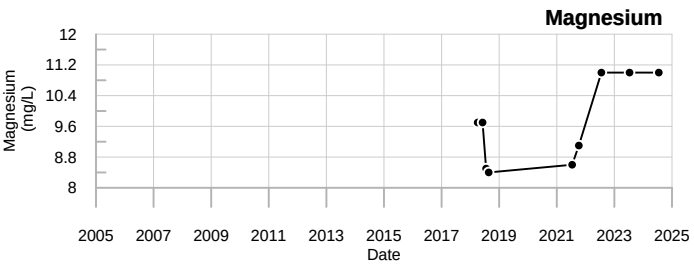


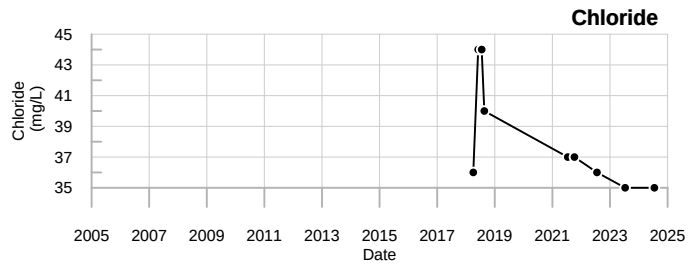


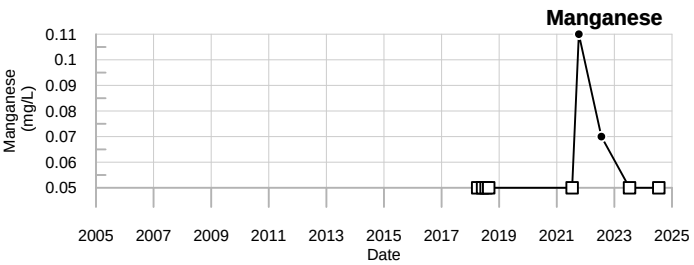


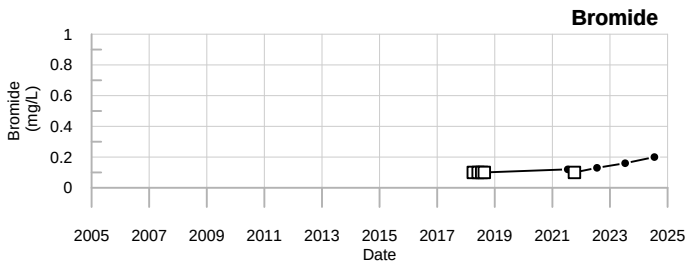












LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

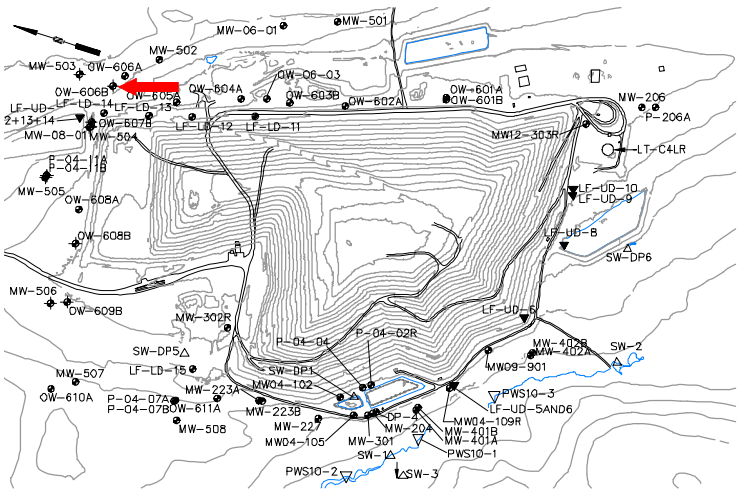
OW-606A
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-606B monitors overburden/bedrock groundwater downgradient of and northwest of the landfill expansion.

Screen Interval:	**7 ft. to 12.7 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**2/9/2021**
Material Screened:	**Overburden/Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		174	183	183	151	to 291	190	± 14.000	11
pH (STU)		↑8	7.6	7.1	6.9	to 7.8	7.4	± 0.091	11
Temperature (Deg C)		↓4.6	15.9	12.6	5.5	to 17.1	11	± 1.000	11
Water Level Depth (Feet)		3.55	3.82	3.78	3.03	to 4.29	3.5	± 0.130	11
Water Level Elevation (Feet)		162.326	162.056	162.096	161.586	to 162.846	160	± 0.130	11
Water Level Reference Point (Feet)		165.876	165.876	165.876	165.876	to 165.876	170	± 0.000	12
Eh (mV)		401	334	441	162	to 476	340	± 26.000	11
Dissolved Oxygen (mg/L)		5.8	9.6	4.3	1.2	to 10.8	3.9	± 0.770	11
Well Depth (Feet)				17	17	to 17	17	± 0.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	7
Calcium (mg/L)			21		19	to 28	23	± 1.000	7
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	7
Iron (mg/L)			0.15		0.09	to 1.4	0.45	± 0.180	7
Magnesium (mg/L)			4.4		4.2	to 5.7	4.9	± 0.190	7
Manganese (mg/L)			0.05 U		0.05 U	to 0.58	0.13	± 0.076	7
Potassium (mg/L)			↓1.1		1.2	to 2.1	1.6	± 0.100	7
Sodium (mg/L)			↓4.3		4.7	to 21	8	± 2.200	7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	7
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.33	0.24	± 0.018	7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	7
Nitrite/Nitrate - (N) (mg/L)			0.053		0.05 U	to 0.12	0.097	± 0.010	7
Total Dissolved Solids (mg/L)			123		114	to 286	160	± 23.000	7
Total Suspended Solids (mg/L)			8.3 U		6.3	to 880	160	± 120.000	7
Sulfate (mg/L)			↓4.3		4.5	to 33	9.9	± 3.900	7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.5 U	0.17	± 0.057	7
Alkalinity (CaCO3) (mg/L)			67		60	to 120	74	± 7.900	7
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.7	± 0.180	7
Chloride (mg/L)			15		12	to 18	15	± 0.670	7
Bromide (mg/L)			0.1 U		0.1 U	to 0.12	0.11	± 0.003	7
Turbidity (field) (NTU)		0.5	0.4	0.4	0.3	to 9.2	2.1	± 0.950	11
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	7

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

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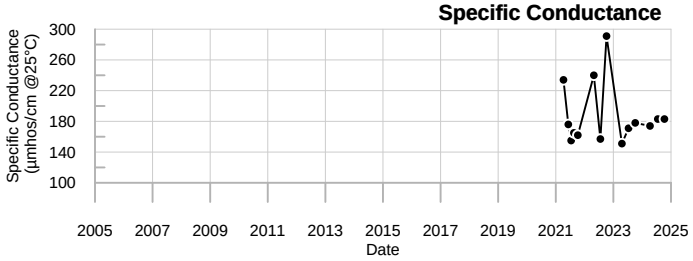
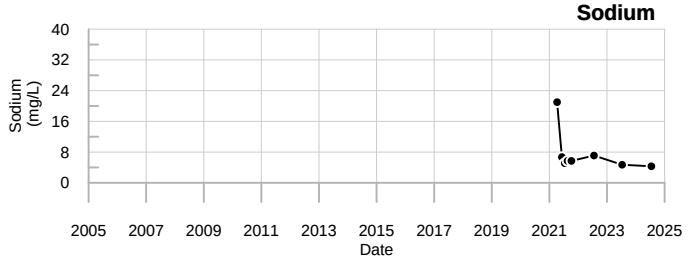
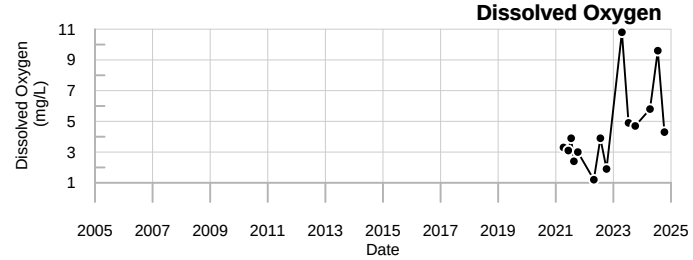
Specific Conductance



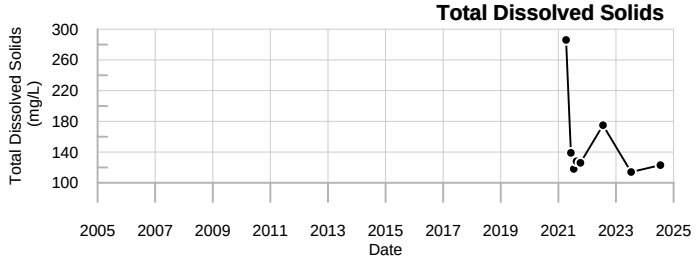
Sodium



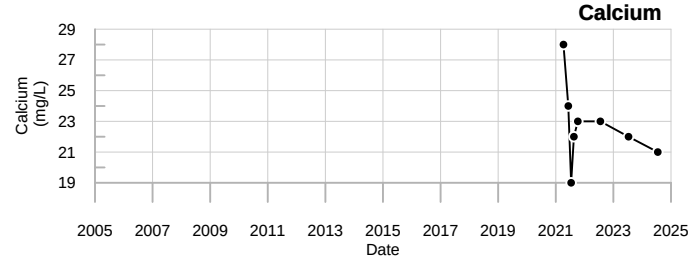
Dissolved Oxygen



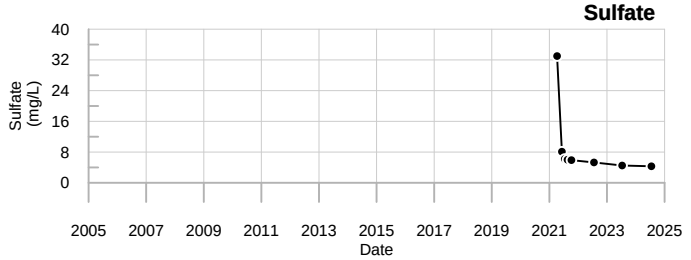
Total Dissolved Solids



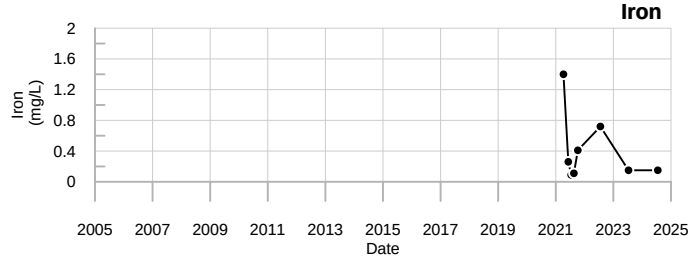
Calcium



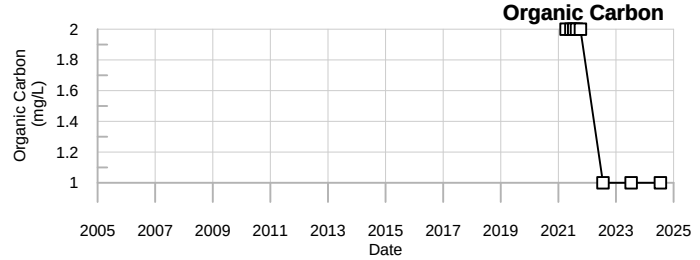
Sulfate



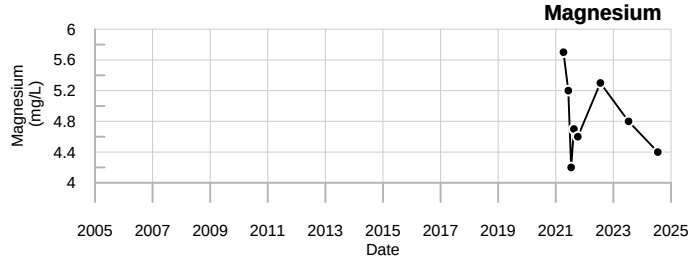
Iron



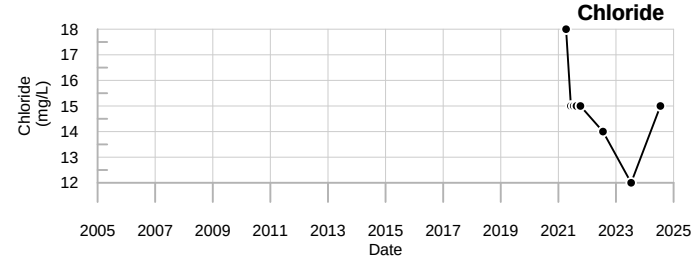
Organic Carbon



Magnesium



Chloride



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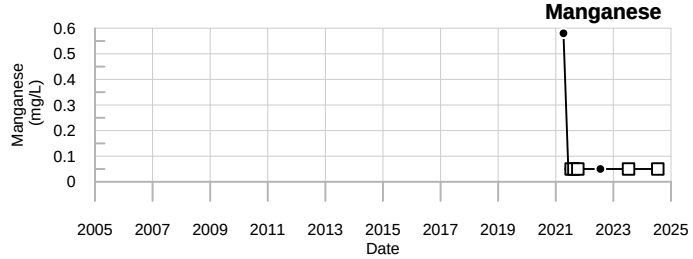
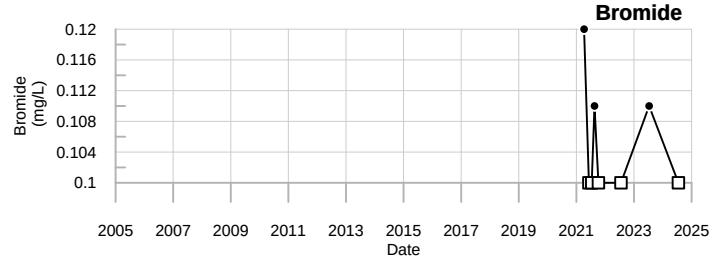


Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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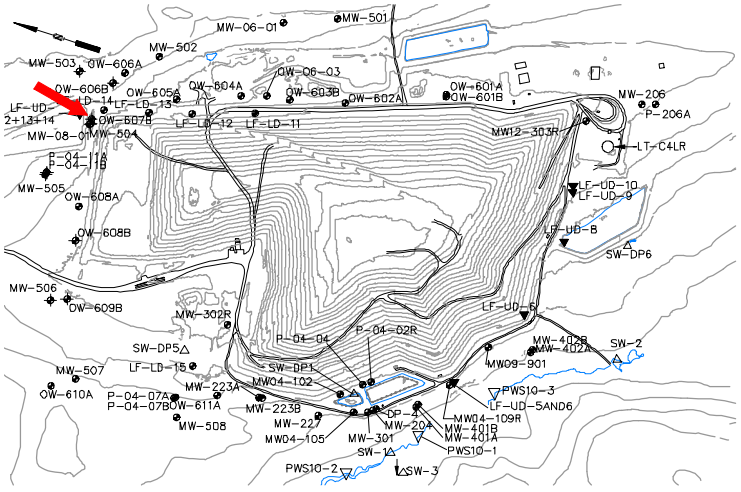
OW-606B
Juniper Ridge Landfill

Well Description

OW-607B monitors overburden groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**41 ft. to 51 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**2/9/2021**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		146	150	156	129	to 172	150	± 4.000	11
pH (STU)		7.4	7.6	↓6.9	7.1	to 7.9	7.5	± 0.092	11
Temperature (Deg C)		9.2	18.9	10.9	4.9	to 22.5	12	± 1.700	11
Water Level Depth (Feet)		18.6	18.72	19.88	8.2	to 20.8	15	± 1.500	11
Water Level Elevation (Feet)		163.2	163.08	161.92	161	to 166.977	160	± 0.580	11
Water Level Reference Point (Feet)		181.8	181.8	181.8	175.177	to 181.8	180	± 1.000	11
Eh (mV)		169	328	↑459	86	to 356	230	± 27.000	11
Dissolved Oxygen (mg/L)		3.9	↑4.4	2	0.5	to 3.9	2.2	± 0.330	11
Well Depth (Feet)				↑61.05	54	to 60.75	57	± 3.400	2
Arsenic (mg/L)			0.005 U		0.005 U	to 0.009	0.0071	± 0.000	7
Calcium (mg/L)			18		15	to 19	18	± 0.530	7
Copper (mg/L)			↑0.0034		0.003 U	to 0.003 U	0.003	± 0.000	7
Iron (mg/L)			0.05 U		0.05 U	to 0.18	0.073	± 0.018	7
Magnesium (mg/L)			↑6.2		5.2	to 6	5.5	± 0.140	7
Manganese (mg/L)			0.051		0.05 U	to 0.09	0.056	± 0.006	7
Potassium (mg/L)			1.4		0.9	to 1.5	1.1	± 0.082	7
Sodium (mg/L)			↑10		4.2	to 5.3	4.7	± 0.180	7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	7
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.25 U	0.22	± 0.010	7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	7
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.088	0.07	± 0.006	7
Total Dissolved Solids (mg/L)			97		89	to 111	99	± 3.100	7
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 32	7.1	± 4.200	7
Sulfate (mg/L)			↑6.6		3.3	to 6	4.7	± 0.350	7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Alkalinity (CaCO3) (mg/L)			71		38	to 81	64	± 4.900	7
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.7	± 0.180	7
Chloride (mg/L)			1.4		1.3	to 2.6	1.6	± 0.180	7
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Turbidity (field) (NTU)		1	0.4	0.6	0.3	to 14.5	3.7	± 1.500	11
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	7

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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SME
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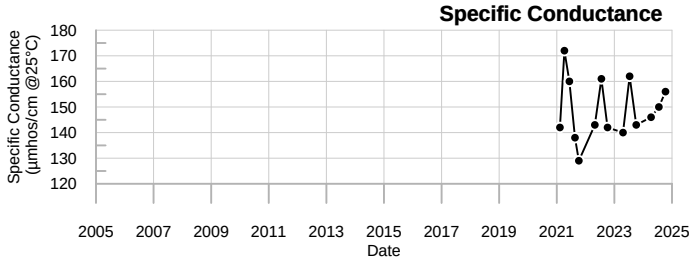
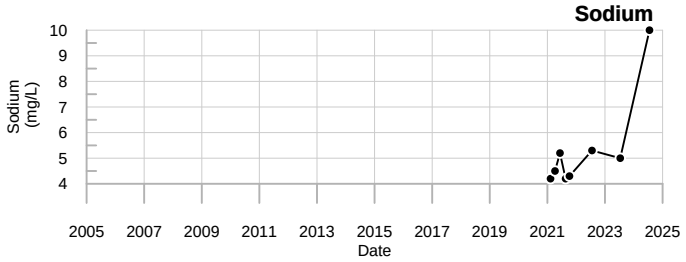
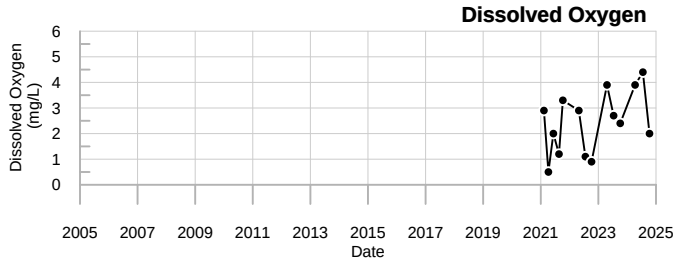
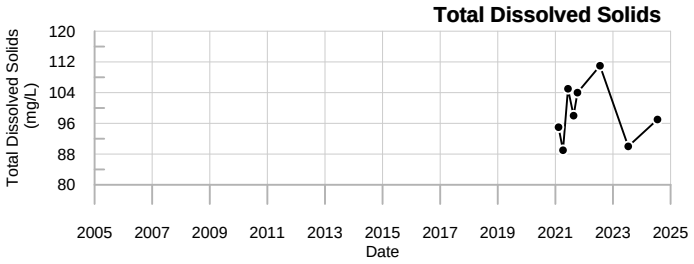
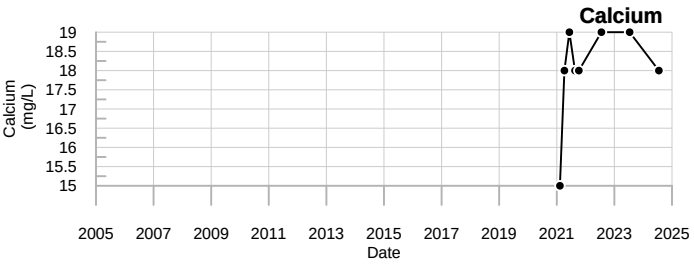
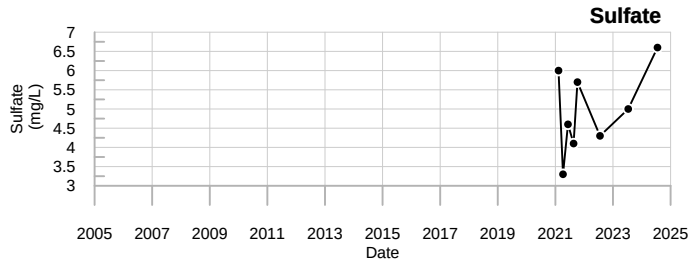


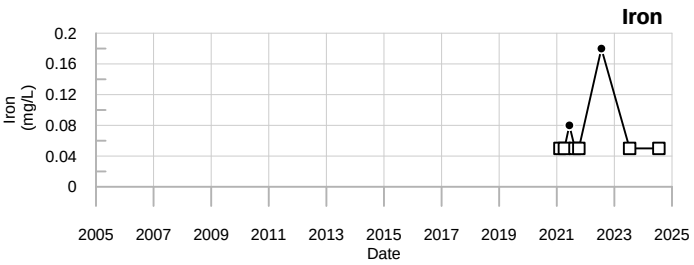


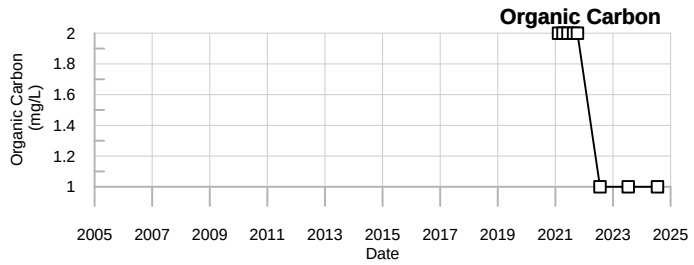


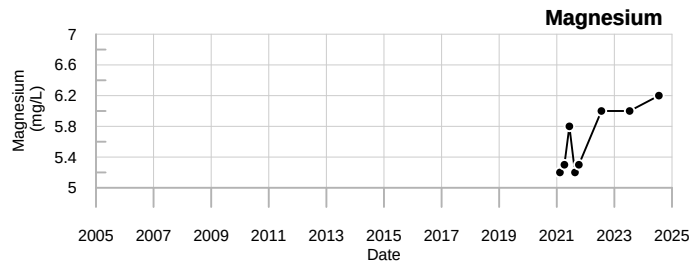


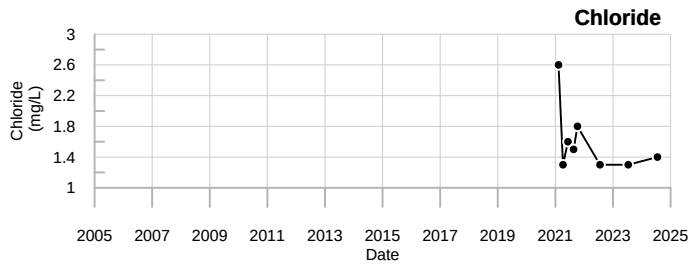


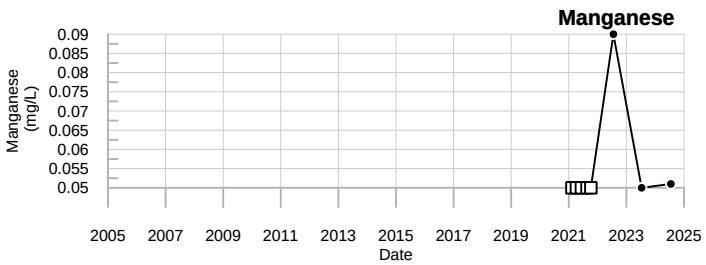


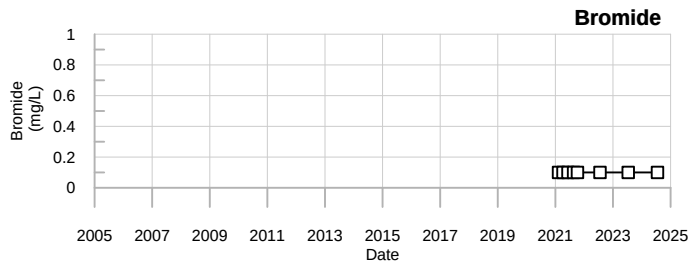












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

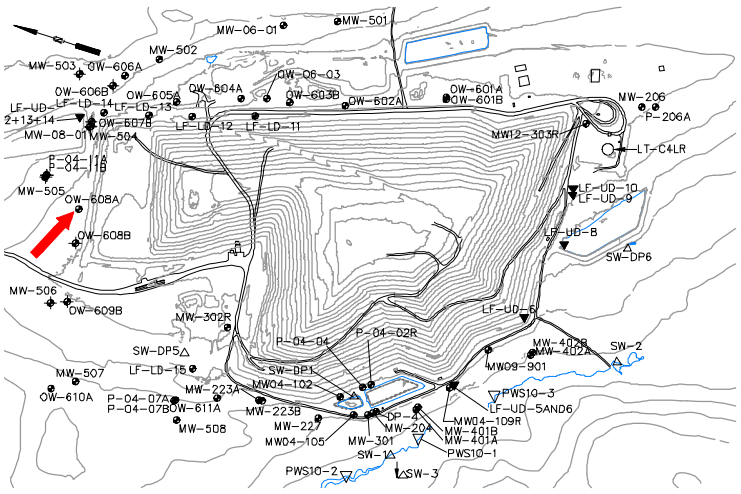
OW-607B
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-608A monitors bedrock groundwater downgradient and north of the landfill expansion.

Screen Interval:	**60 ft. to 260 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-2018**
Material Screened:	**Bedrock (Open Borehole)**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		140	↓113	129	127	to 265	190	± 9.300	12
pH (STU)		↑9	↑9	8.7	7.8	to 8.7	8.2	± 0.089	12
Temperature (Deg C)		10.2	14.3	8.1	7.5	to 15.5	11	± 0.820	12
Water Level Depth (Feet)		37.5	37.7	↑38.4	35.72	to 38	37	± 0.190	12
Water Level Elevation (Feet)		↑161.99	↑161.79	↑161.09	158.61	to 160.89	160	± 0.190	12
Water Level Reference Point (Feet)		↑199.49	↑199.49	↑199.49	196.61	to 196.61	200	± 0.000	12
Eh (mV)		127	142	178	5	to 320	86	± 30.000	12
Dissolved Oxygen (mg/L)		1.6	1.7	1.2	0.2	to 6.4	1.1	± 0.520	12
Well Depth (Feet)				260	260	to 260	260	± 0.000	2
Arsenic (mg/L)			0.005 U		0.005 U	to 0.008	0.0055	± 0.000	8
Calcium (mg/L)			↓5.1		10	to 21	17	± 1.400	8
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	6
Iron (mg/L)			0.92		0.53	to 7.4	4.2	± 0.750	8
Magnesium (mg/L)			↓3.2		4.7	to 6.7	5.9	± 0.250	8
Manganese (mg/L)			0.05 U		0.05 U	to 0.16	0.068	± 0.014	8
Potassium (mg/L)			1.1		0.9	to 1.4	1	± 0.060	8
Sodium (mg/L)			12		12	to 15	14	± 0.380	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.37	0.25	± 0.020	8
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	6
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.077	0.056	± 0.003	8
Total Dissolved Solids (mg/L)			↓54		95	to 132	120	± 4.400	8
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 15	8.7	± 1.500	8
Sulfate (mg/L)			2 U		2 U	to 7.2	5.3	± 0.590	8
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	6
Alkalinity (CaCO3) (mg/L)			↓53		72	to 130	93	± 6.300	8
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.8	± 0.160	8
Chloride (mg/L)			3.1		1.2	to 4.1	2	± 0.340	8
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	8
Turbidity (field) (NTU)		1.6	8.7	5.1	1.2	to 12.5	6.6	± 1.200	12
Methane (ug/L)			↓15		20 U	to 140	50	± 30.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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SME
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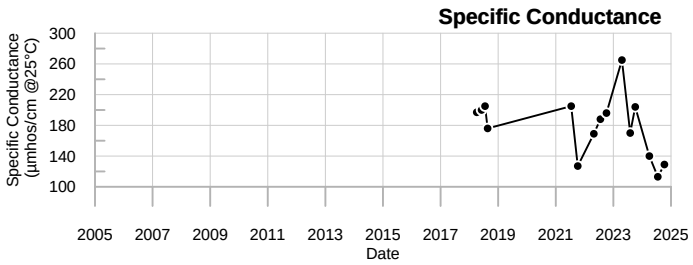
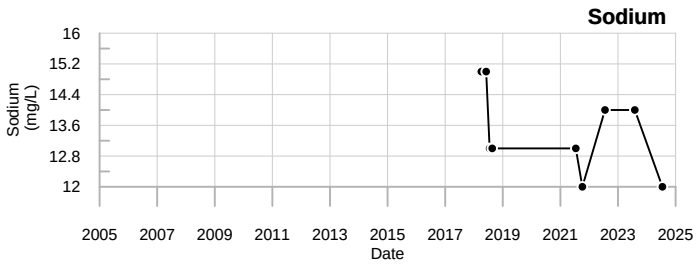
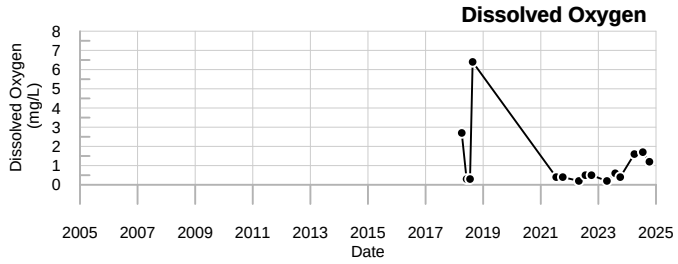
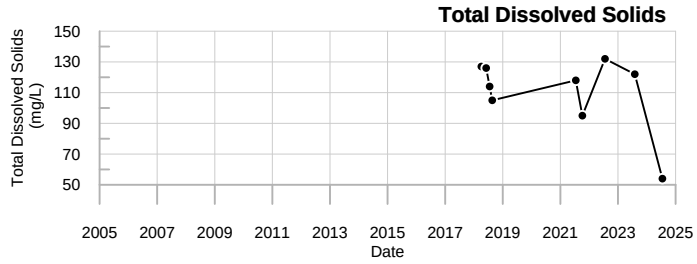
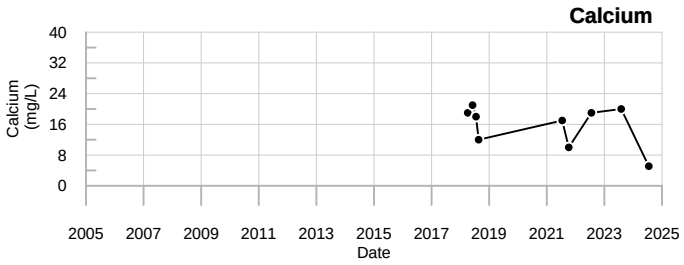
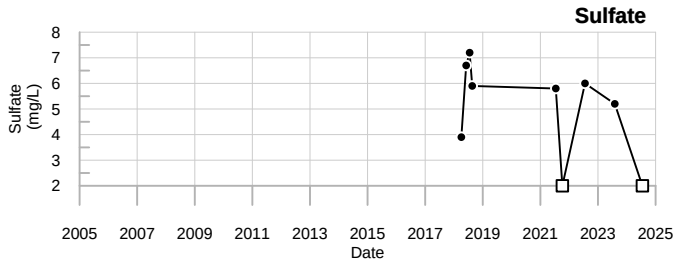


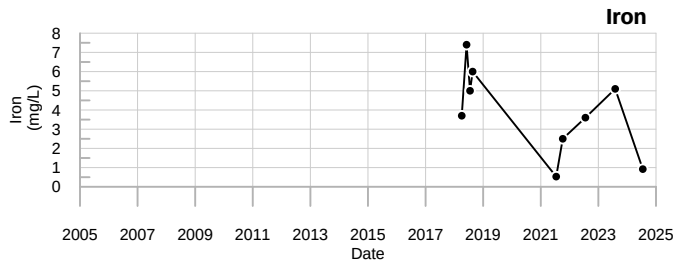


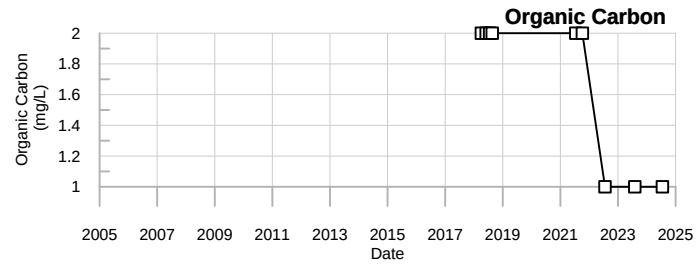


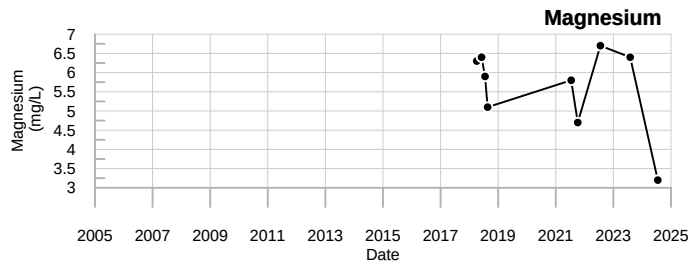


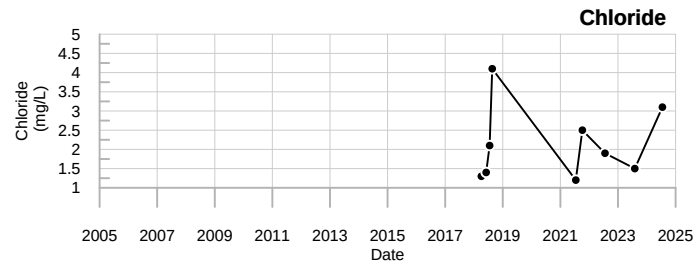


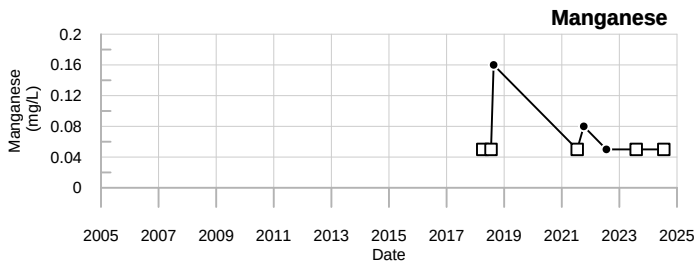


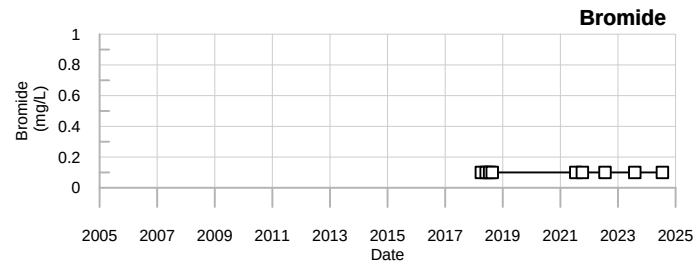












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

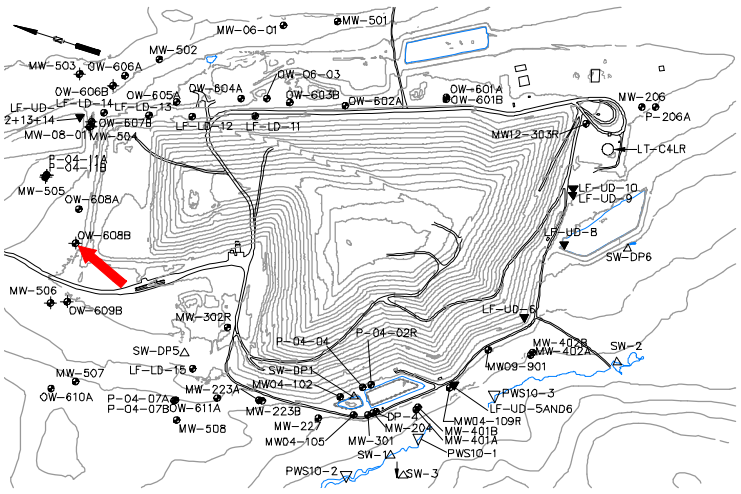
SME
SEVEE & MAHER ENGINEERS

OW-608A
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-608B monitors overburden groundwater downgradient of and northwest of the landfill expansion.



Screen Interval:	**33.5 ft. to 43.5 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**2/10/2021**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓196	218	↓202	211	to 315	250	± 8.700	11
pH (STU)		7	↓6.6	↓6.6	6.8	to 8.6	8	± 0.160	11
Temperature (Deg C)		8.9	14.8	11.1	5.6	to 15.5	11	± 1.000	11
Water Level Depth (Feet)		6.6	7.8	↑10.75	4.35	to 9	6.8	± 0.430	11
Water Level Elevation (Feet)		194.804	193.604	↓190.654	192.404	to 197.054	190	± 0.430	11
Water Level Reference Point (Feet)		201.404	201.404	201.404	201.404	to 201.404	200	± 0.000	11
Eh (mV)		240	263	261	12	to 284	130	± 31.000	11
Dissolved Oxygen (mg/L)		1.9	0.2	1.3	0.2	to 2.1	0.73	± 0.180	11
Well Depth (Feet)				↑46.18	46.09	to 46.09	46	± 0.000	3
Arsenic (mg/L)			↓0.005 U		0.0067	to 0.0093	0.0084	± 0.000	7
Calcium (mg/L)			↑26		15	to 17	16	± 0.310	7
Copper (mg/L)			0.0056		0.003 U	to 0.007	0.0036	± 0.001	7
Iron (mg/L)			↑2		0.05 U	to 0.88	0.22	± 0.120	7
Magnesium (mg/L)			↓5.9		7.7	to 8.9	8.5	± 0.210	7
Manganese (mg/L)			0.16		0.05 U	to 0.24	0.13	± 0.025	7
Potassium (mg/L)			↑3		0.9	to 1.4	1.1	± 0.064	7
Sodium (mg/L)			↓8.6		19	to 33	27	± 1.800	7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	7
Total Kjeldahl Nitrogen (mg/L)			↑0.56		0.2 U	to 0.25 U	0.22	± 0.010	7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	7
Nitrite/Nitrate - (N) (mg/L)			↑0.22		0.05 U	to 0.066	0.055	± 0.003	7
Total Dissolved Solids (mg/L)			150		120	to 223	170	± 13.000	7
Total Suspended Solids (mg/L)			26		2.5 U	to 31	6.7	± 4.000	7
Sulfate (mg/L)			↓8.1		8.6	to 41	29	± 4.400	7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.5 U	0.16	± 0.057	7
Alkalinity (CaCO3) (mg/L)			100		97	to 110	100	± 1.600	7
Organic Carbon (mg/L)			↑4.8		1 U	to 2 U	1.7	± 0.180	7
Chloride (mg/L)			3.5		1.4	to 6	3.1	± 0.640	7
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Turbidity (field) (NTU)		↑6.1	↑12.3	↑18.5	0.8	to 5.1	2.5	± 0.440	11
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	7

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

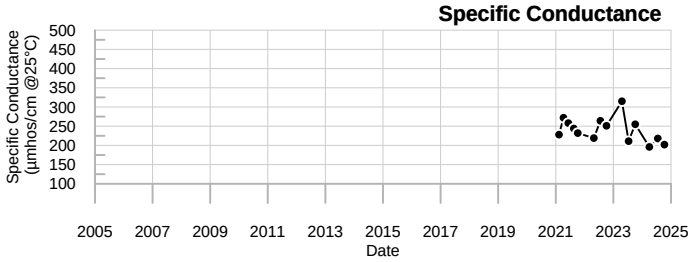
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

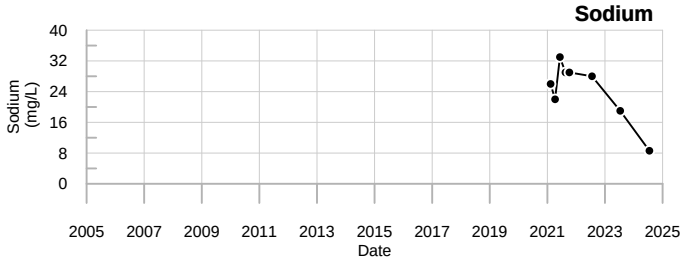
U = Not Detected above the laboratory reporting limit.

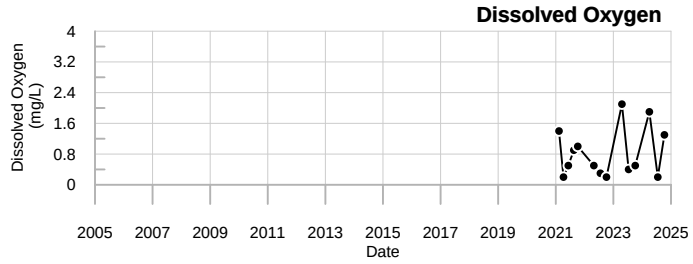
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

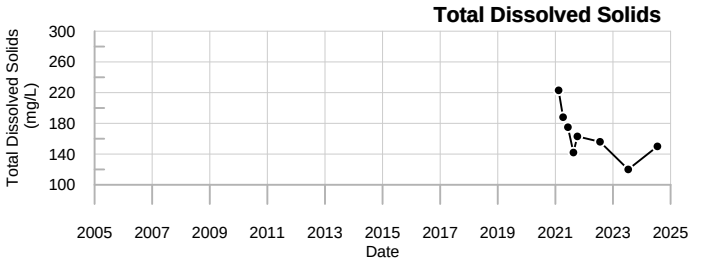
Data Group: 245
Printed: 4/16/2025 11:26

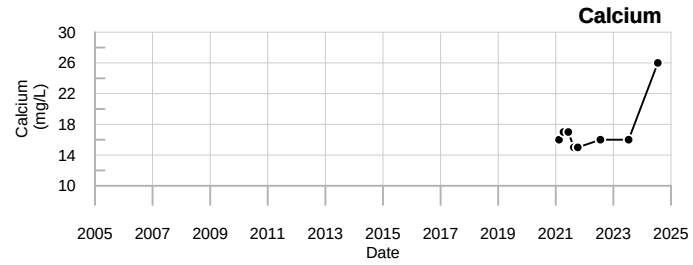
SME SEVEE & MAHER ENGINEERS

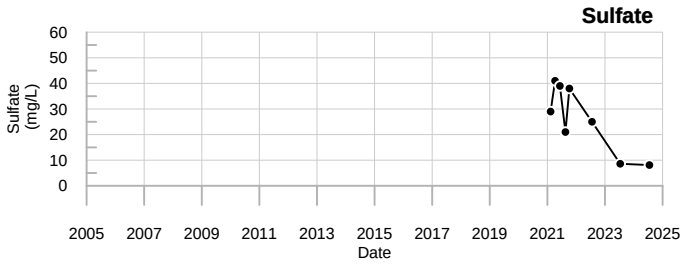


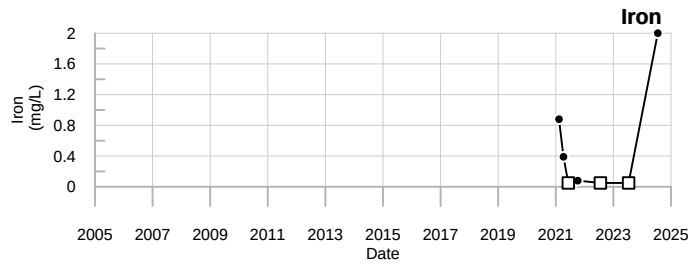


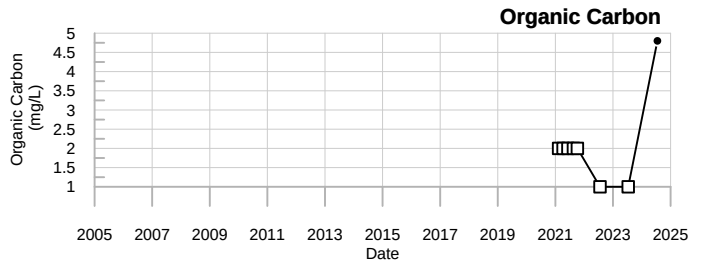


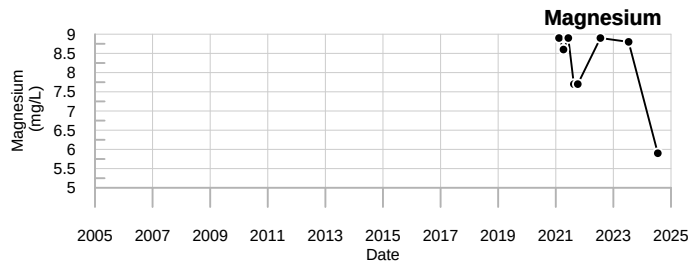


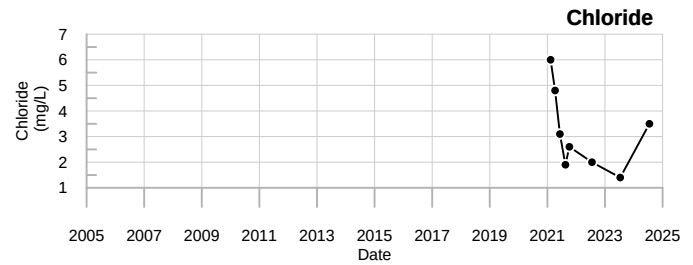


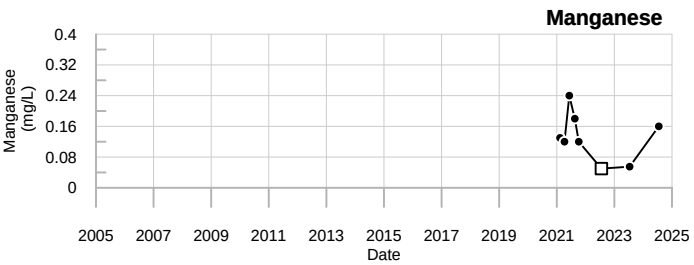


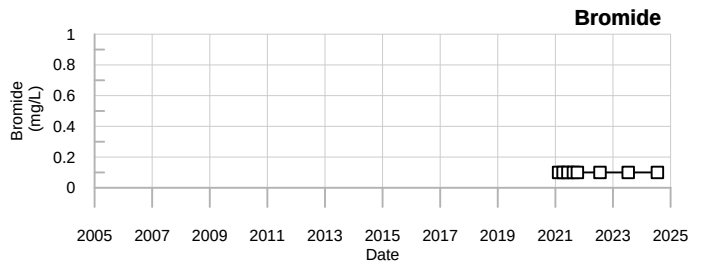












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

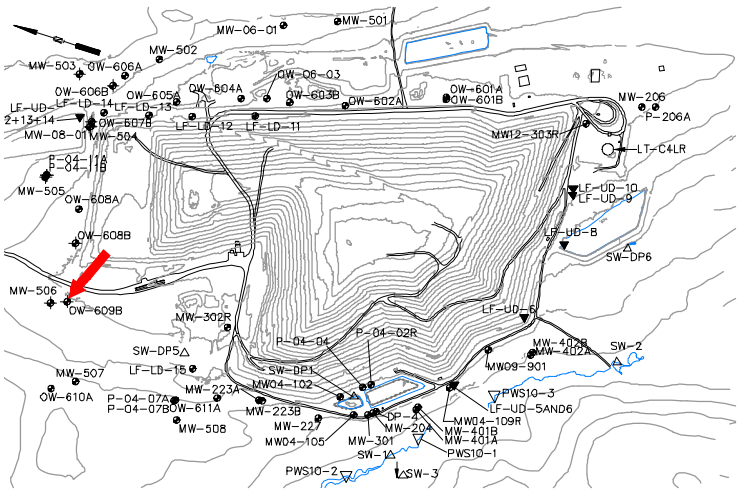
SME
SEVEE & MAHER ENGINEERS

OW-608B
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

OW-609B monitors overburden groundwater downgradient of and northwest of the landfill expansion.



Screen Interval:	**39 ft. to 49 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**2/10/2021**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓140	376	344	226	to 477	340	± 27.000	11
pH (STU)		6.8	7.5	7.2	6.8	to 7.8	7.4	± 0.095	11
Temperature (Deg C)		7.5	↑13.6	12.3	6.2	to 12.5	9.8	± 0.660	11
Water Level Depth (Feet)		↓6	12.35	17.25	6.3	to 18.65	15	± 1.000	11
Water Level Elevation (Feet)		195.77	↓189.42	↓184.52	194.277	to 206.627	200	± 1.000	11
Water Level Reference Point (Feet)		↓201.77	↓201.77	↓201.77	212.927	to 212.927	210	± 0.000	11
Eh (mV)		289	265	237	71	to 315	190	± 23.000	11
Dissolved Oxygen (mg/L)		3.2	2.4	1.2	0.3	to 7	1.9	± 0.640	11
Well Depth (Feet)				↑51.65	51.61	to 51.61	52	± 0.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.008	0.006	± 0.000	8
Calcium (mg/L)			21		17	to 25	21	± 1.100	8
Copper (mg/L)			↑0.006		0.003 U	to 0.004	0.0031	± 0.000	8
Iron (mg/L)			0.39		0.25	to 0.71	0.42	± 0.055	8
Magnesium (mg/L)			6.5		1.9	to 7.9	5.5	± 0.960	8
Manganese (mg/L)			↓0.05 U		0.09	to 0.51	0.32	± 0.051	8
Potassium (mg/L)			1.4		1.1	to 1.5	1.4	± 0.049	8
Sodium (mg/L)			**40**		23	to 81	48	± 7.200	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.84	0.35	± 0.089	7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	7
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.5 U	0.12	± 0.064	7
Total Dissolved Solids (mg/L)			222		209	to 543	300	± 43.000	7
Total Suspended Solids (mg/L)			8.3 U		3	to 15	6.7	± 1.600	7
Sulfate (mg/L)			25		21	to 97	52	± 10.000	7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Alkalinity (CaCO3) (mg/L)			98		71	to 120	100	± 8.000	7
Organic Carbon (mg/L)			1.5		1.5	to 5.5	2.7	± 0.520	7
Chloride (mg/L)			49		13	to 51	32	± 4.500	7
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Turbidity (field) (NTU)		23.5	9	↓0.7	1.2	to 32.4	7.9	± 2.700	11
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	7

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

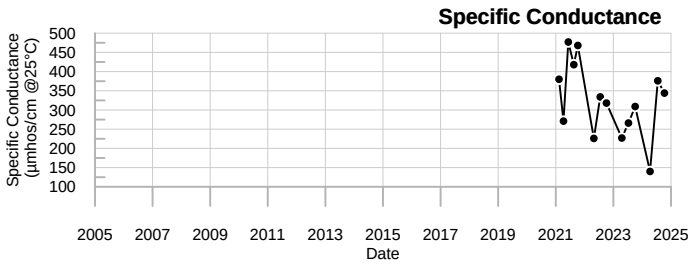
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

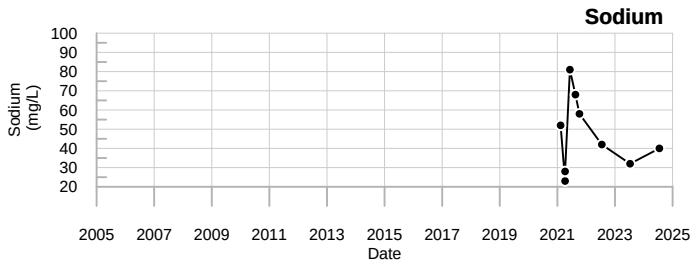
U = Not Detected above the laboratory reporting limit.

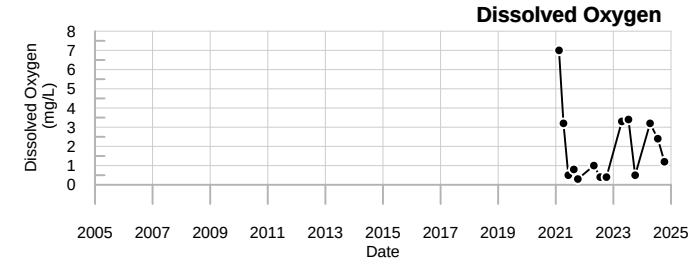
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

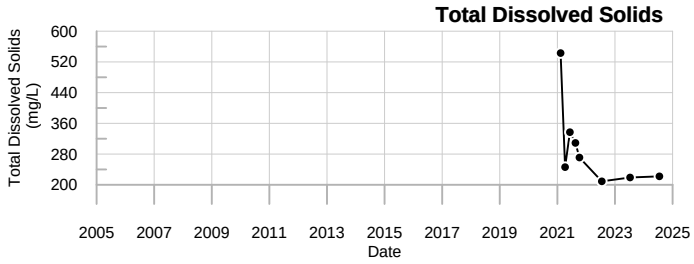
Data Group: 245
Printed: 4/16/2025 11:26

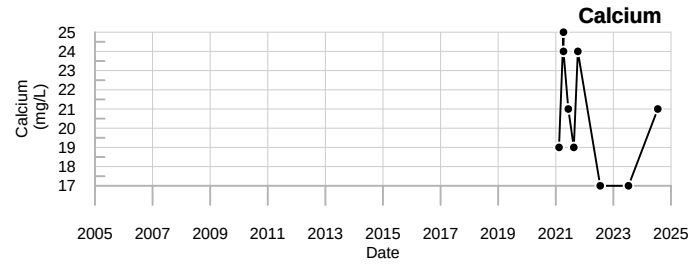
SME SEVEE & MAHER ENGINEERS

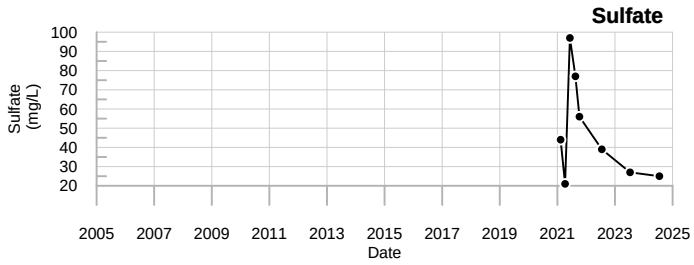


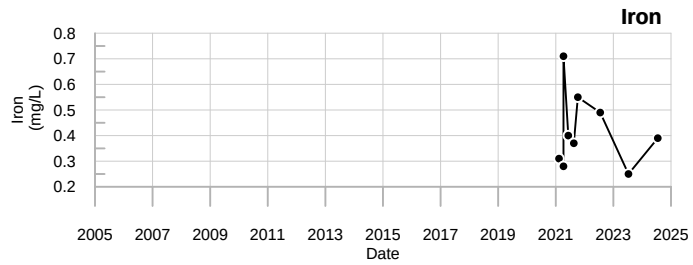


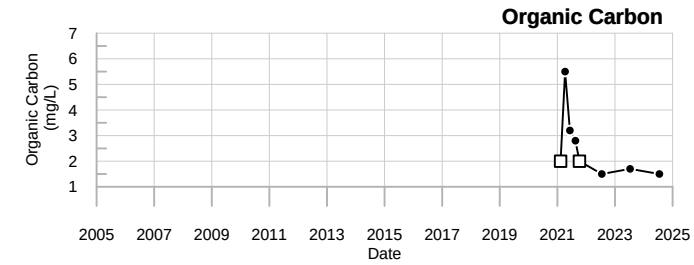


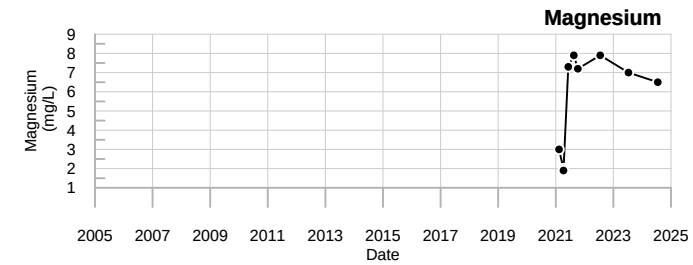


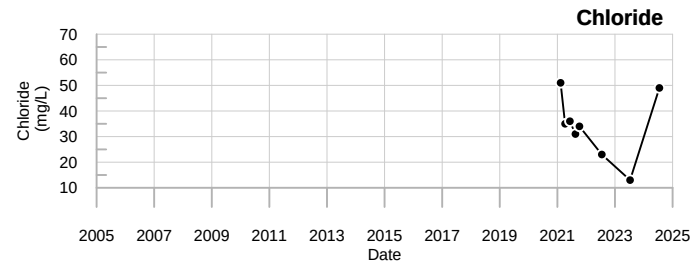


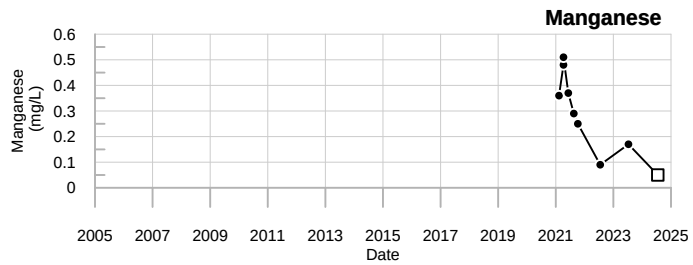


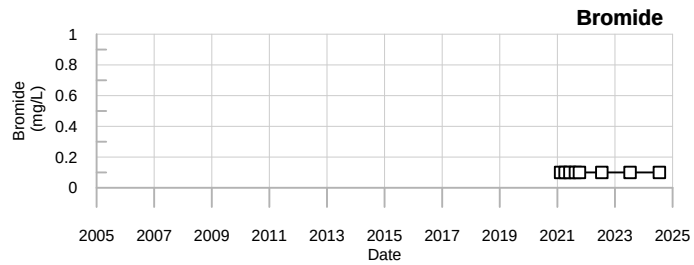












LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

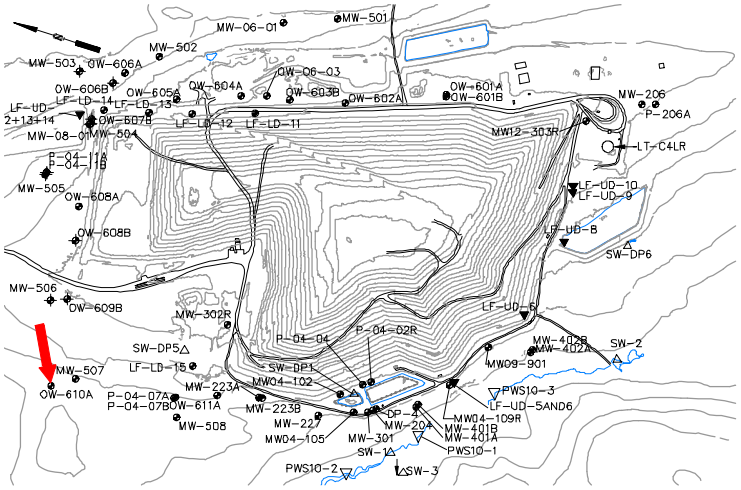
SME
SEVEE & MAHER ENGINEERS

OW-609B
Juniper Ridge Landfill

Well Description

OW-610A monitors bedrock groundwater downgradient of and southwest of the landfill expansion.

Screen Interval:	**26.7 ft. to 36.7 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**10/5/22**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		453	450	422	350	to 521	410	± 27.000	6
pH (STU)		7.1	6.9	↓6.5	6.9	to 8.2	7.4	± 0.190	6
Temperature (Deg C)		7.2	↑24.6	↑15.3	5	to 12.7	9.8	± 1.200	6
Water Level Depth (Feet)		5.91	6.9	↑9.55	5.35	to 7.27	6.1	± 0.280	6
Water Level Elevation (Feet)		174.34	173.35	↓170.7	172.98	to 174.9	170	± 0.280	6
Water Level Reference Point (Feet)		180.25	180.25	180.25	180.25	to 180.25	180	± 0.000	6
Eh (mV)		220	230	170	87	to 254	170	± 27.000	6
Dissolved Oxygen (mg/L)		0.3	0.3	0.8	0.2	to 2.9	0.7	± 0.440	6
Well Depth (Feet)				↑39.54	39.52	to 39.52	40	± 0.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.0051	0.005	± 0.000	5
Calcium (mg/L)			72		67	to 77	72	± 2.000	5
Copper (mg/L)			↑0.0045		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			↑0.079		0.05 U	to 0.063	0.053	± 0.003	5
Magnesium (mg/L)			5.1		5	to 7.4	6	± 0.460	5
Manganese (mg/L)			**1.7**		1.5	to 2.7	1.9	± 0.220	5
Potassium (mg/L)			0.87		0.77	to 1.2	0.96	± 0.074	5
Sodium (mg/L)			5.7		4.8	to 6.3	5.6	± 0.310	5
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.27	0.22	± 0.014	5
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.13	0.075	± 0.015	5
Total Dissolved Solids (mg/L)			275		210	to 286	250	± 13.000	5
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 4 U	2.8	± 0.300	5
Sulfate (mg/L)			2.2		2 U	to 3.1	2.8	± 0.190	5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			190		150	to 200	170	± 8.700	5
Organic Carbon (mg/L)			2.1		1.6	to 2.2	1.8	± 0.130	5
Chloride (mg/L)			↓23		25	to 28	26	± 0.600	5
Bromide (mg/L)			↑0.13		0.1 U	to 0.1 U	0.1	± 0.000	5
Turbidity (field) (NTU)		1	↓0.6	1.8	0.8	to 2.8	1.8	± 0.310	6
Methane (ug/L)			↑1500		140	to 300	200	± 31.000	5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

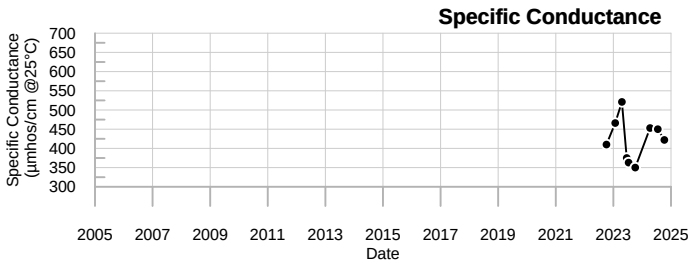
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

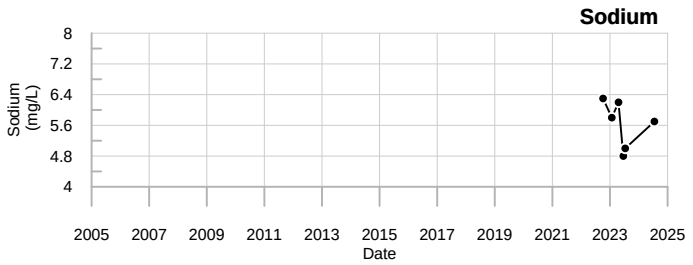
U = Not Detected above the laboratory reporting limit.

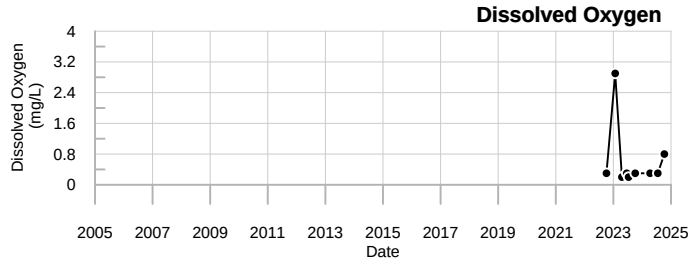
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

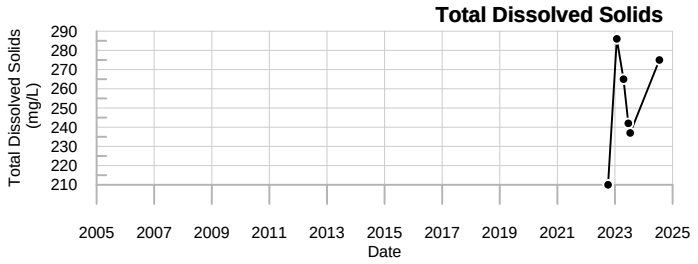
Data Group: 245
Printed: 4/16/2025 11:26

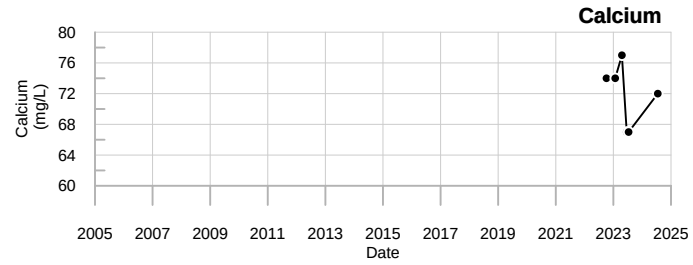
SME
SEVEE & MAHER ENGINEERS

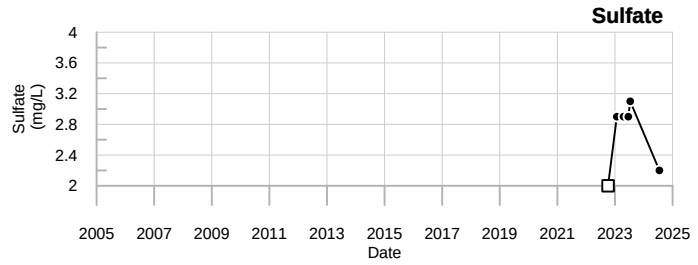


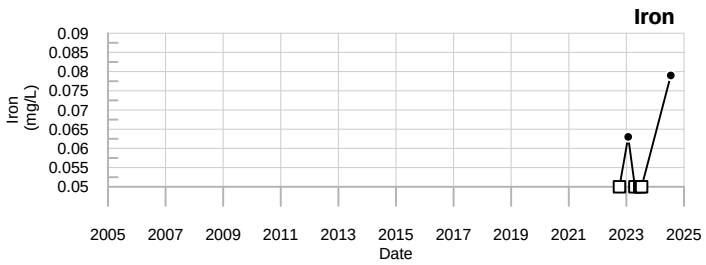


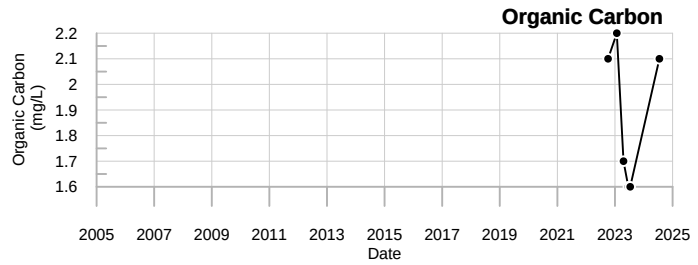


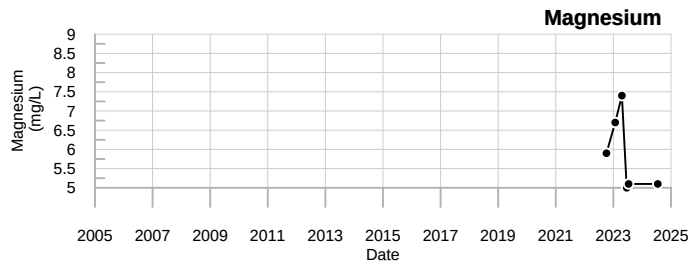


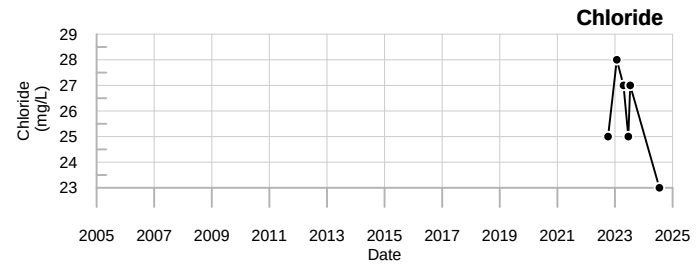


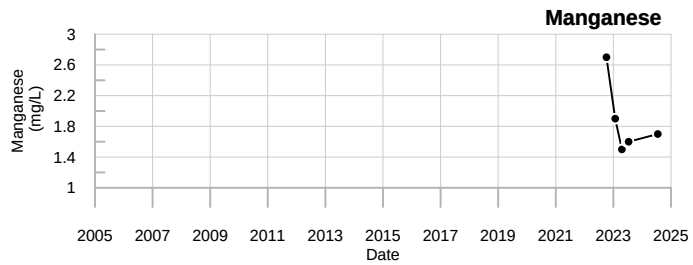


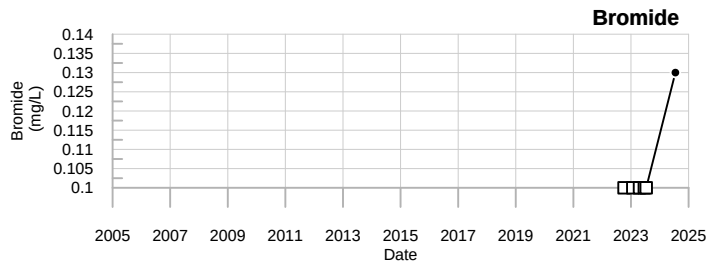












LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

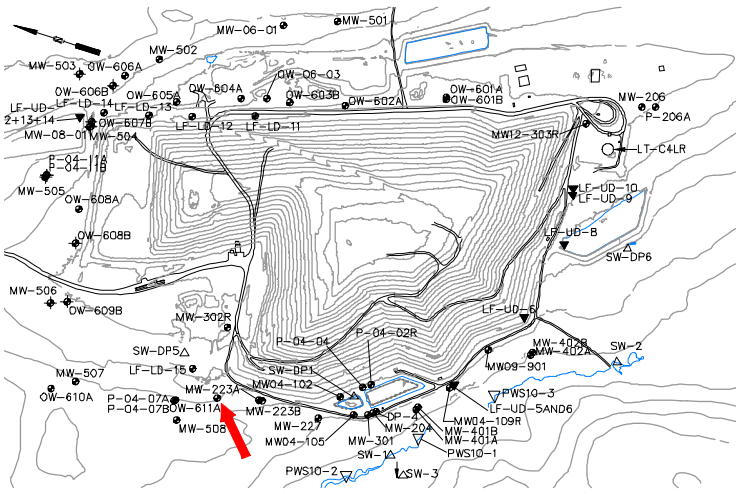
SME
SEVEE & MAHER ENGINEERS

OW-610A
Juniper Ridge Landfill

Well Description

OW-611A monitors bedrock groundwater downgradient and west of the landfill expansion.

Screen Interval:	**20 ft. to 220 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**Apr-2018**
Material Screened:	**Bedrock (Open Borehole)**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		431	436	↓187	370	to 553	440	± 17.000	12
pH (STU)		6.8	7	↓6	6.6	to 7.7	7	± 0.080	12
Temperature (Deg C)		7.9	10.1	11.6	7	to 13.4	10	± 0.610	12
Water Level Depth (Feet)		9.85	↑11.28	↑13.32	7.54	to 11.03	9.5	± 0.310	12
Water Level Elevation (Feet)		175.3	↓173.87	↓171.83	174.12	to 177.61	180	± 0.310	12
Water Level Reference Point (Feet)		185.15	185.15	185.15	185.15	to 185.15	190	± 0.000	12
Eh (mV)		390	342	409	227	to 451	320	± 22.000	12
Dissolved Oxygen (mg/L)		3.8	6.9	↓1.9	2	to 7.5	4.3	± 0.390	12
Well Depth (Feet)				220	220	to 220	220	± 0.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.007	0.0053	± 0.000	8
Calcium (mg/L)			64		52	to 67	59	± 2.000	8
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	6
Iron (mg/L)			↑2.3		0.05 U	to 1.6	0.4	± 0.180	8
Magnesium (mg/L)			6.7		5	to 7.3	6.1	± 0.300	8
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	8
Potassium (mg/L)			1.3		0.8	to 1.5	1	± 0.075	8
Sodium (mg/L)			20		12	to 20	15	± 1.000	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	4
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.32	0.25	± 0.014	8
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	6
Nitrite/Nitrate - (N) (mg/L)			0.89		0.33	to 1.1	0.59	± 0.090	8
Total Dissolved Solids (mg/L)			278		233	to 301	270	± 8.300	8
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 2.5 U	2.5	± 0.000	8
Sulfate (mg/L)			19		13	to 40	19	± 3.100	8
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	6
Alkalinity (CaCO3) (mg/L)			↑160		110	to 150	130	± 4.600	8
Organic Carbon (mg/L)			1.7		1 U	to 2 U	1.8	± 0.160	8
Chloride (mg/L)			38		31	to 48	43	± 2.100	8
Bromide (mg/L)			0.1 U		0.1 U	to 0.1	0.1	± 0.000	8
Turbidity (field) (NTU)		↓0.2	↓0.3	0.4	0.4	to 5.5	2.3	± 0.490	12
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

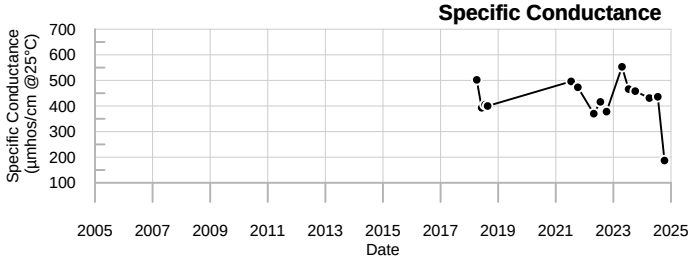
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

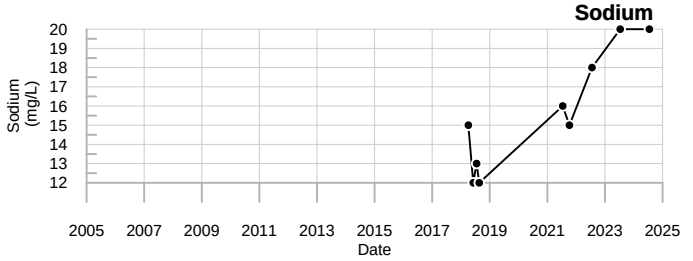
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

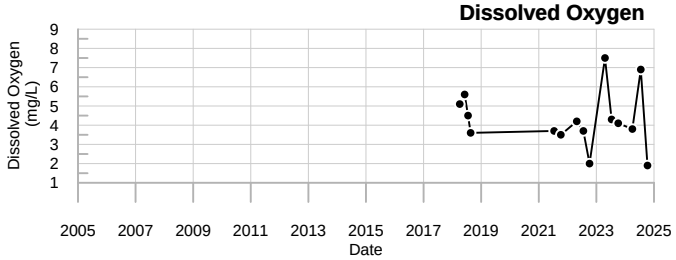
Specific Conductance



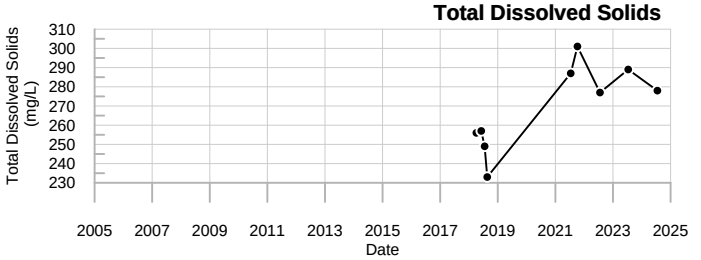
Sodium



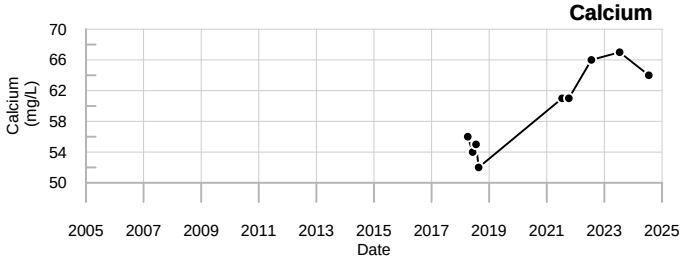
Dissolved Oxygen



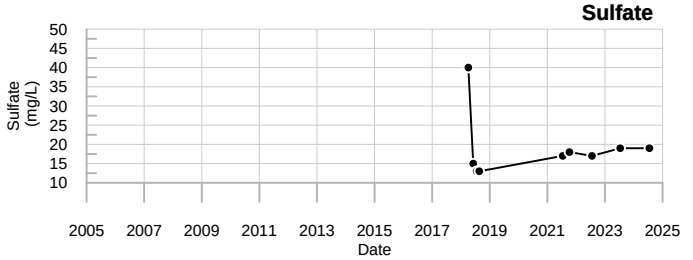
Total Dissolved Solids



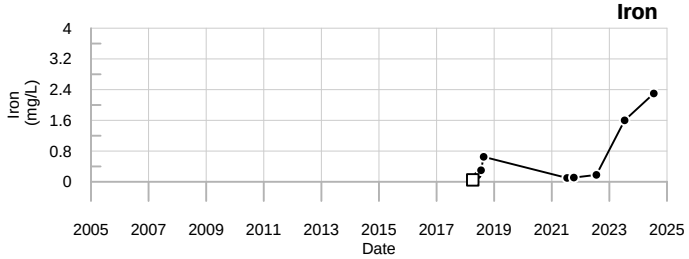
Calcium



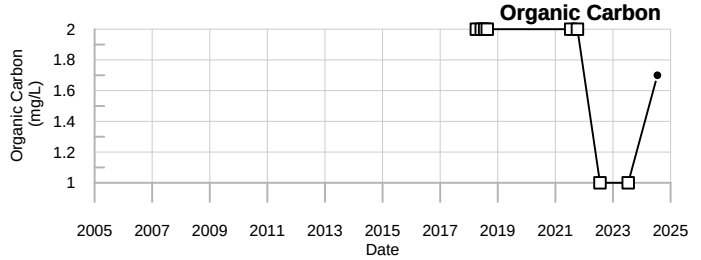
Sulfate



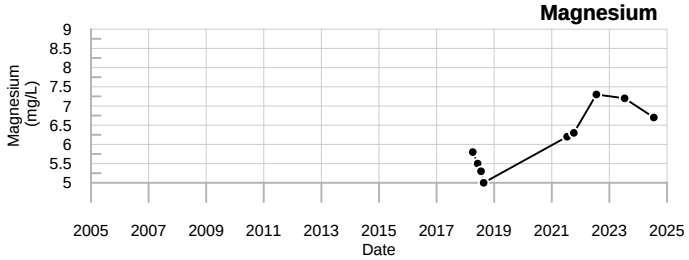
Iron



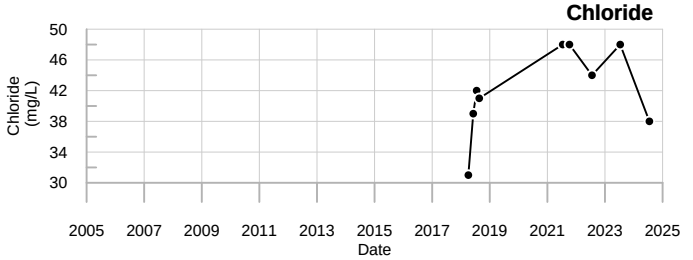
Organic Carbon



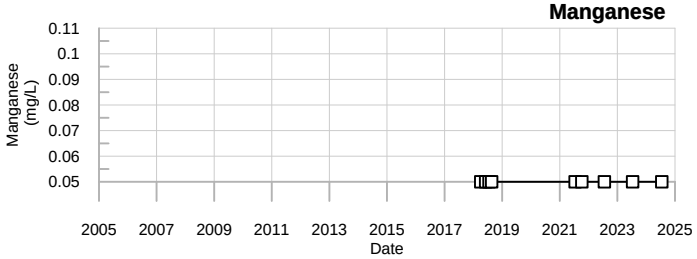
Magnesium



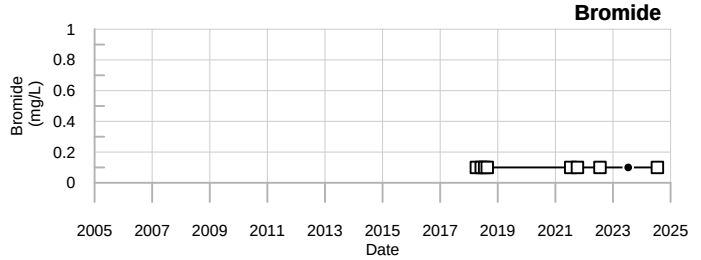
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

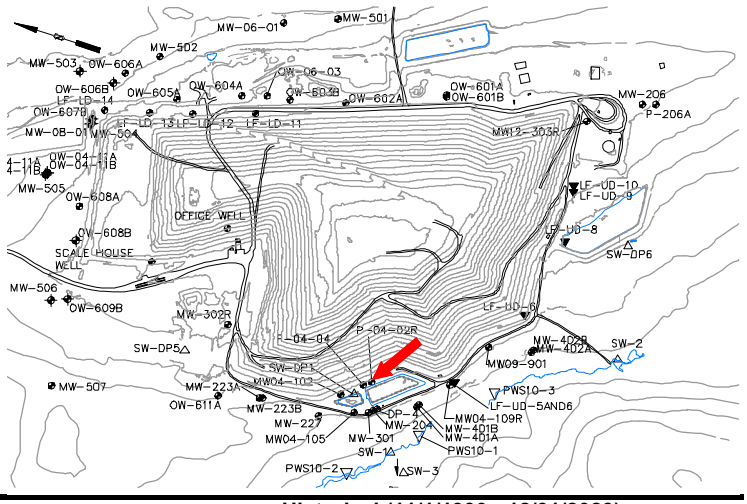
OW-611A
Juniper Ridge Landfill

P-04-02 & P-04-02R

Well Description

P-04-02R monitors the water quality in the overburden downgradient of the landfill, between the former leachate pond and the landfill toe. P-04-02R replaced well P-04-02 in 2015. Survey info received on 2/1/2019

Screen Interval:	**27.13 ft. to 32.13 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**7/15/15**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		181	229	220	166	to 772	320	± 20.000	54
pH (STU)		7.5	7.4	7	6.2	to 8.5	7.6	± 0.068	54
Temperature (Deg C)		9.6	14.1	12.4	4.6	to 18.8	12	± 0.430	54
Water Level Depth (Feet)		11.2	12.2	13	6.65	to 27.17	11	± 0.490	54
Water Level Elevation (Feet)		159.52	158.52	157.72	141.57	to 162.09	160	± 0.450	54
Water Level Reference Point (Feet)		170.72	170.72	170.72	168.74	to 170.72	170	± 0.130	56
Eh (mV)		200	306	379	50	to 483	290	± 13.000	52
Dissolved Oxygen (mg/L)		3.9	1.3	1.2	0.2	to 7.1	2.5	± 0.230	54
Well Depth (Feet)				37.98	27.9	to 39.98	37	± 0.640	16
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.016	0.0064	± 0.000	59
Calcium (mg/L)		23	25	23	11	to 37	25	± 0.600	59
Iron (mg/L)		0.25	0.058	0.064	0.02 U	to 1.52	0.18	± 0.044	59
Magnesium (mg/L)		↓3.6	5.3	6.2	3.7	to 10.2	7	± 0.170	59
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.21	0.053	± 0.005	59
Potassium (mg/L)		1.4	1.5	1.3	1.1	to 3.5	1.7	± 0.053	59
Sodium (mg/L)		13	17	13	6.5	to 112	35	± 3.700	59
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 1 U	0.39	± 0.023	52
Nitrite/Nitrate - (N) (mg/L)		0.58	0.4	0.072	0.05 U	to 2 U	0.18	± 0.075	26
Total Dissolved Solids (mg/L)		121	136	149	113	to 456	200	± 12.000	54
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 43	6.1	± 0.930	54
Sulfate (mg/L)		9.1	13	14	8.2	to 158	36	± 5.500	54
Bicarbonate Alkalinity (CaCO3) (mg/L)		87	110	110	63	to 178	110	± 3.300	54
Organic Carbon (mg/L)		2.3	1.6	1.2	0.5 U	to 32.5	3.6	± 0.820	54
Chloride (mg/L)		1.6	1.7	1.6	1 U	to 42.5	4.4	± 0.890	54
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.4 U	0.13	± 0.016	26
Turbidity (field) (NTU)		3.3	1	0.5	0	to 80.6	5	± 1.900	54

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

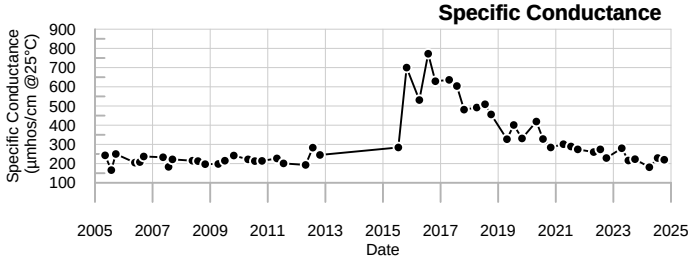
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

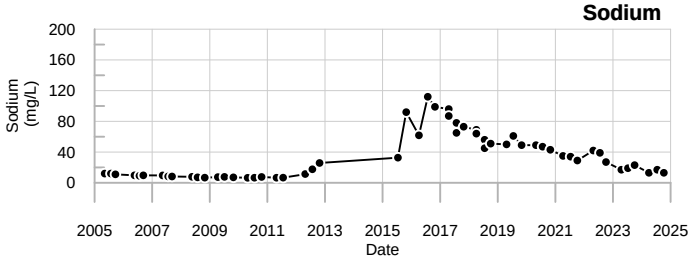
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

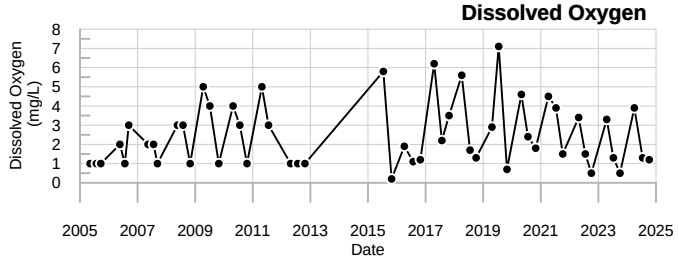
Specific Conductance



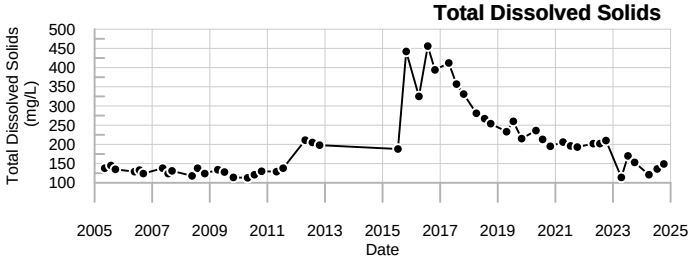
Sodium



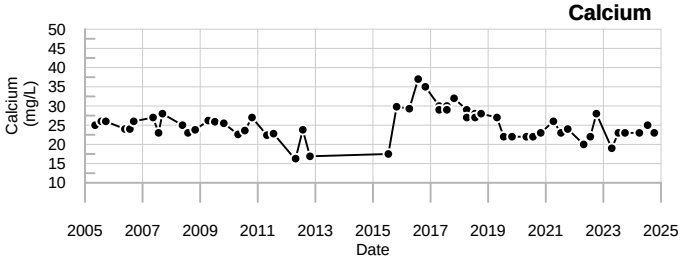
Dissolved Oxygen



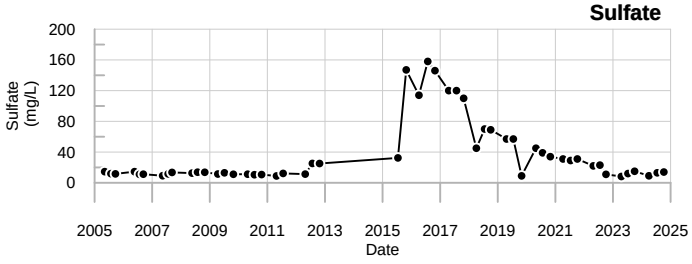
Total Dissolved Solids



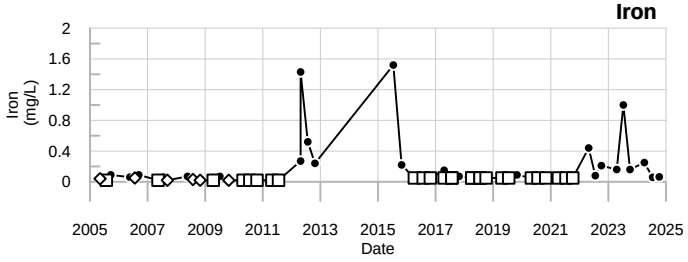
Calcium



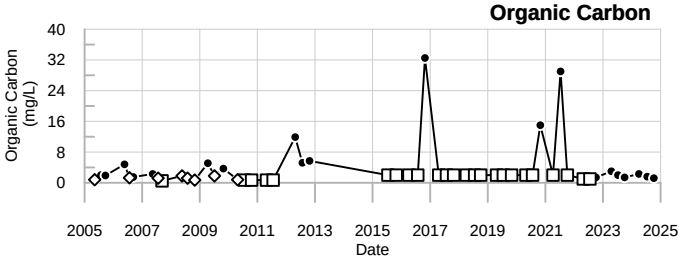
Sulfate



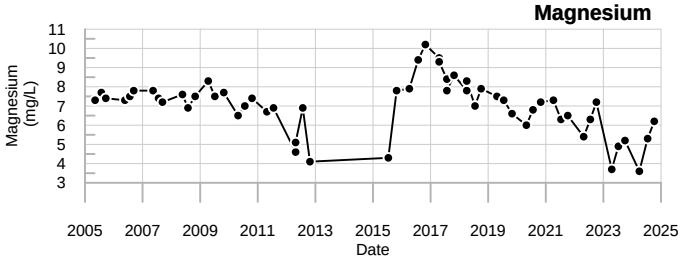
Iron



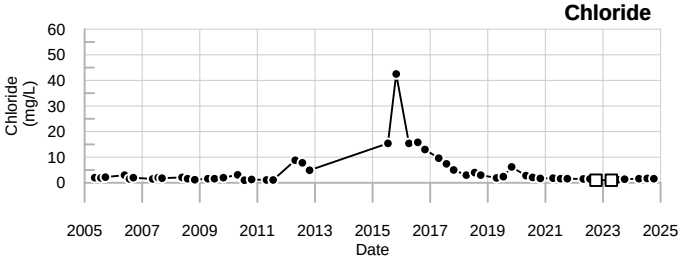
Organic Carbon



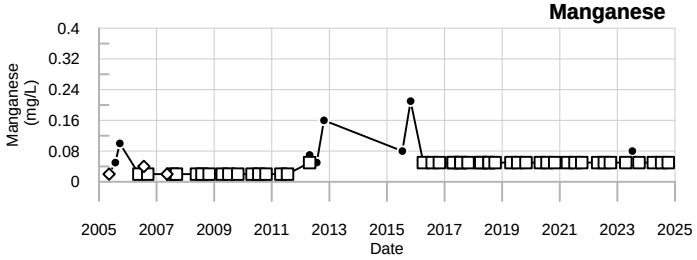
Magnesium



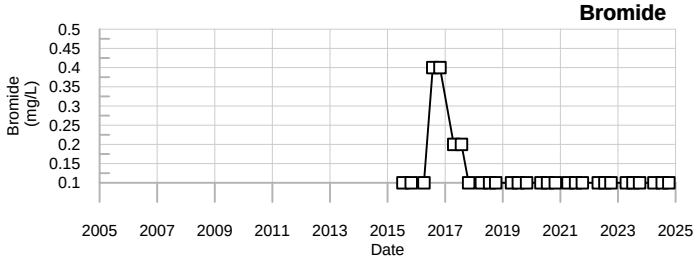
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

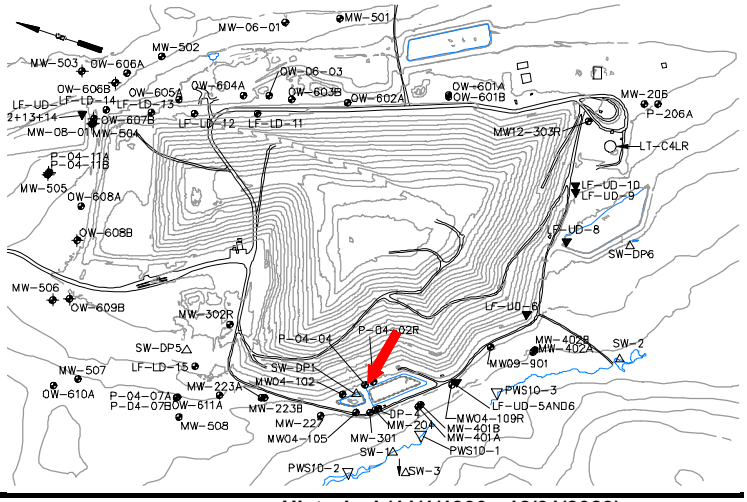
SME
SEVEE & MAHER ENGINEERS

P-04-02 & P-04-02R
Juniper Ridge Landfill

Well Description

P-04-04 monitors the water quality in the overburden downgradient of the landfill, between the former leachate pond and landfill toe.

Screen Interval:	**27.21 ft. to 32.21 ft.**
Sampled:	**3 Times Annually**
Sampled Since:	**02/05/04**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		190	208	198	148	to 405	190	± 4.800	62
pH (STU)		8	7.5	7.3	6.2	to 8.4	7.8	± 0.054	62
Temperature (Deg C)		9.1	13.7	12.4	3.4	to 19.5	12	± 0.410	62
Water Level Depth (Feet)		9	10.08	11	7.5	to 29.17	9.9	± 0.410	62
Water Level Elevation (Feet)		160.25	159.17	158.25	140.18	to 161.85	160	± 0.410	62
Water Level Reference Point (Feet)		169.25	169.25	169.25	169.25	to 169.35	170	± 0.006	62
Eh (mV)		188	293	377	115	to 520	310	± 11.000	60
Dissolved Oxygen (mg/L)		6	2.9	1.4	1	to 7.7	3.8	± 0.220	62
Well Depth (Feet)				32.35	32.21	to 37.11	33	± 0.350	19
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001	to 0.014	0.0067	± 0.000	62
Calcium (mg/L)		26	27	23	11	to 58.1	23	± 0.660	62
Iron (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.93	0.057	± 0.014	62
Magnesium (mg/L)		6.1	6.1	5.9	4.8	to 6.9	5.5	± 0.059	62
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.02 U	to 0.12	0.041	± 0.002	62
Potassium (mg/L)		1.4	1.3	1.1	0.9	to 4.6	1.5	± 0.059	62
Sodium (mg/L)		5	4.7	4	3.6	to 73	6.3	± 1.200	62
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.17	to 0.9	0.39	± 0.019	60
Nitrite/Nitrate - (N) (mg/L)		0.19	0.22	0.12	0.05 U	to 2 U	0.22	± 0.072	27
Total Dissolved Solids (mg/L)		122	122	132	92	to 287	120	± 3.200	62
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 21	3.9	± 0.300	62
Sulfate (mg/L)		11	8.5	7.5	4.1	to 28.8	9	± 0.500	62
Bicarbonate Alkalinity (CaCO3) (mg/L)		73	73	78	72	to 153	81	± 1.400	62
Organic Carbon (mg/L)		1 U	1 U	1 U	0.5 U	to 18	1.9	± 0.280	62
Chloride (mg/L)		↑18	↑15	14	0.9	to 14	3.8	± 0.430	62
Bromide (mg/L)		0.1 U	0.1 U	0.11	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		1.7	2.4	0.1	0	to 162	3.9	± 2.600	62

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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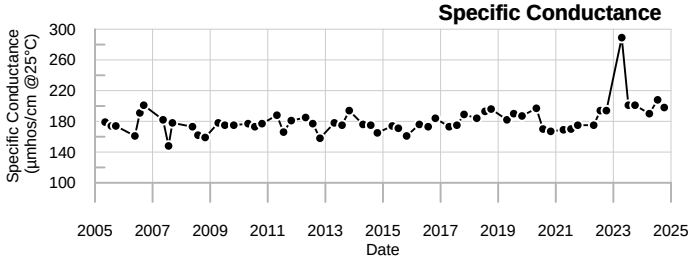
Specific Conductance



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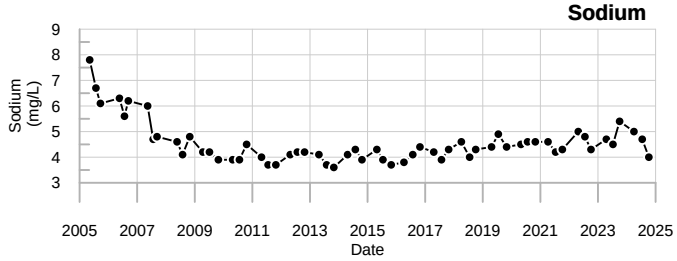
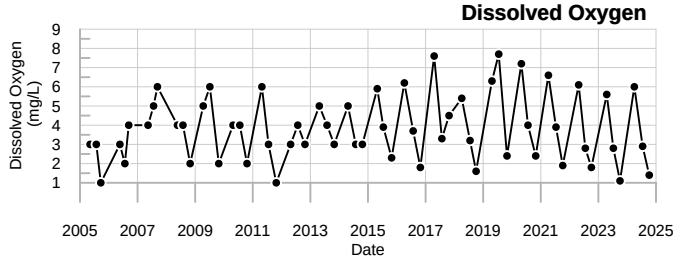
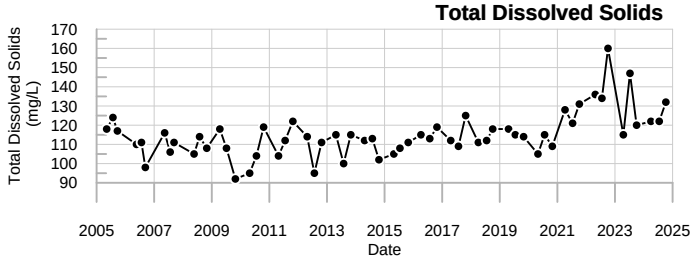


Dissolved Oxygen



Total Dissolved Solids



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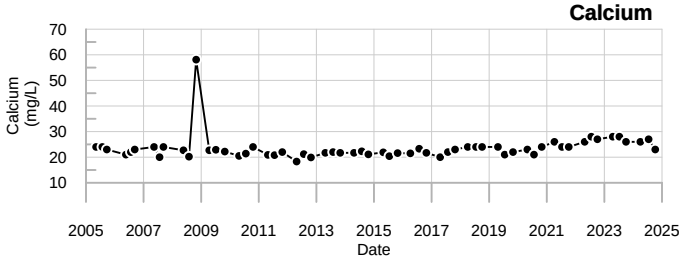
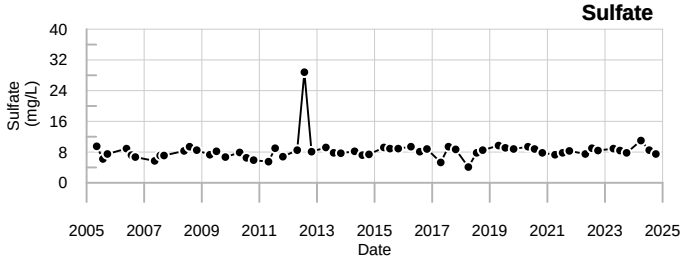


Sulfate



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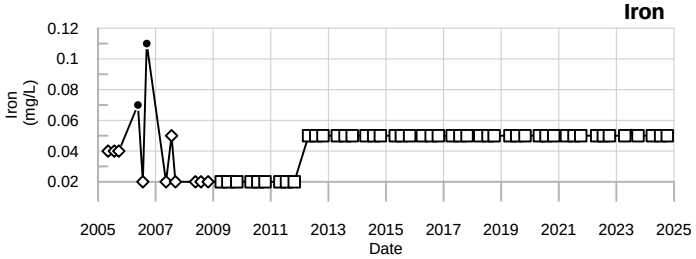
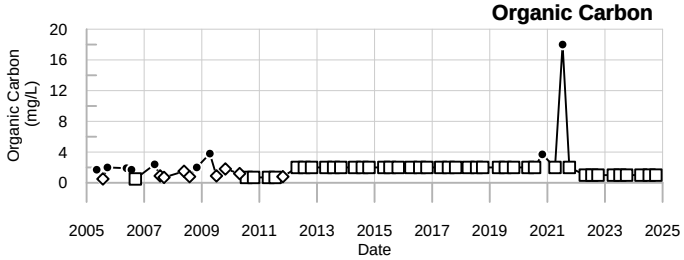
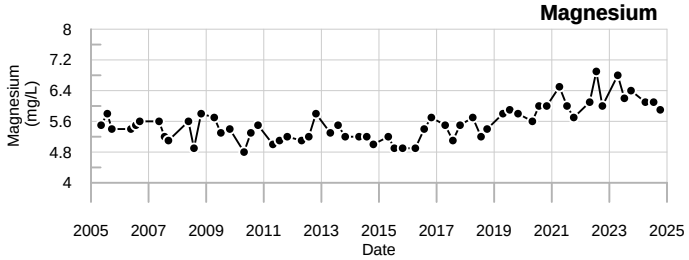


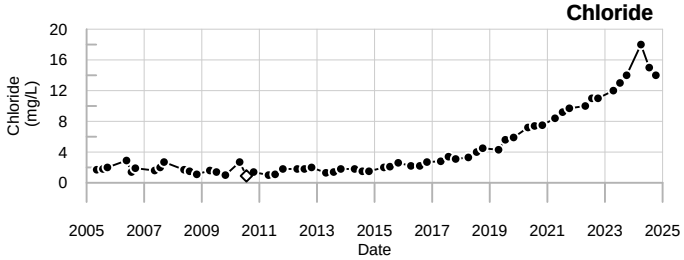
Organic Carbon



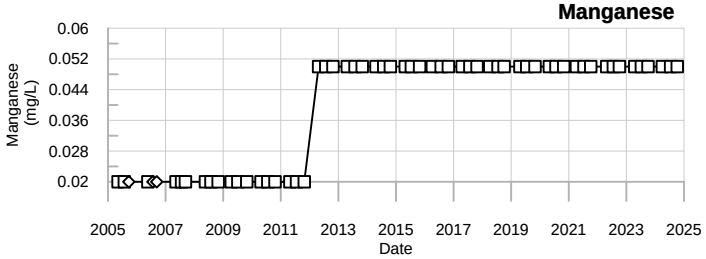
Magnesium



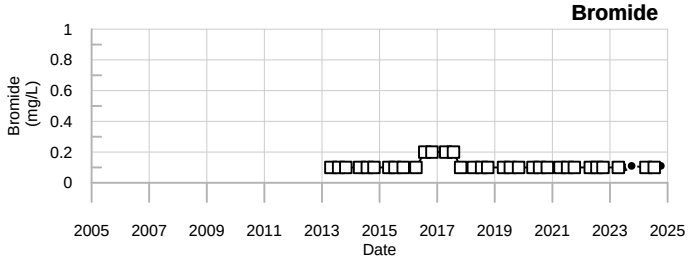
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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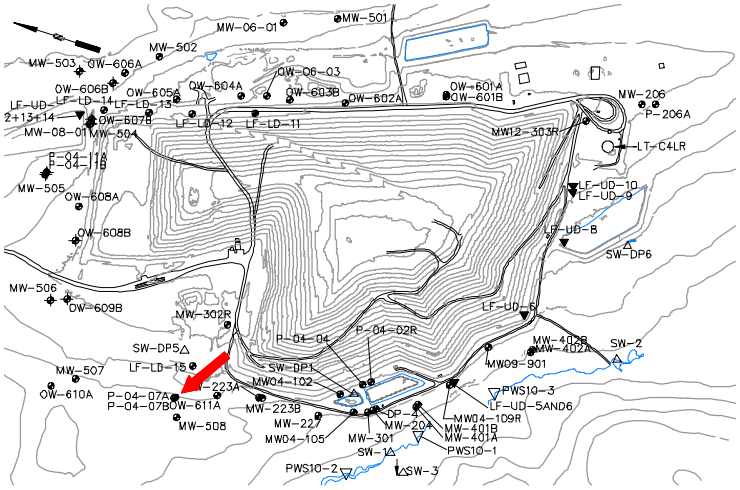
P-04-04
Juniper Ridge Landfill

Well Description

P-04-07A monitors bedrock groundwater downgradient of and southwest of the landfill expansion



Screen Interval:	**19.7 ft. to 24.7 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**10/3/2022**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		251	257	261	245	to 280	260	± 4.900	6
pH (STU)		7.2	6.9	7	6.6	to 7.8	6.9	± 0.180	6
Temperature (Deg C)		7.3	↑14.1	10.8	5.6	to 12.1	9	± 0.960	6
Water Level Depth (Feet)		3.22	↑3.68	↑5.73	1.06	to 3.63	2.3	± 0.370	6
Water Level Elevation (Feet)		174.71	174.25	↓172.2	173.49	to 176.06	170	± 0.370	6
Water Level Reference Point (Feet)		↑177.93	↑177.93	↑177.93	177.12	to 177.12	180	± 0.000	7
Eh (mV)		400	↓196	425	265	to 474	370	± 31.000	6
Dissolved Oxygen (mg/L)		3.5	↑6.2	1.9	1.3	to 4.5	2.8	± 0.560	6
Well Depth (Feet)				↓28.12	28.17	to 28.22	28	± 0.017	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.006	0.0052	± 0.000	5
Calcium (mg/L)			↓35		37	to 42	40	± 1.000	5
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			0.1		0.05 U	to 0.16	0.072	± 0.022	5
Magnesium (mg/L)			↓4.8		4.9	to 5.7	5.3	± 0.150	5
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	5
Potassium (mg/L)			↑1.2		0.69	to 0.85	0.77	± 0.029	5
Sodium (mg/L)			7.9		7.5	to 8.7	7.8	± 0.240	5
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.2 U	0.2	± 0.000	5
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			↓0.059		0.13	to 0.21	0.16	± 0.015	5
Total Dissolved Solids (mg/L)			158		130	to 195	160	± 11.000	5
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 5.5	3.6	± 0.560	5
Sulfate (mg/L)			↑9.5		8.3	to 9.4	8.7	± 0.190	5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			↑99		89	to 96	92	± 1.200	5
Organic Carbon (mg/L)			1 U		1 U	to 1 U	1	± 0.000	5
Chloride (mg/L)			↓19		22	to 27	25	± 0.930	5
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Turbidity (field) (NTU)		0.3	0.4	0.8	0.2	to 2	0.85	± 0.270	6
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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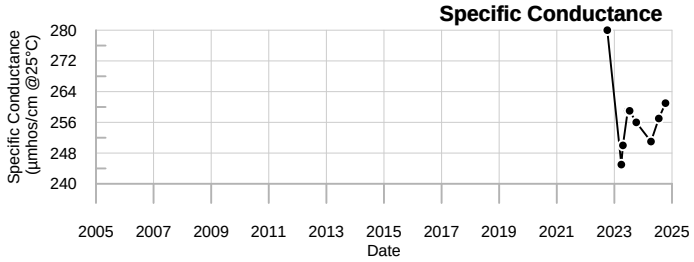

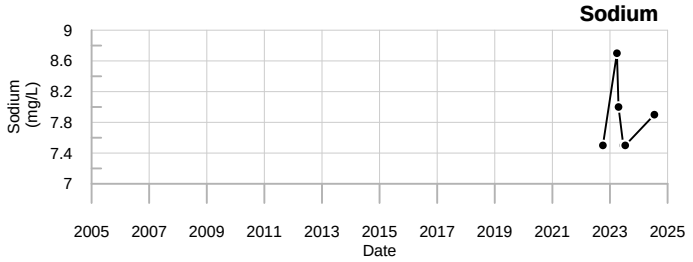

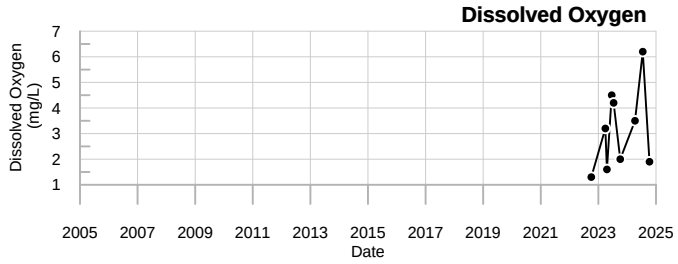

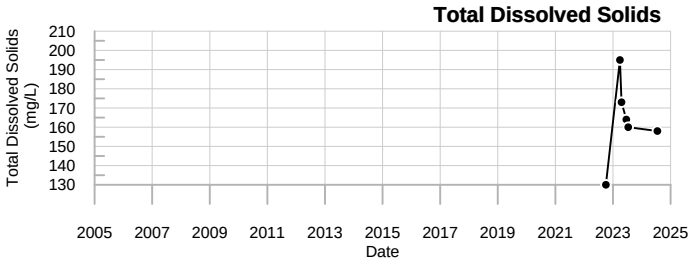

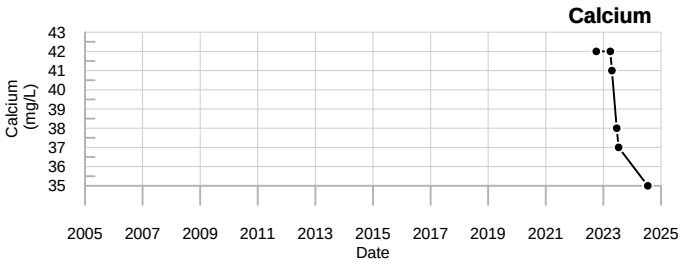

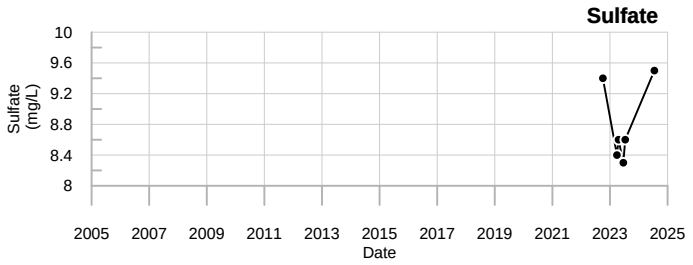

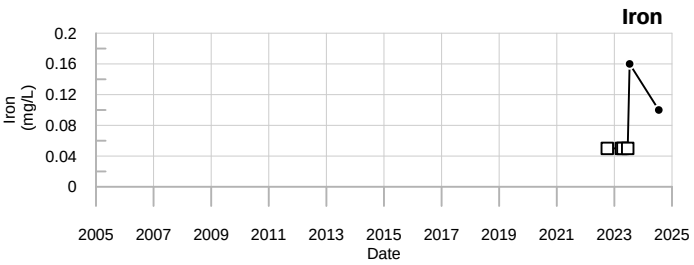

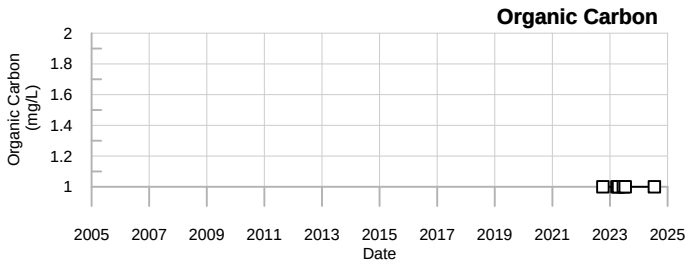

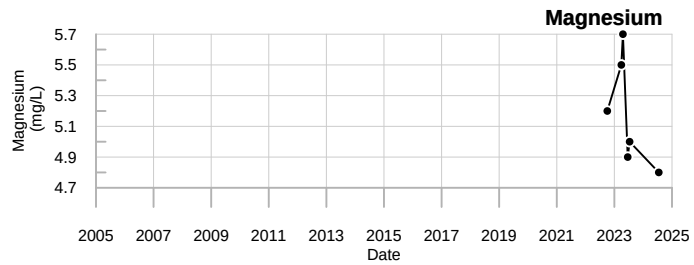

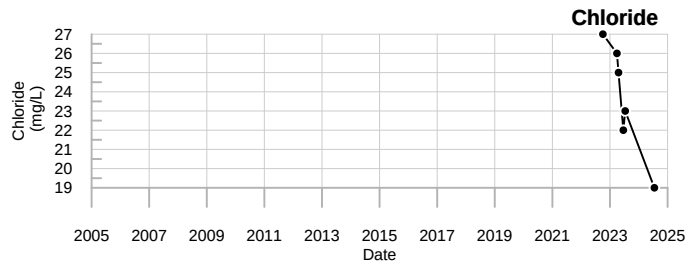

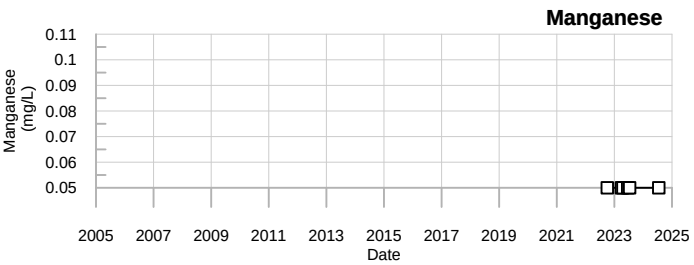

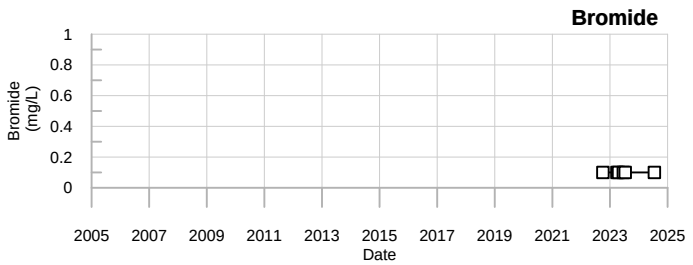

LEGEND

□ - Below reporting Limit, Associate value is the reporting limit.

◇ - Estimated Value (J-flagged).

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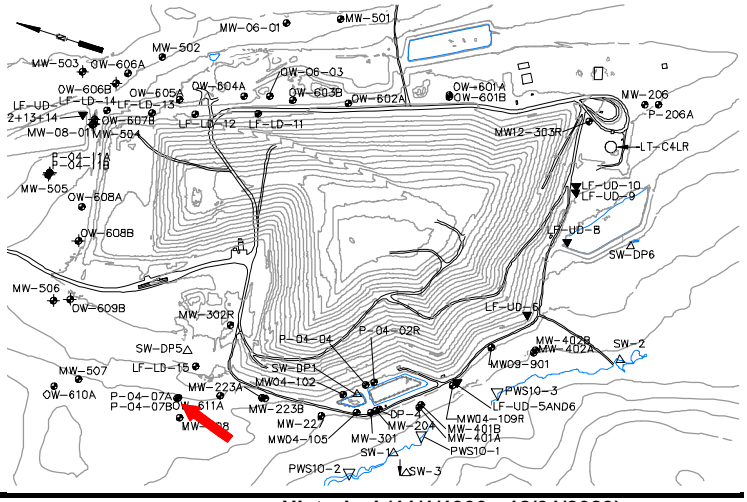
P-04-07A
Juniper Ridge Landfill

Well Description

P-04-07B monitors bedrock groundwater downgradient of and southwest of the landfill expansion.



Screen Interval:	**12 ft. to 13 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**10/3/2022**
Material Screened:	**Bedrock**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↑535	↑552	↑548	177	to 526	450	± 46.000	7
pH (STU)		7.3	7.3	7.2	6.8	to 7.5	7.1	± 0.083	7
Temperature (Deg C)		6.7	↑13.7	11.2	4.4	to 13	8.8	± 1.200	7
Water Level Depth (Feet)		2.15	↑3.55	↑5.62	1.03	to 3.51	2.1	± 0.370	6
Water Level Elevation (Feet)		175.69	174.29	↓172.22	173.64	to 176.12	180	± 0.370	6
Water Level Reference Point (Feet)		↑177.84	↑177.84	↑177.84	177.15	to 177.15	180	± 0.000	7
Eh (mV)		413	↓167	356	269	to 482	370	± 26.000	7
Dissolved Oxygen (mg/L)		1.2	1.9	1.8	0.2	to 4	1.4	± 0.490	7
Well Depth (Feet)				↑16.58	16.45	to 16.54	16	± 0.030	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	5
Calcium (mg/L)			↓31		63	to 74	68	± 2.300	5
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)			0.05 U		0.05 U	to 0.05	0.05	± 0.000	5
Magnesium (mg/L)			↓4.5		6.8	to 8.2	7.6	± 0.250	5
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	5
Potassium (mg/L)			↑1.8		1.1	to 1.3	1.2	± 0.040	5
Sodium (mg/L)			↑**98**		20	to 38	26	± 3.200	5
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 0.55	0.28	± 0.068	5
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)			↓0.12		0.45	to 0.58	0.49	± 0.023	5
Total Dissolved Solids (mg/L)			320		290	to 328	320	± 7.200	5
Total Suspended Solids (mg/L)			↑8.3 U		2.5 U	to 7.6	4.4	± 1.200	5
Sulfate (mg/L)			↑29		19	to 23	21	± 0.680	5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Alkalinity (CaCO3) (mg/L)			↑180		140	to 160	150	± 3.200	5
Organic Carbon (mg/L)			1 U		1 U	to 1 U	1	± 0.000	5
Chloride (mg/L)			↓57		59	to 63	62	± 0.870	5
Bromide (mg/L)			0.1 U		0.1 U	to 0.2 U	0.12	± 0.020	5
Turbidity (field) (NTU)		0.5	0.6	0.6	0.3	to 4.3	1.1	± 0.550	7
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
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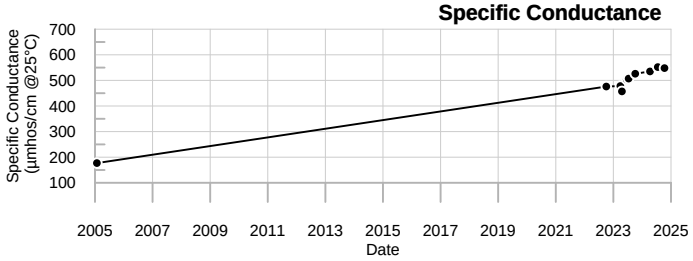
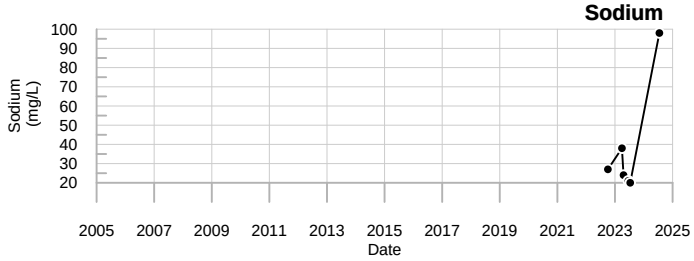
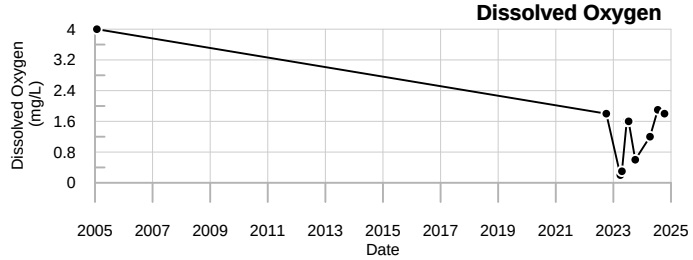
Specific Conductance



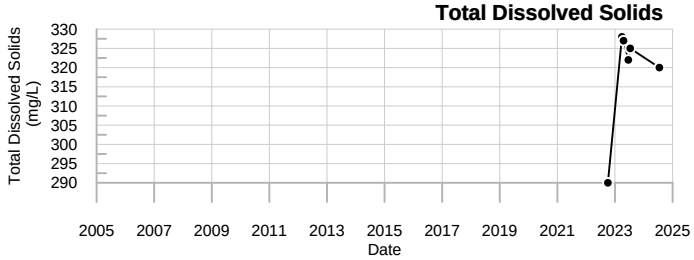
Sodium



Dissolved Oxygen



Total Dissolved Solids



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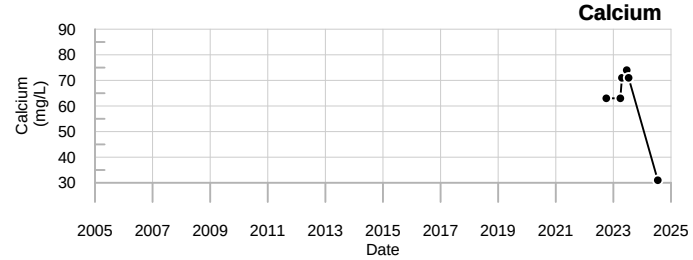
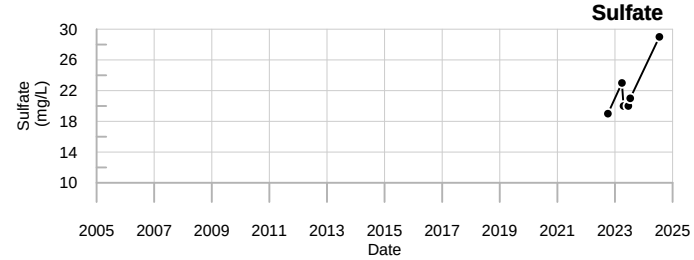


Sulfate



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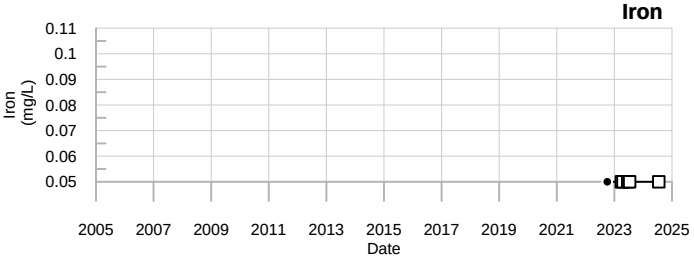
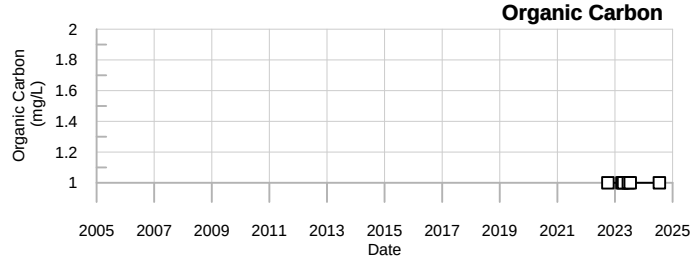


Organic Carbon



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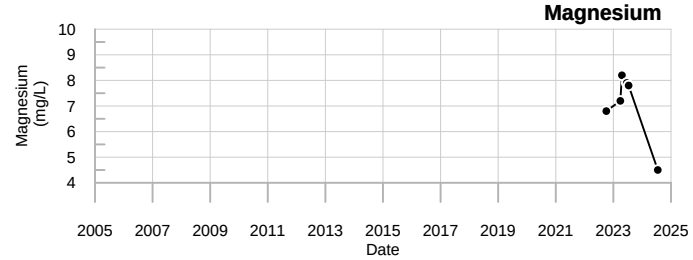
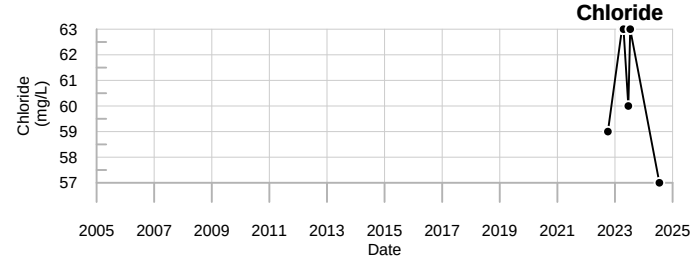


Chloride



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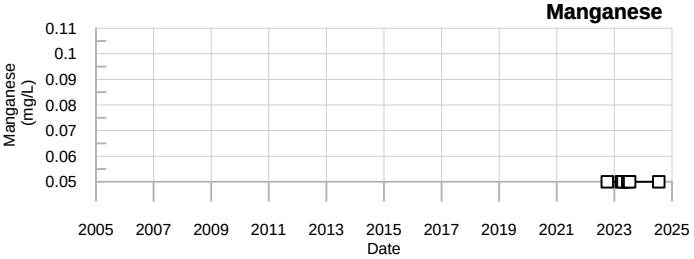

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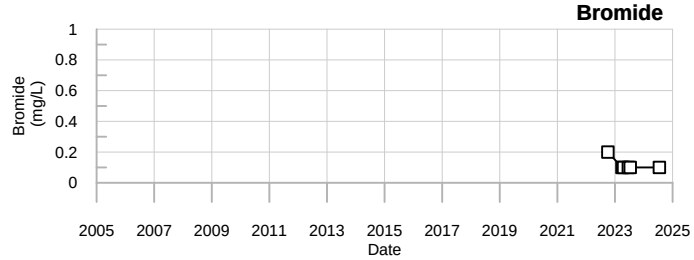

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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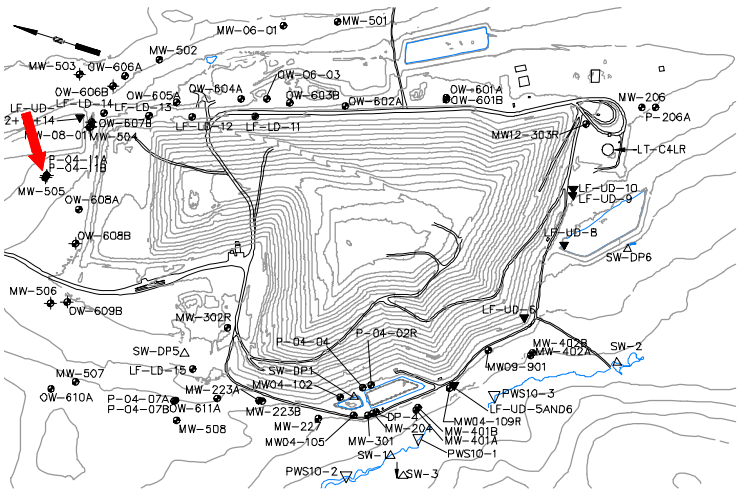
P-04-07B
Juniper Ridge Landfill

Well Description

P-04-11A monitors overburden groundwater downgradient of and north of the landfill expansion.



Screen Interval:	**48.5 ft. to 49.5 ft.**
Sampled:	**3 Times Annually***
Sampled Since:	**2/10/2021**
Material Screened:	**Overburden**
Well Condition:	**Good**
Sampling Method:	**Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		125	126	125	75	to 136	120	± 4.900	11
pH (STU)		↑8.1	7.1	6.9	5.9	to 7.8	7	± 0.170	11
Temperature (Deg C)		7	11.7	9.9	5.3	to 15.7	9.9	± 0.960	11
Water Level Depth (Feet)		13.61	15.31	↑19.1	9.95	to 17.87	14	± 0.760	11
Water Level Elevation (Feet)		173.47	171.77	↓167.98	169.21	to 177.13	170	± 0.760	11
Water Level Reference Point (Feet)		187.08	187.08	187.08	187.08	to 187.08	190	± 0.000	11
Eh (mV)		267	332	414	140	to 472	300	± 35.000	11
Dissolved Oxygen (mg/L)		↑8	4.2	5.4	0.6	to 6.9	3.7	± 0.560	11
Well Depth (Feet)				↓52.61	52.66	to 52.66	53	± 0.000	3
Arsenic (mg/L)			0.0053		0.005 U	to 0.015	0.011	± 0.001	8
Calcium (mg/L)			14		10	to 15	13	± 0.500	8
Copper (mg/L)			0.0034		0.003 U	to 0.0075	0.0036	± 0.001	8
Iron (mg/L)			0.074		0.05 U	to 1.2	0.27	± 0.150	8
Magnesium (mg/L)			3.4		2.3	to 3.5	2.8	± 0.120	8
Manganese (mg/L)			0.05 U		0.05 U	to 0.06	0.051	± 0.001	8
Potassium (mg/L)			1.1		0.7	to 1.3	0.94	± 0.083	8
Sodium (mg/L)			9		5.5	to 13	11	± 0.840	8
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	8
Total Kjeldahl Nitrogen (mg/L)			0.2 U		0.2 U	to 6.1	1	± 0.730	8
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	8
Nitrite/Nitrate - (N) (mg/L)			↓0.05 U		0.1	to 0.34	0.2	± 0.026	8
Total Dissolved Solids (mg/L)			88		88	to 120	100	± 3.400	8
Total Suspended Solids (mg/L)			8.3 U		2.5 U	to 65	11	± 7.700	8
Sulfate (mg/L)			3.5		3.5	to 5	4.3	± 0.160	8
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	8
Alkalinity (CaCO3) (mg/L)			↑78		59	to 75	66	± 1.800	8
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.6	± 0.180	8
Chloride (mg/L)			↑2.4		1.5	to 2.3	1.8	± 0.100	8
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	8
Turbidity (field) (NTU)		0.2	0.5	0.9	0.2	to 3.3	1.2	± 0.320	11
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	8

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.
*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

SME
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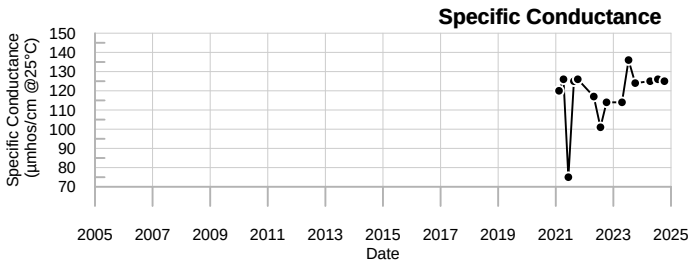

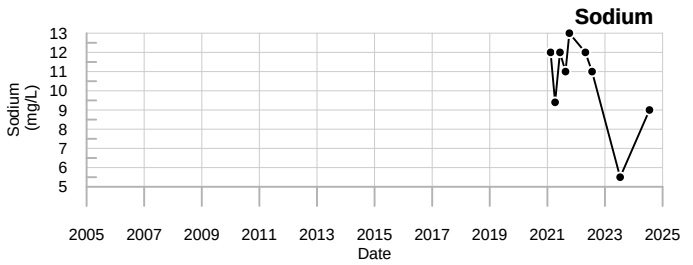

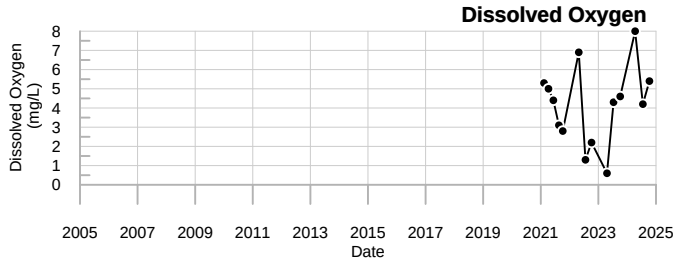

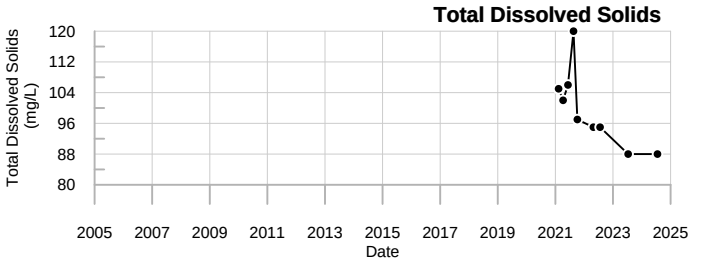

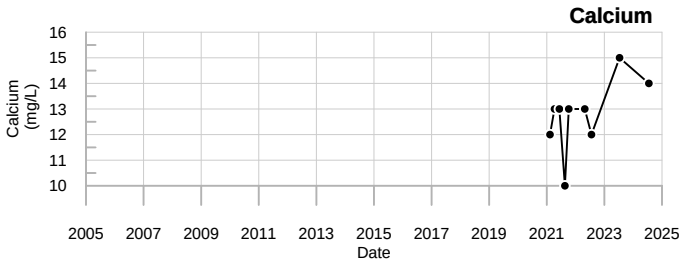

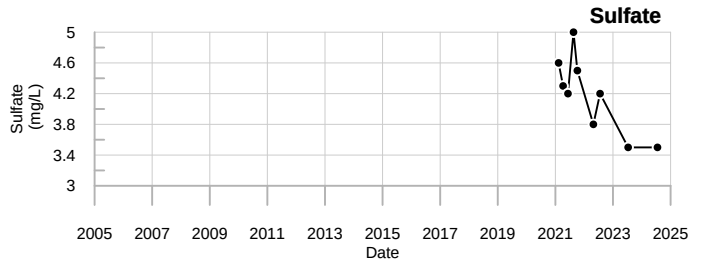

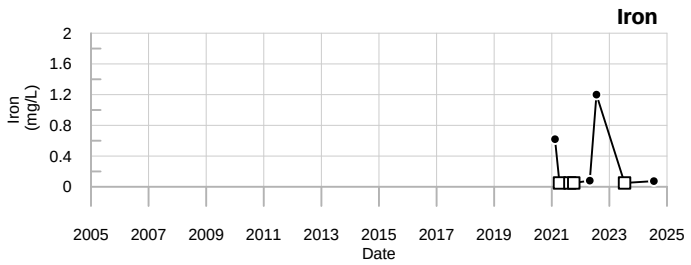

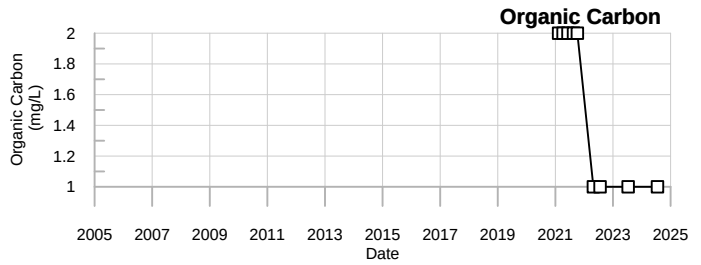

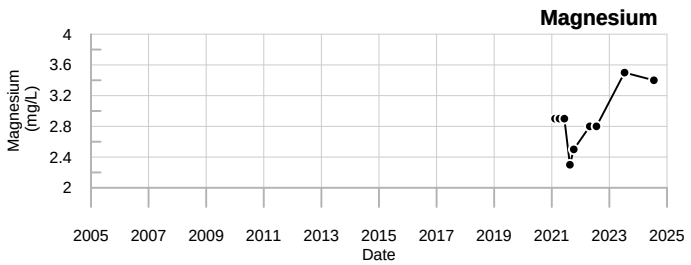

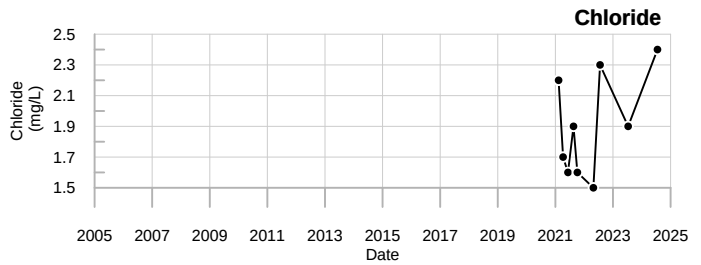

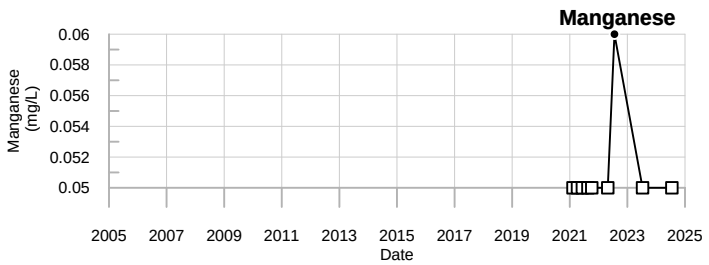

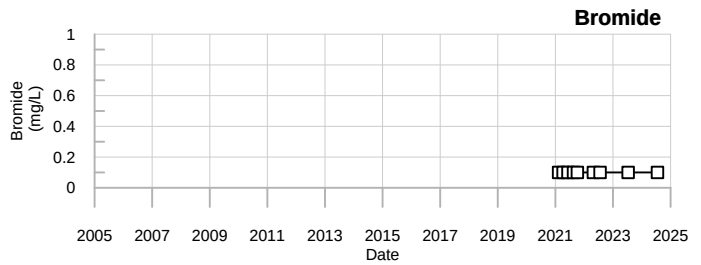

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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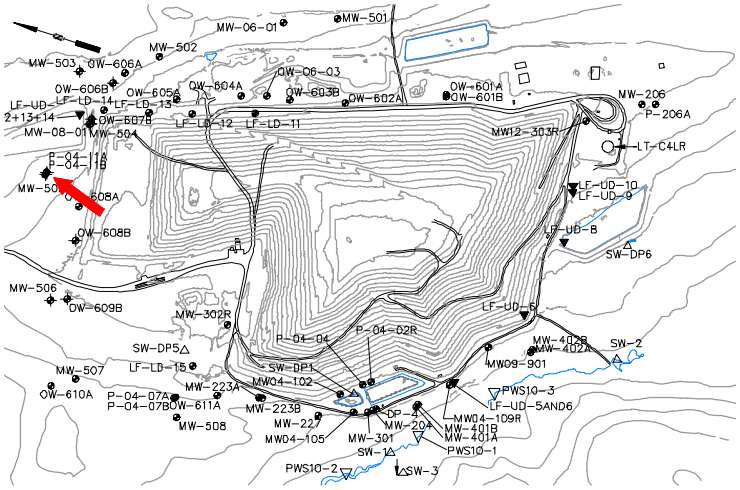
P-04-11A
Juniper Ridge Landfill

P-04-11B
Annual Stats

Well Description

P-04-11B monitors overburden groundwater downgradient of and north of the landfill expansion.



Screen Interval: **9 ft. to 10 ft.**

Sampled: **3 Times Annually***

Sampled Since: **2/10/2021**

Material Screened: **Overburden**

Well Condition: **Good**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		52	↑62	D	48	to 56	52	± 0.900	9
pH (STU)		6.2	↓5.6	D	5.9	to 7.6	6.7	± 0.210	9
Temperature (Deg C)		4.5	13.1	D	2.8	to 18	10	± 1.700	9
Water Level Depth (Feet)		12.17	8.21	D	7.6	to 12.17	10	± 0.650	9
Water Level Elevation (Feet)		174.97	178.93		174.97	to 179.54	180	± 0.650	9
Water Level Reference Point (Feet)		187.14	187.14		187.14	to 187.14	190	± 0.000	9
Eh (mV)		336	313	D	285	to 450	370	± 22.000	8
Dissolved Oxygen (mg/L)		5.1	3.4	D	3.2	to 10.9	6.6	± 0.840	9
Well Depth (Feet)				↓12.98	13.03	to 13.03	13	± 0.000	3
Arsenic (mg/L)			0.005 U		0.005 U	to 0.005 U	0.005	± 0.000	7
Calcium (mg/L)			3.2		2.5	to 3.3	3	± 0.110	7
Copper (mg/L)			↑0.0039		0.003 U	to 0.003 U	0.003	± 0.000	7
Iron (mg/L)			0.72		0.13	to 1.4	0.35	± 0.180	7
Magnesium (mg/L)			1.4		1	to 1.5	1.2	± 0.059	7
Manganese (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	7
Potassium (mg/L)			0.56		0.3	to 0.87	0.43	± 0.082	7
Sodium (mg/L)			↑7.6		3.6	to 5.8	4.3	± 0.270	7
Boron (mg/L)			0.05 U		0.05 U	to 0.05 U	0.05	± 0.000	7
Total Kjeldahl Nitrogen (mg/L)			↑0.34		0.2 U	to 0.31	0.24	± 0.014	7
Ammonia (N) (mg/L)			0.5 U		0.5 U	to 0.5 U	0.5	± 0.000	7
Nitrite/Nitrate - (N) (mg/L)			0.05 U		0.05 U	to 0.096	0.064	± 0.007	7
Total Dissolved Solids (mg/L)			↓48		50	to 67	60	± 2.400	7
Total Suspended Solids (mg/L)			↓8.3 U		16	to 47	31	± 5.100	7
Sulfate (mg/L)			2.3		2	to 3.6	3.1	± 0.190	7
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Alkalinity (CaCO3) (mg/L)			13		7.9	to 13	11	± 0.610	7
Organic Carbon (mg/L)			1 U		1 U	to 2 U	1.7	± 0.180	7
Chloride (mg/L)			6.4		4.7	to 8.9	6	± 0.610	7
Bromide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	7
Turbidity (field) (NTU)		↓0.3	0.4	D	0.4	to 8.1	2.8	± 0.930	9
Methane (ug/L)			↓5.2 U		20 U	to 20 U	20	± 0.000	7

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

*Field parameters only are monitored in the spring and fall.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

D = The sampling location was dry.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

SME
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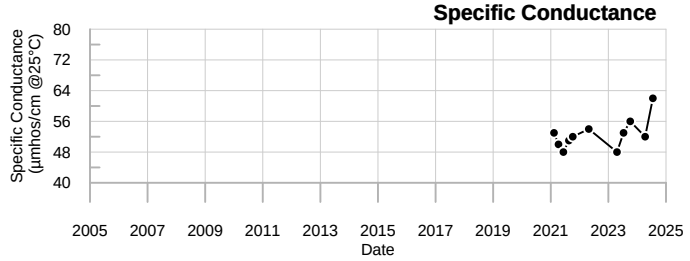
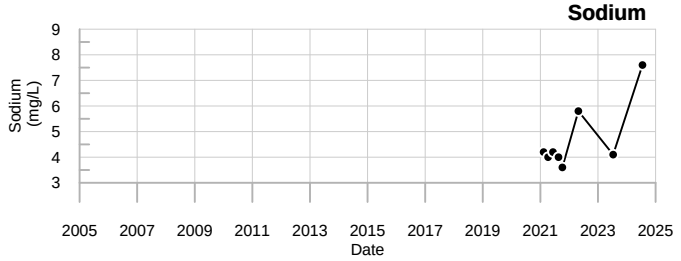
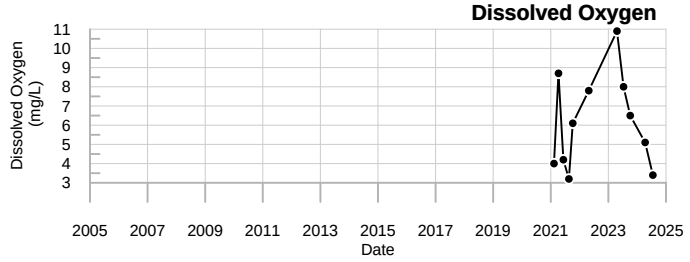
Specific Conductance



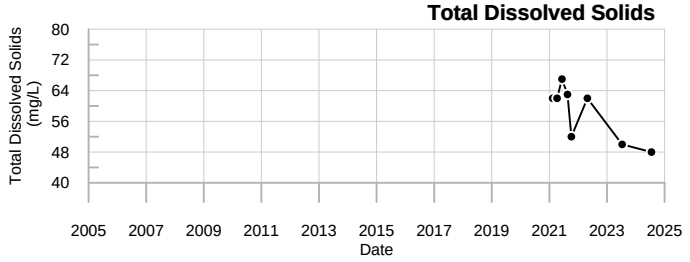
Sodium



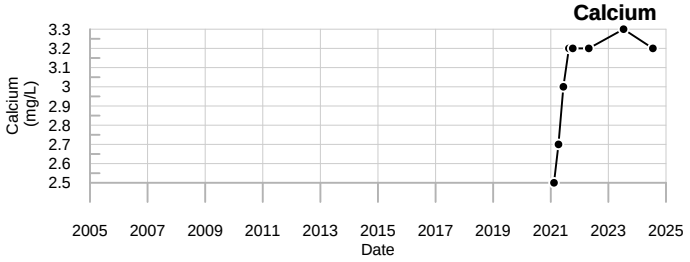
Dissolved Oxygen



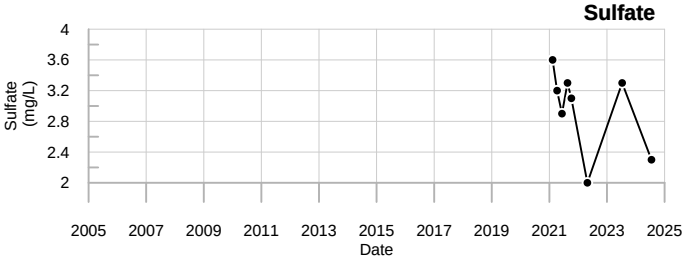
Total Dissolved Solids



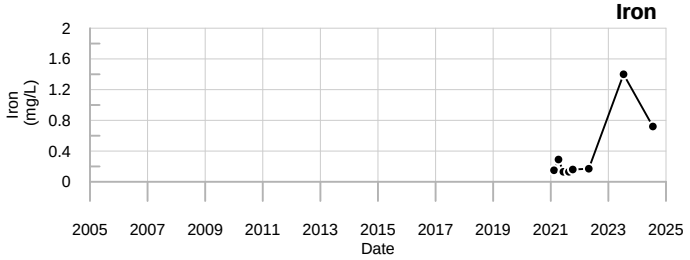
Calcium



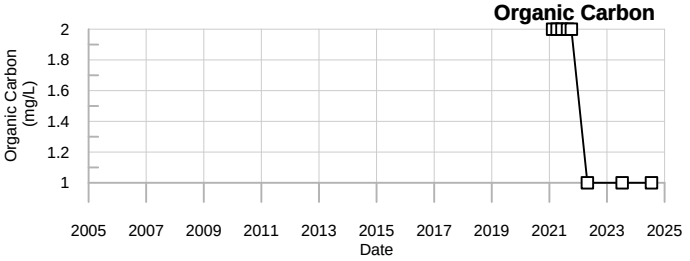
Sulfate



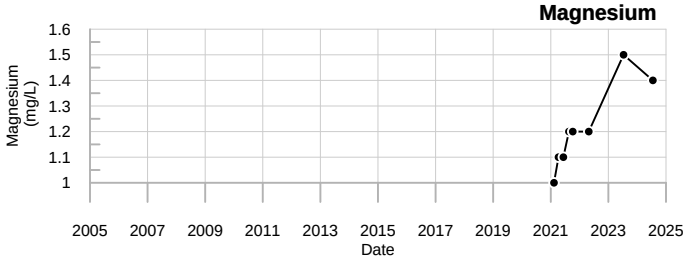
Iron



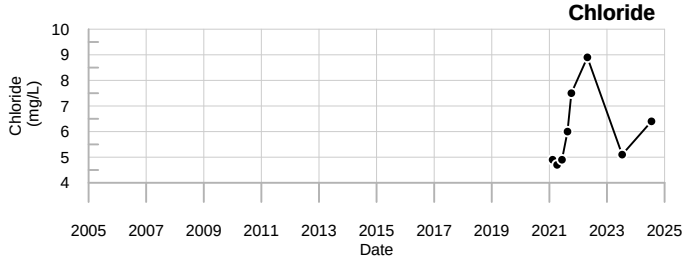
Organic Carbon



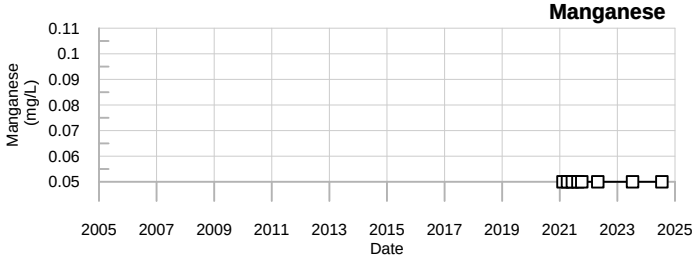
Magnesium



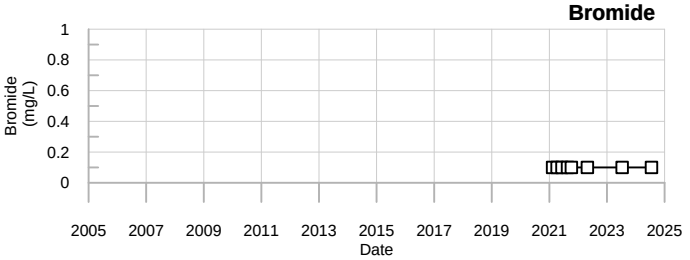
Chloride



Manganese



Bromide



LEGEND

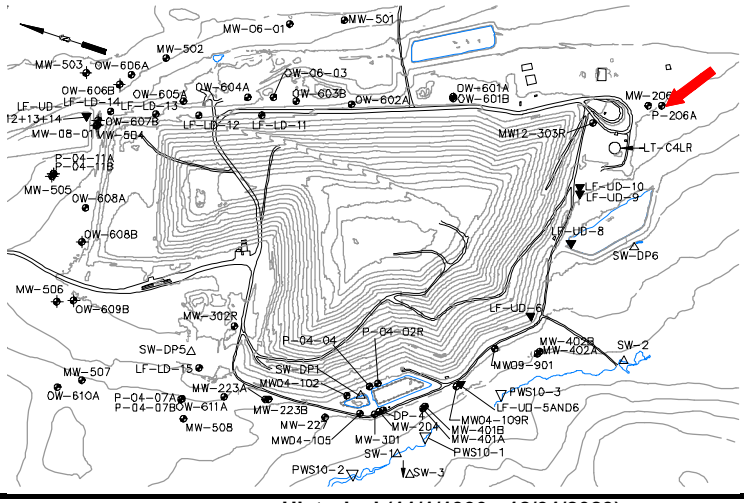
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER ENGINEERS

P-04-11B
Juniper Ridge Landfill

Well Description

P-206A monitors bedrock water quality upgradient of the landfill.



Screen Interval: **85.5 ft. to 90.5 ft.**

Sampled: **3 Times Annually**

Sampled Since: **7/31/2013**

Material Screened: **Bedrock**

Well Condition: **Good**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		201	232	197	120	to 317	200	± 9.600	32
pH (STU)		7.1	6.6	6.4	6.3	to 11.8	7.6	± 0.160	32
Temperature (Deg C)		8.3	17.9	12.4	4.6	to 19.5	11	± 0.690	32
Water Level Depth (Feet)		23.5	24.7	27.1	19.9	to 34.7	25	± 0.550	33
Water Level Elevation (Feet)		181.01	179.81	177.41	169.81	to 184.61	180	± 0.550	33
Water Level Reference Point (Feet)		204.51	204.51	204.51	204.51	to 204.51	200	± 0.000	33
Eh (mV)		220	293	348	63	to 352	200	± 16.000	32
Dissolved Oxygen (mg/L)		6.8	2.9	3.4	0.6	to 6.8	3.3	± 0.230	32
Well Depth (Feet)				93.4	93.15	to 93.5	93	± 0.031	10
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.022	0.0077	± 0.001	30
Calcium (mg/L)		24	24	19	11.1	to 27	20	± 0.950	30
Copper (mg/L)		↑0.029	0.003 U	0.003 U	0.003 U	to 0.0053	0.0036	± 0.001	4
Iron (mg/L)		0.18	0.25	0.071	0.07	to 16.8	1.9	± 0.660	30
Magnesium (mg/L)		7	7	6.1	3.1	to 8.6	5.8	± 0.330	30
Manganese (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.31	0.1	± 0.011	30
Potassium (mg/L)		0.98	0.9	0.82	0.8	to 1.6	1.1	± 0.033	30
Sodium (mg/L)		7.3	7.2	↓6.3	6.7	to 11	8.3	± 0.200	30
Boron (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 0.05 U	0.05	± 0.000	4
Total Kjeldahl Nitrogen (mg/L)		0.2 U	0.2 U	0.2 U	0.2 U	to 0.6	0.33	± 0.026	23
Ammonia (N) (mg/L)		0.5 U	0.5 U	0.5 U	0.5 U	to 0.5 U	0.5	± 0.000	4
Nitrite/Nitrate - (N) (mg/L)		0.39	0.4	0.3	0.05 U	to 0.7	0.2	± 0.039	26
Total Dissolved Solids (mg/L)		133	129	154	95	to 169	130	± 3.500	23
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 57	10	± 2.700	23
Sulfate (mg/L)		5.4	↑6.9	↑7.2	2 U	to 5.4	2.8	± 0.190	30
Sulfide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.1 U	0.1	± 0.000	4
Alkalinity (CaCO3) (mg/L)		66	↓64	74	66	to 86	77	± 4.200	4
Organic Carbon (mg/L)		1 U	1 U	1 U	1 U	to 2 U	1.8	± 0.088	23
Chloride (mg/L)		↑27	↑26	24	3.3	to 24	17	± 1.300	30
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.12	± 0.008	23
Turbidity (field) (NTU)		↓0.5	1	0.8	0.8	to 9.3	3.3	± 0.440	32
Methane (ug/L)		↓5.2 U	↓5.2 U	↓5.2 U	20 U	to 20 U	20	± 0.000	4

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

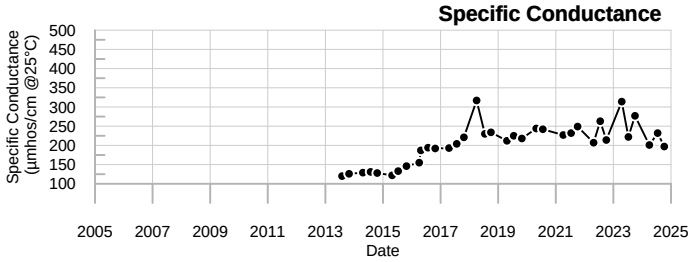
Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

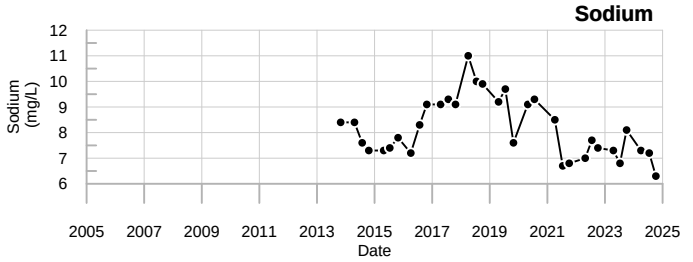
U = Not Detected above the laboratory reporting limit.

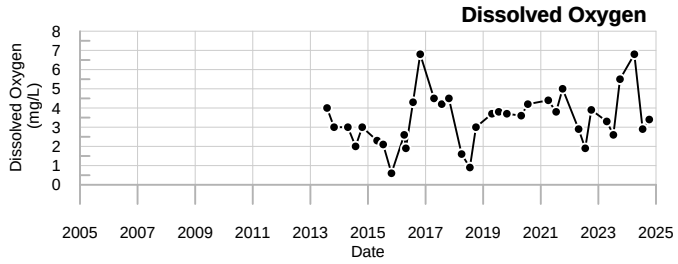
Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

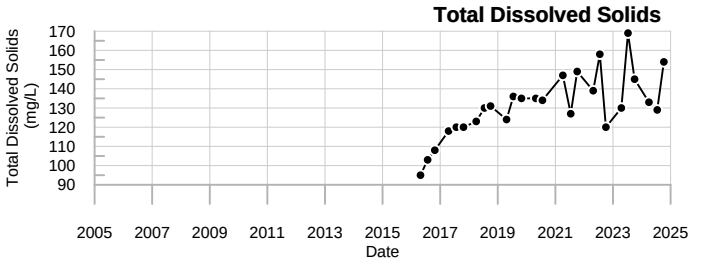
Data Group: 245
Printed: 4/16/2025 11:26

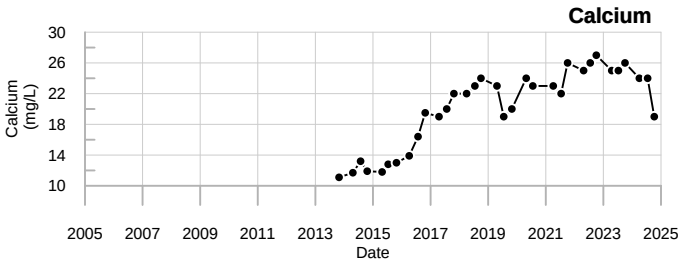
SME
SEVEE & MAHER ENGINEERS

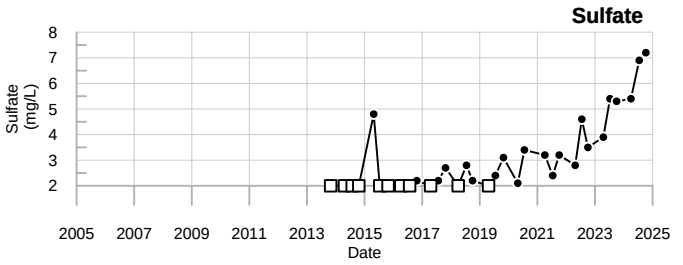


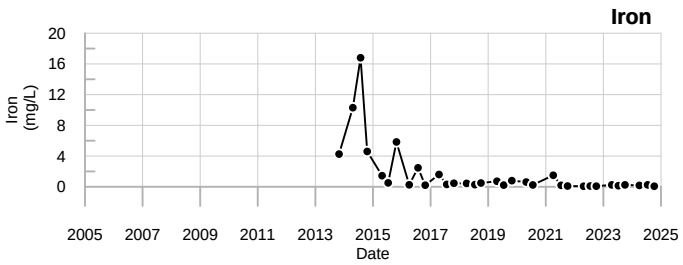


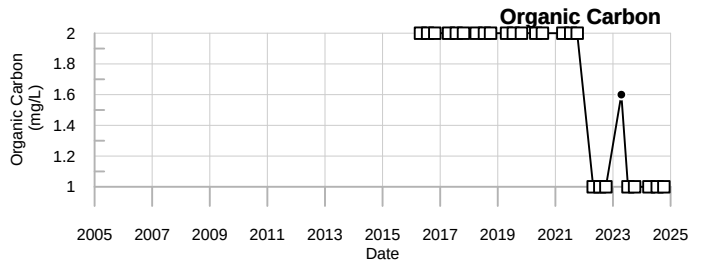


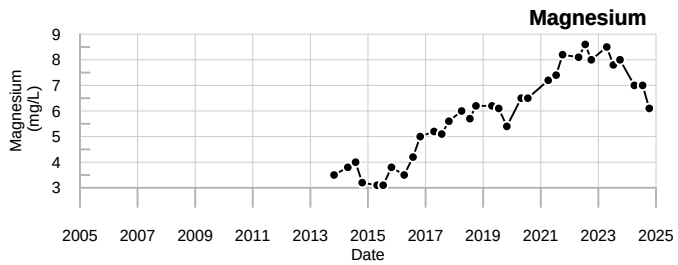


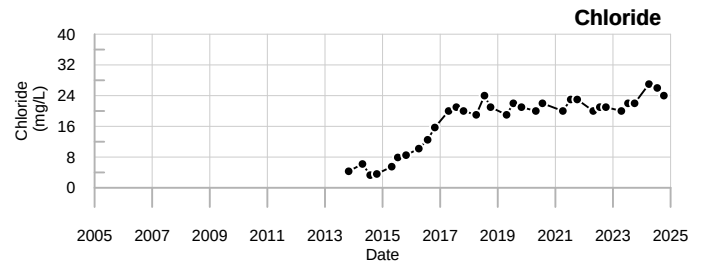


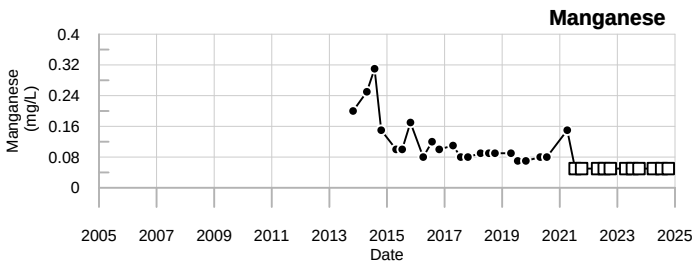


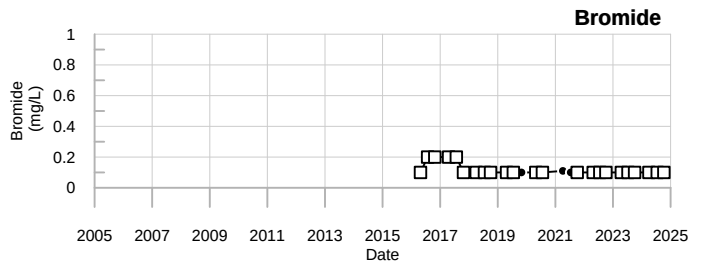












LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

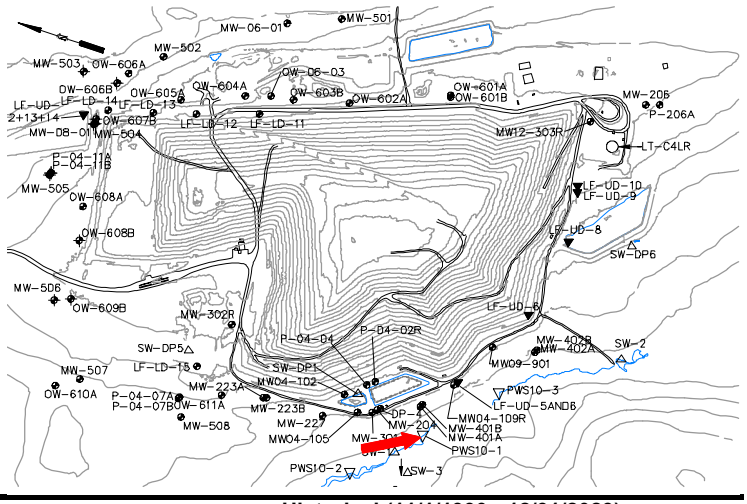
SME
SEVEE & MAHER ENGINEERS

P-206A
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

PWS10-1 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-1 is downgradient of the landfill.



Screen Interval:

Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		123	317	192	67	to 438	200	± 12.000	42
pH (STU)		6.8	6.3	6.6	5.3	to 7.2	6.2	± 0.066	42
Temperature (Deg C)		4.7	↑26	13.8	2.7	to 25	13	± 1.000	42
Eh (mV)		454	360	438	-38	to 818	220	± 22.000	42
Dissolved Oxygen (mg/L)		5.5	8.7	3.2	0	to 9.5	2.3	± 0.350	42
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.019	0.0073	± 0.001	42
Calcium (mg/L)		16	↓0.3 U	22	6.8	to 38.1	22	± 1.300	42
Iron (mg/L)		0.29	↓0.05 U	1	0.07	to 30.3	4.7	± 0.850	42
Magnesium (mg/L)		4.2	↓0.3 U	6.2	2.3	to 12.7	6.6	± 0.410	42
Manganese (mg/L)		0.05 U	0.05 U	**0.31**	0.05 U	to 4.8	0.6	± 0.140	42
Potassium (mg/L)		1.1	↓0.3 U	1.3	0.4	to 3.2	1.2	± 0.099	42
Sodium (mg/L)		3.6	↓0.3 U	4.9	2.8	to 11	7.2	± 0.250	42
Nitrite/Nitrate - (N) (mg/L)		0.085	0.076	0.05 U	0.05 U	to 2 U	0.18	± 0.074	27
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.23	0.041	0.03	to 0.81	0.13	± 0.023	42
Total Dissolved Solids (mg/L)		87	181	142	87	to 197	140	± 5.100	42
Total Suspended Solids (mg/L)		19	77	21	2.5 U	to 786	54	± 19.000	42
Sulfate (mg/L)		7.5	↑30	3.1	1	to 15	4.2	± 0.490	42
Bicarbonate Alkalinity (CaCO3) (mg/L)		54	120	93	21	to 130	77	± 4.700	42
Organic Carbon (mg/L)		5	13	14	2.5	to 35	14	± 1.300	42
Chloride (mg/L)		2.8	3.4	5.7	2.4	to 22.9	9.1	± 0.650	42
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		0.6	3.3	0.8	0.2	to 20	3.7	± 0.590	42
Methane (ug/L)		↓7.6	780	320	20 U	to 4600	680	± 230.000	21

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

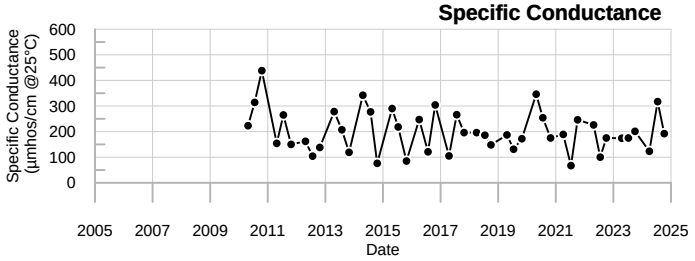
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

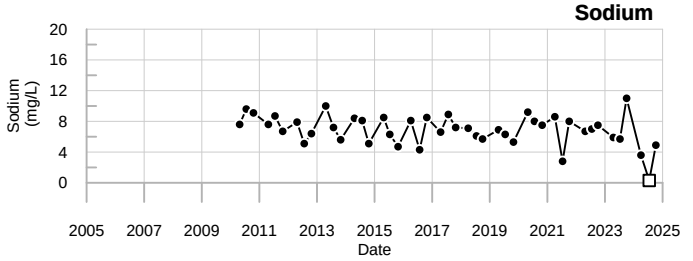
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

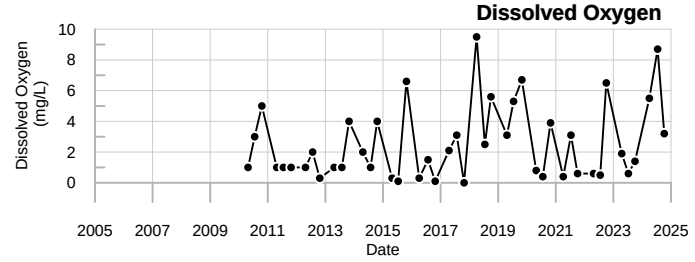
Specific Conductance



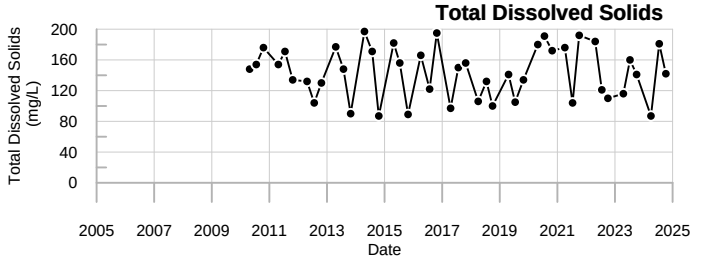
Sodium



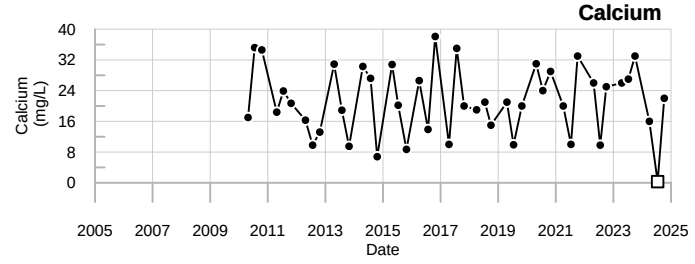
Dissolved Oxygen



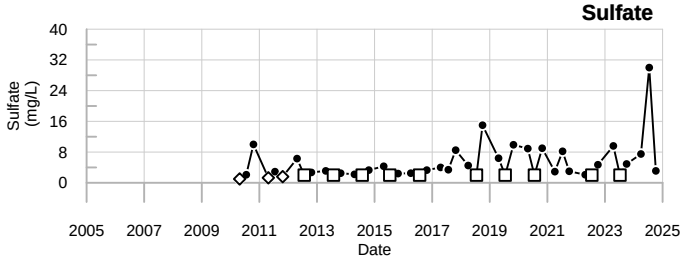
Total Dissolved Solids



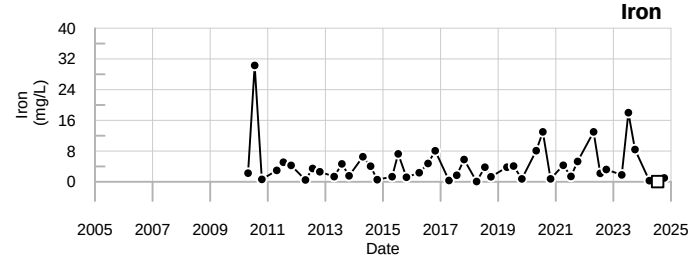
Calcium



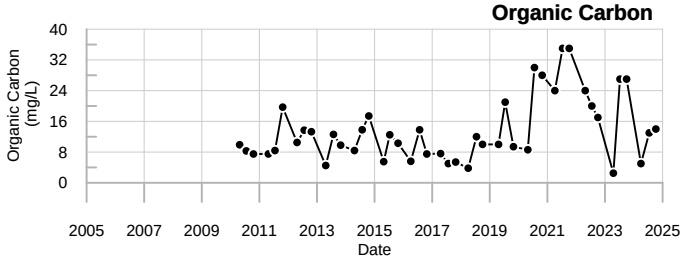
Sulfate



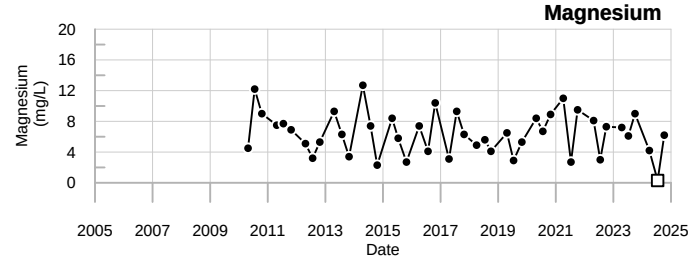
Iron



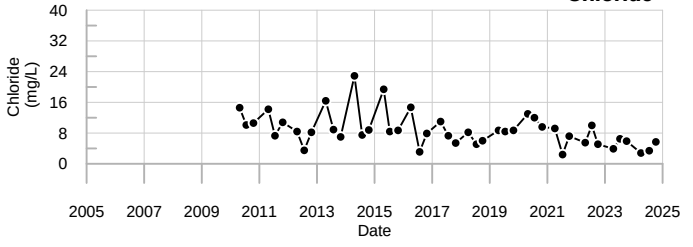
Organic Carbon



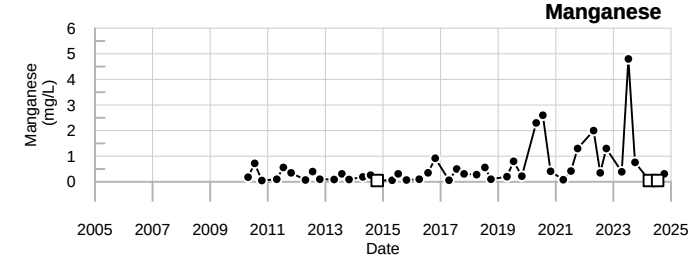
Magnesium



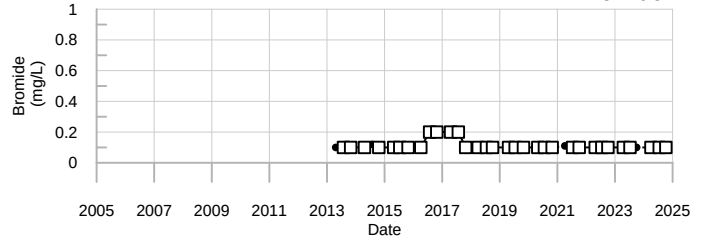
Chloride



Manganese



Bromide



LEGEND

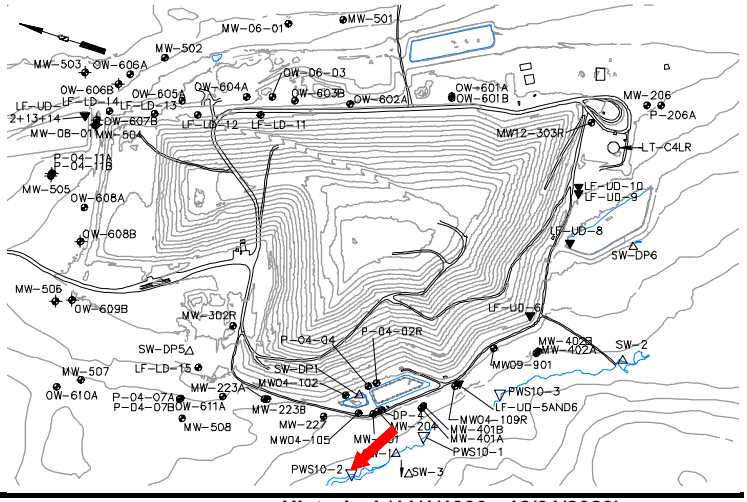
- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
SEVEE & MAHER
ENGINEERS

PWS10-1
Juniper Ridge Landfill

Well Description

PWS10-2 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-2 is downgradient of the landfill.



Screen Interval:

Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓48	226	272	63	to 276	120	± 6.600	41
pH (STU)		6.7	6.7	7.4	5.4	to 7.7	6.5	± 0.110	41
Temperature (Deg C)		3.1	25.6	13.5	1.3	to 26.7	13	± 1.100	41
Eh (mV)		441	341	405	-5	to 509	270	± 21.000	41
Dissolved Oxygen (mg/L)		9.6	7.6	3.1	0.2	to 11.3	4.3	± 0.470	41
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.015	0.0058	± 0.000	41
Calcium (mg/L)		↓3.3	24	14	5.3	to 29	11	± 0.650	41
Iron (mg/L)		0.92	0.89	1.5	0.05 U	to 13.8	2.1	± 0.370	41
Magnesium (mg/L)		1.2	2.9	3	1.2	to 4.7	2.6	± 0.150	41
Manganese (mg/L)		0.05 U	0.21	**0.35**	0.02 U	to 0.94	0.18	± 0.030	41
Potassium (mg/L)		0.83	2.3	1.1	0.3 U	to 2.5	0.98	± 0.090	41
Sodium (mg/L)		3.7	2.1	3	1.6	to 8.3	4.4	± 0.230	41
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.086	0.05 U	0.05 U	to 2 U	0.17	± 0.077	26
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	0.067	0.02	to 0.22	0.059	± 0.006	41
Total Dissolved Solids (mg/L)		51	93	102	38	to 119	85	± 3.000	41
Total Suspended Solids (mg/L)		11	9.3	39	2.5 U	to 327	34	± 10.000	41
Sulfate (mg/L)		2.7	6.9	6.8	1.6	to 19	5.1	± 0.630	41
Bicarbonate Alkalinity (CaCO3) (mg/L)		↓8.2	↑69	47	9.3	to 64	30	± 2.100	41
Organic Carbon (mg/L)		5.7	6.7	16	2.6	to 26	11	± 0.960	41
Chloride (mg/L)		5.6	↓1.4	4.5	2.8	to 19.8	7.3	± 0.580	41
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	32
Turbidity (field) (NTU)		0.6	2.2	1.2	0.3	to 6.5	2.7	± 0.240	41
Methane (ug/L)		↓5.2 U	61	390	20 U	to 4800	340	± 230.000	21

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

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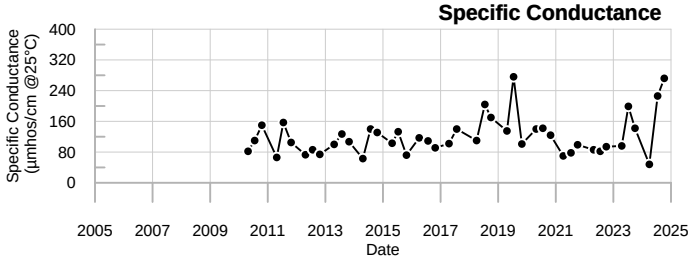
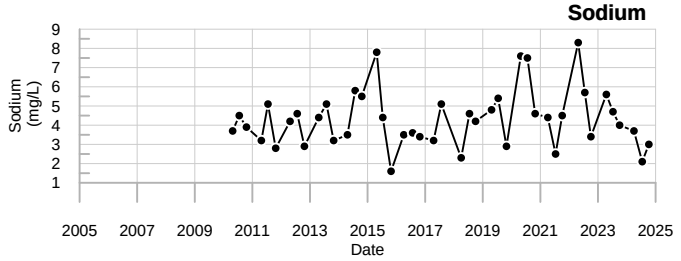
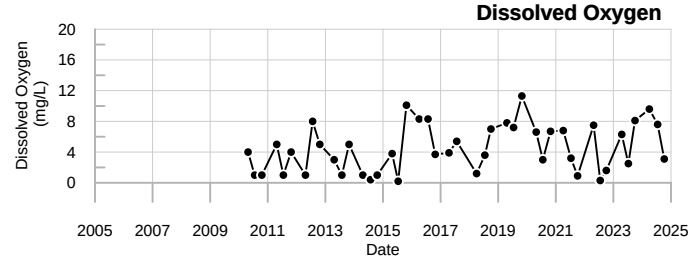
Specific Conductance



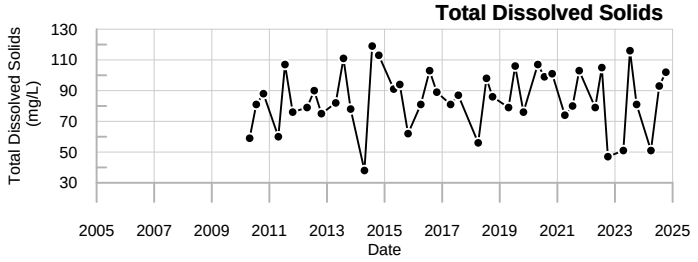
Sodium



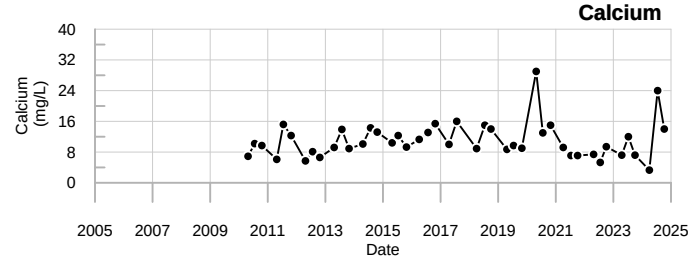
Dissolved Oxygen



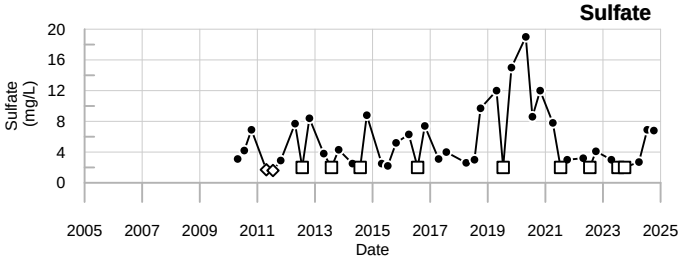
Total Dissolved Solids



Calcium



Sulfate



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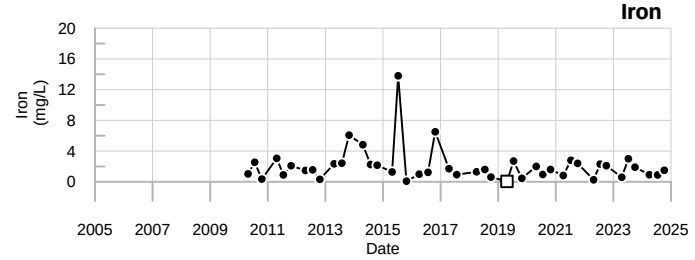
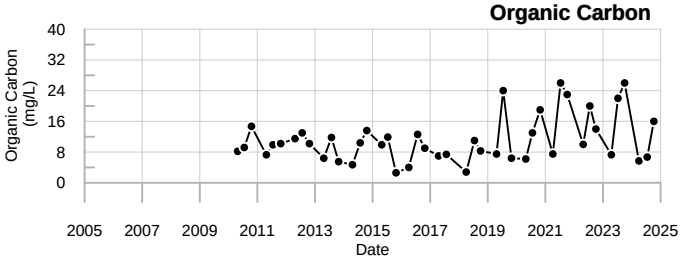


Organic Carbon



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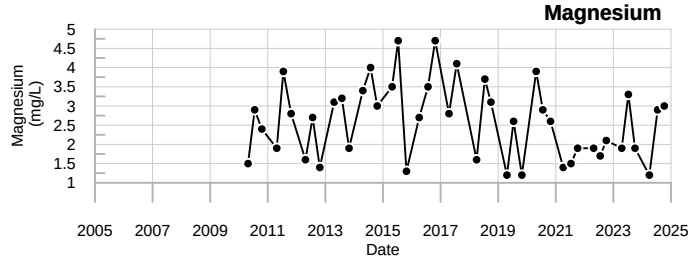
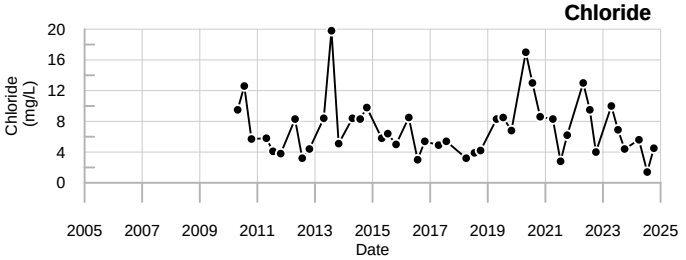
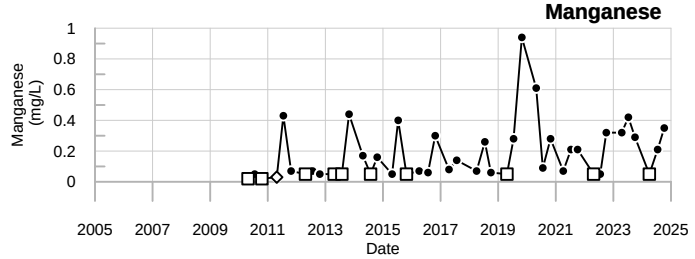


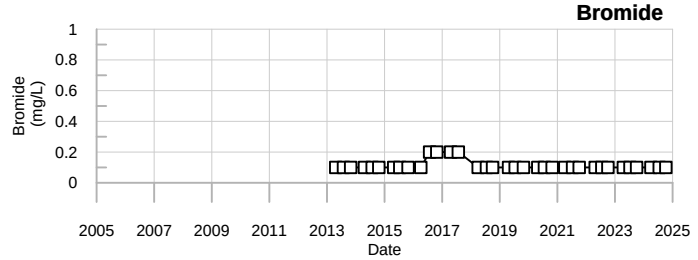
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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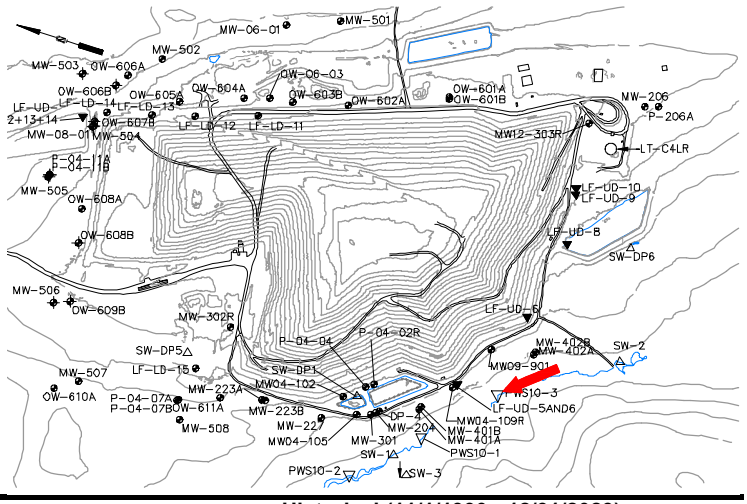
PWS10-2
Juniper Ridge Landfill

Well Description

PWS10-3 is a pore water sampling location along the unnamed tributary to Pushaw stream. PWS10-3 is downgradient of the landfill.



Screen Interval:

Sampled: **3 Times Annually**

Sampled Since: **04/26/2010**

Material Screened:

Well Condition: **NA**

Sampling Method: **Low Flow**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		68	166	189	42	to 222	110	± 7.600	39
pH (STU)		6.8	6.6	6.9	5	to 7.4	6.2	± 0.096	39
Temperature (Deg C)		3.6	24.5	12.9	2.7	to 26.8	13	± 1.100	39
Eh (mV)		437	345	444	-7	to 540	280	± 20.000	39
Dissolved Oxygen (mg/L)		7.5	2.9	4.3	0.3	to 10.3	4.1	± 0.470	39
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.002 U	to 0.011	0.0056	± 0.000	39
Calcium (mg/L)		5.4	↑36	20	3	to 25	9.7	± 0.790	39
Iron (mg/L)		1.8	↑29	2.3	0.17	to 20.8	3.7	± 0.700	39
Magnesium (mg/L)		1.2	↑11	↑5.6	0.7	to 5	2.8	± 0.160	39
Manganese (mg/L)		0.05 U	**2**	**0.49**	0.02	to 2.8	0.36	± 0.086	39
Potassium (mg/L)		1.3	↑5.8	1.5	0.1	to 2.6	0.71	± 0.081	39
Sodium (mg/L)		2.1	8.6	3.9	0.5	to 8.6	4.4	± 0.250	39
Nitrite/Nitrate - (N) (mg/L)		0.061	0.05 U	0.05 U	0.05 U	to 2 U	0.25	± 0.099	24
Total Phosphorus Mixed Forms (PO4 and		0.18	0.28	0.071	0.03	to 0.5	0.12	± 0.018	39
Total Dissolved Solids (mg/L)		66	↑204	144	29	to 163	95	± 4.100	39
Total Suspended Solids (mg/L)		62	220	28	2.5 U	to 489	39	± 13.000	39
Sulfate (mg/L)		4	↑50	2 U	0.6 U	to 47.3	4.4	± 1.200	39
Bicarbonate Alkalinity (CaCO3) (mg/L)		↓1.7	46	84	5.8	to 87	32	± 3.200	39
Organic Carbon (mg/L)		13	21	8.3	2 U	to 41	16	± 1.400	39
Chloride (mg/L)		2.1	6	6.8	1 U	to 15	4.9	± 0.490	39
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	30
Turbidity (field) (NTU)		1.1	4.3	1.5	0.6	to 18.3	3.8	± 0.500	39
Methane (ug/L)		21	500	210	20 U	to 4000	350	± 190.000	21

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

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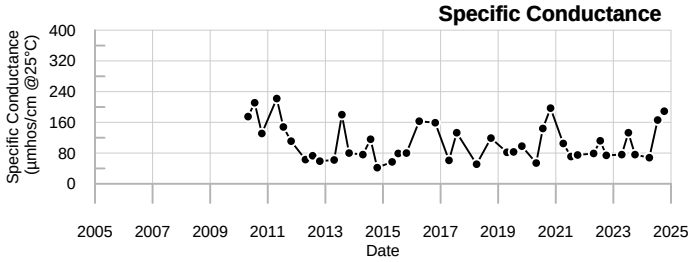

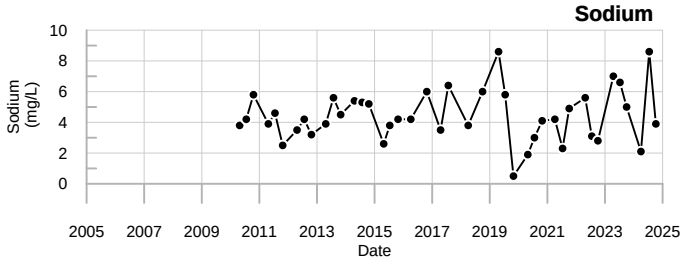

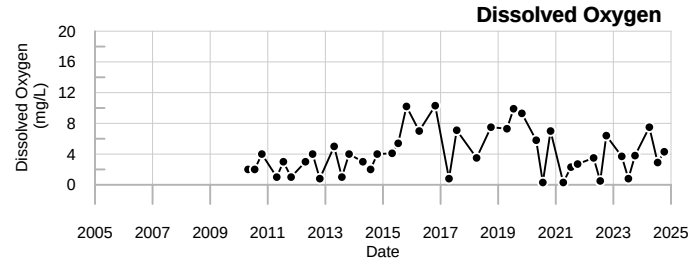

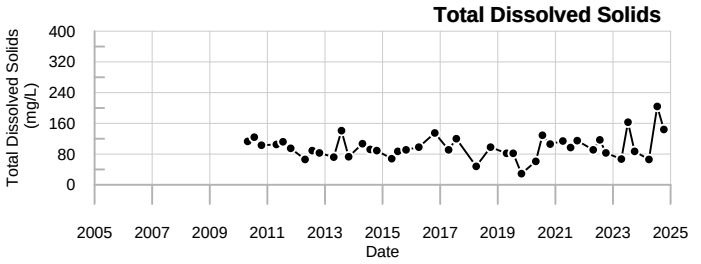

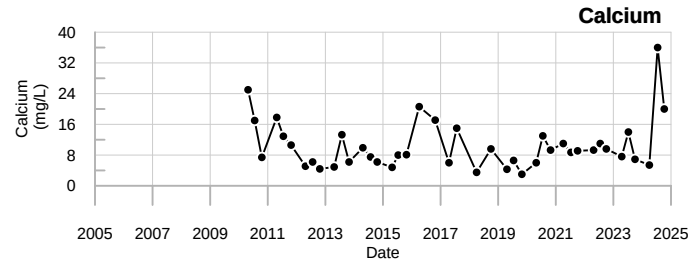

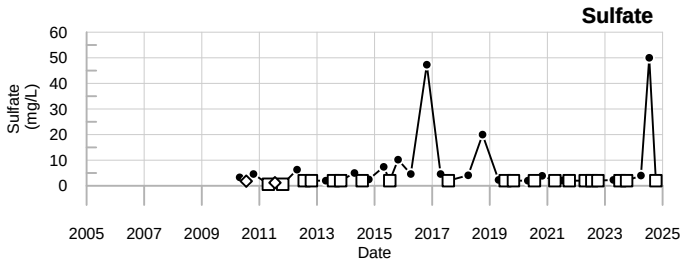

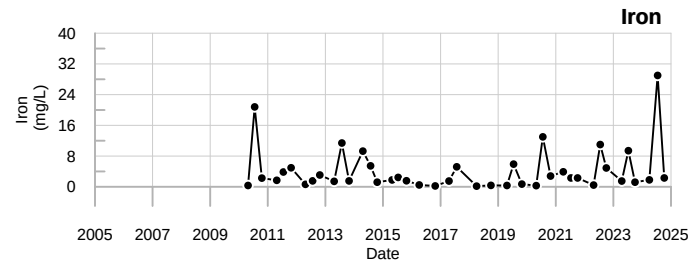

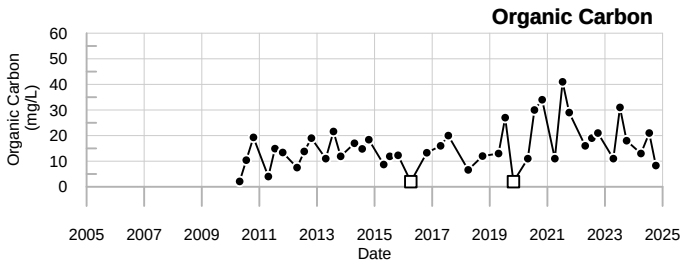

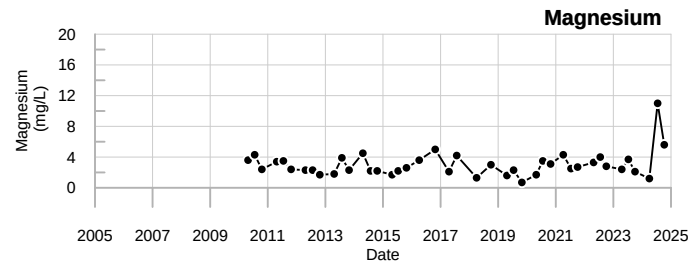

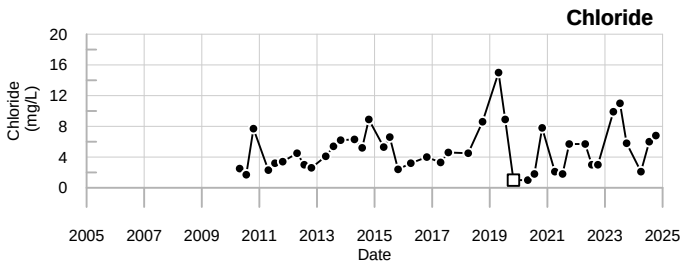

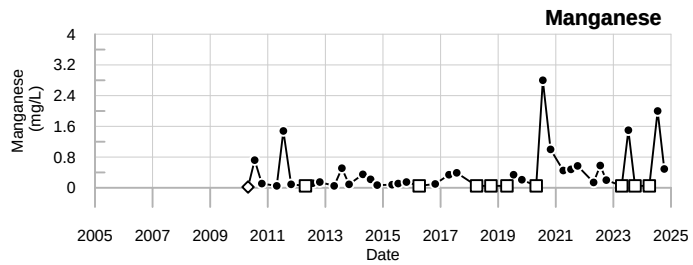

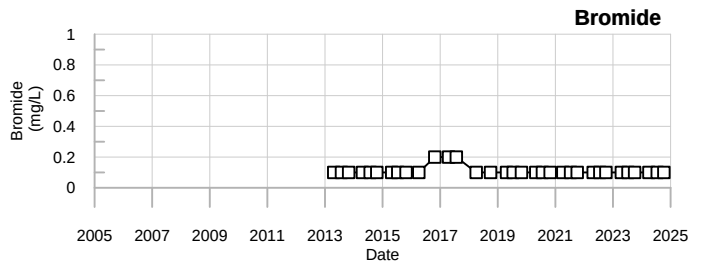

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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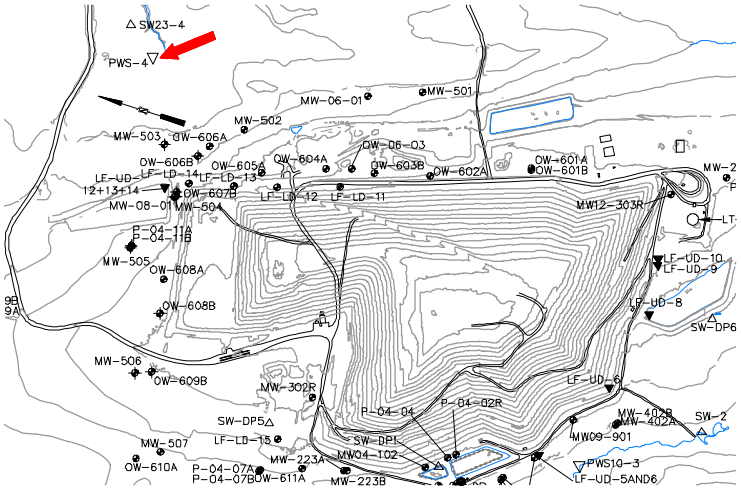
PWS10-3
Juniper Ridge Landfill

Well Description

PWS-4 is a pore water sampling location along the unnamed tributary to Pushaw Stream. PWS-4 is downgradient of the landfill expansion.

Screen Interval:
Sampled: **3 Times Annually**
Sampled Since: **1/24/2023**
Material Screened:
Well Condition:
Sampling Method: **Low Flow**



Chemical Summary

Indicator Parameters	2024 Q1	Q2	Q3	Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		↓48	↓94	↓99	118	to 255	180	± 23.000	5
pH (STU)		7	6.4	↓6.1	6.3	to 7.1	6.7	± 0.130	5
Temperature (Deg C)		9	↑21.9	10.2	2.3	to 18.6	12	± 3.000	5
Eh (mV)		↑200	↑207	↑175	96	to 162	130	± 13.000	5
Dissolved Oxygen (mg/L)		↑9	0.9	↑5.5	0.3	to 3.3	2	± 0.600	5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.011	0.0062	± 0.001	5
Calcium (mg/L)		↓4.4	12	↓9.6	10	to 21	14	± 2.400	5
Copper (mg/L)			0.003 U		0.003 U	to 0.003 U	0.003	± 0.000	5
Iron (mg/L)		↑6.3	2.4	1.8	1.2	to 4.8	2.9	± 0.650	5
Magnesium (mg/L)		↓2.3	↓2.9	↓2.6	3.1	to 5	3.9	± 0.420	5
Manganese (mg/L)		0.29	**0.49**	**0.88**	0.26	to 2.1	0.91	± 0.330	5
Potassium (mg/L)		↑1.9	↑1.3	1.2	0.3 U	to 1.2	0.66	± 0.200	5
Sodium (mg/L)		↓3.1	↓2.4	↓3	4.8	to 7.1	5.9	± 0.400	5
Boron (mg/L)			↑0.18		0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)		↓0.22	↑0.76		0.37	to 0.56	0.45	± 0.036	5
Ammonia (N) (mg/L)			0.5		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)		0.055	0.05 U	↑0.12	0.05 U	to 0.092	0.067	± 0.010	5
Total Phosphorus Mixed Forms (PO4 and			0.05	0.04 U	0.033	to 0.09	0.059	± 0.010	5
Total Dissolved Solids (mg/L)		↓65	96	↓83	92	to 122	110	± 6.000	5
Total Suspended Solids (mg/L)		8.3 U	28	44	7	to 98	36	± 16.000	5
Sulfate (mg/L)		↑6	3	↑13	2 U	to 5.6	3.5	± 0.740	5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.5 U	0.2	± 0.077	5
Bicarbonate Alkalinity (CaCO3) (mg/L)		16	37	26	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (mg/L)			37		29	to 71	47	± 9.500	5
Organic Carbon (mg/L)		↓4.4	↑15	↓5.4	7.1	to 14	9.8	± 1.200	5
Biochemical Oxygen Demand (mg/L)			2 U		2 U	to 2 U	2	± 0.000	1
Chloride (mg/L)		4.5	↓2.4	4.7	4.5	to 12	8.6	± 1.500	5
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.14	0.11	± 0.008	5
Turbidity (field) (NTU)		↑26.9	↑18.6	↑14.7	5.6	to 12.5	9.6	± 1.200	5
Methane (ug/L)		25	↑180	↑150	20 U	to 62	39	± 8.200	5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Sulfate DWA=500 mg/L, Ammonia (N) LHA=30 mg/L, Boron LHA=6 mg/L, Sodium DWA=20 mg/L, Manganese LHA=0.3 mg/L, Copper MCL=1.3 mg/L, Arsenic MCL=0.01 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
DWA	GW	Health-Based Drinking Water Advisory
LHA	GW	EPA Lifetime Health Advisory
MCL	GW	Maximum Contaminant Level

Data Group: 245
Printed: 4/16/2025 11:26

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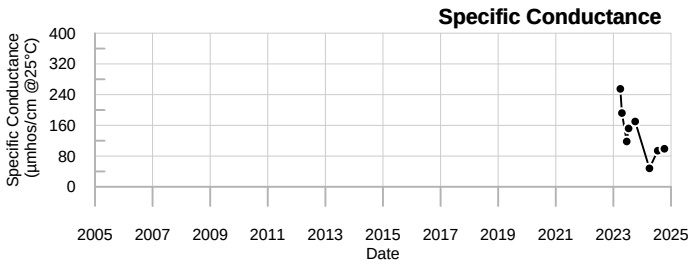
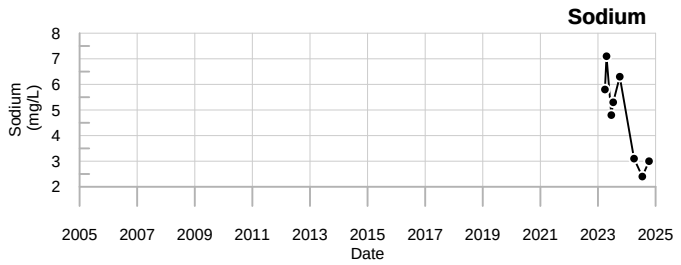
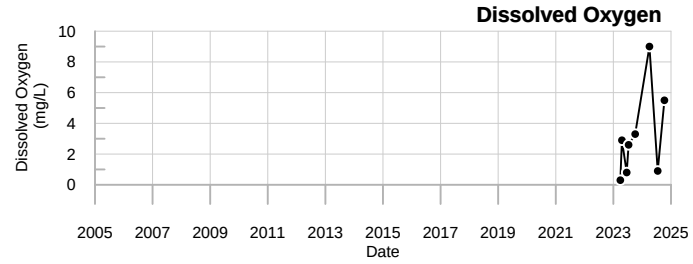
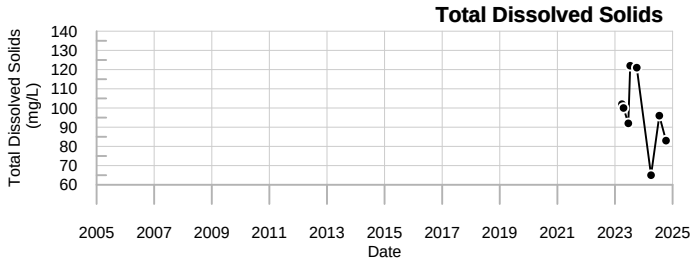
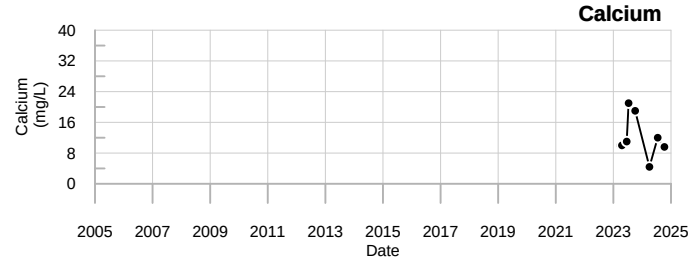
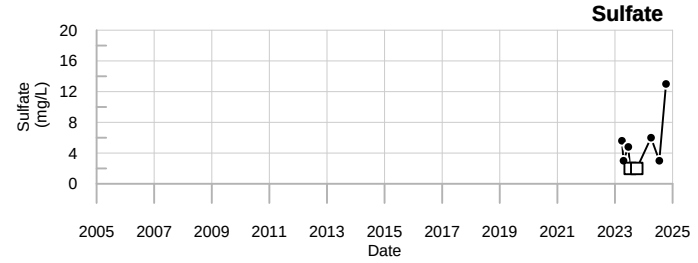


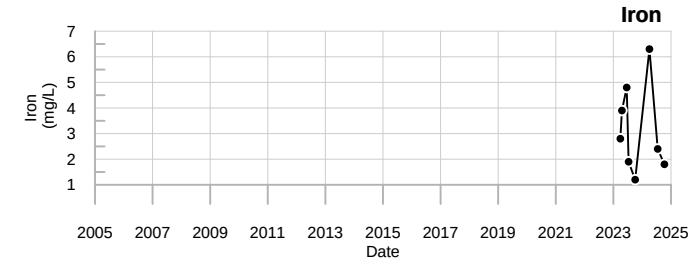


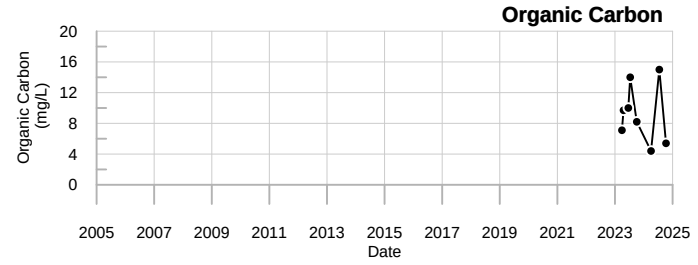


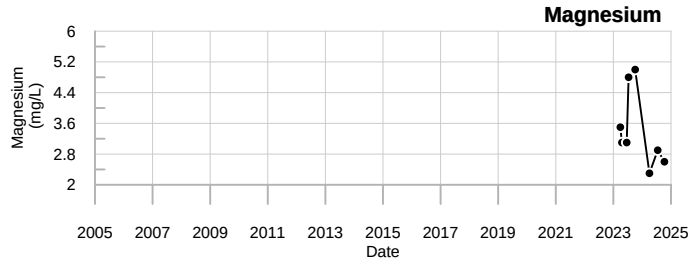


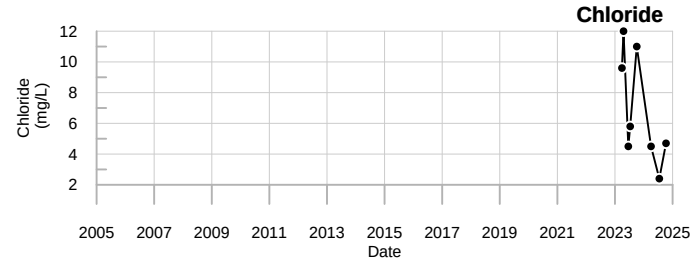


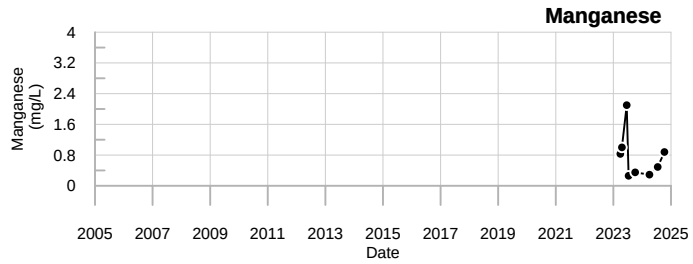


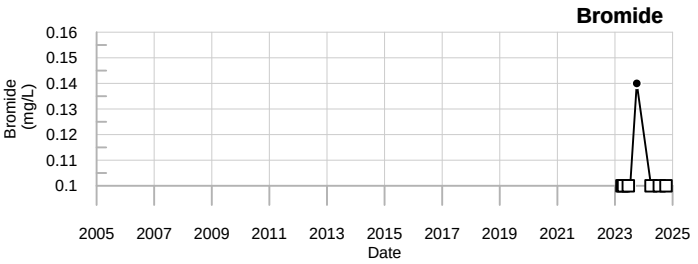












LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

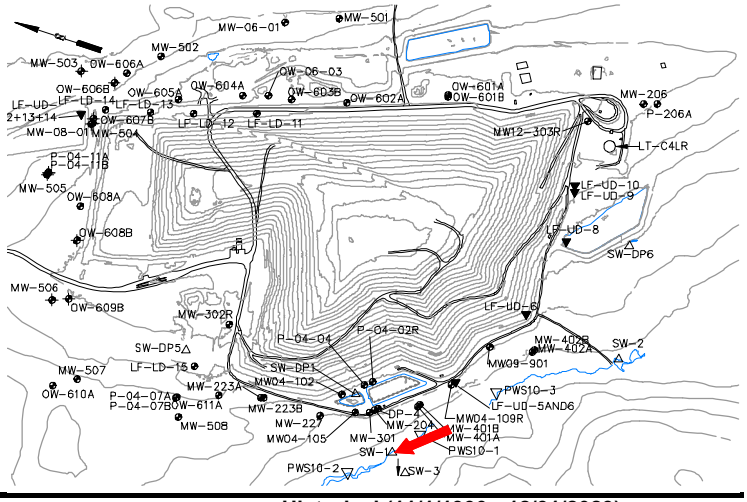
SME
SEVEE & MAHER ENGINEERS

PWS-4
Juniper Ridge Landfill

Sevee & Maher Engineers, Inc.

Well Description

SW-1 is located downgradient of the landfill and monitors surface water quality in an unnamed tributary to Pushaw Stream.



Sampled: **3 Times Annually**

Sampled Since: **11/13/90**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		226	268	174	10	to 345	110	± 6.300	101
pH (STU)		6.9	6.7	7.1	5.8	to 8.2	6.9	± 0.055	101
Temperature (Deg C)		12.1	↑29.3	15.5	0	to 27.5	13	± 0.740	101
Eh (mV)		396	351	385	52.7	to 549	300	± 13.000	70
Dissolved Oxygen (mg/L)		5.9	4.8	7.1	0.6	to 15.1	5.1	± 0.280	99
Flow Rate (cfs)		0.0111	0.0111	0.0111	0.0022	to 0.0223	0.011	± 0.004	6
Arsenic (mg/L)		0.0053	0.005 U	0.005 U	0.001	to 0.012	0.0048	± 0.000	59
Calcium (mg/L)		31	36	18	3.1	to 48	12	± 0.950	89
Iron (mg/L)		**1.2**	**5.5**	1	0.07	to 19.4	2.1	± 0.310	94
Magnesium (mg/L)		7.4	8.1	5.2	0.21	to 11	3.5	± 0.230	89
Manganese (mg/L)		0.05 U	0.82	0.19	0.001	to 4.8	0.29	± 0.063	94
Potassium (mg/L)		1.6	1.3	0.92	0.1	to 5	1.2	± 0.130	59
Sodium (mg/L)		5.1	6	4.7	2.9	to 12	5.9	± 0.190	94
Nitrite/Nitrate - (N) (mg/L)		0.41	0.18	0.05 U	0.05 U	to 2 U	0.19	± 0.074	27
Total Phosphorus Mixed Forms (PO4 and		0.06	0.14	0.04 U	0.01 U	to 0.95	0.1	± 0.019	71
Total Dissolved Solids (mg/L)		141	178	123	30	to 235	97	± 4.300	94
Total Suspended Solids (mg/L)		30	46	8.3 U	2.5 U	to 1490	67	± 28.000	59
Sulfate (mg/L)		8.7	↑21	2.4	0.2	to 17	3.8	± 0.340	94
Bicarbonate Alkalinity (CaCO3) (mg/L)		110	120	75	10.6	to 170	48	± 4.800	59
Alkalinity (CaCO3) (mg/L)			120	75	No historical data for Alkalinity (CaCO3).				
Organic Carbon (mg/L)		↓3.9	13	14	4.5	to 49	13	± 0.640	94
Biochemical Oxygen Demand (mg/L)		2 U	6	4	1 U	to 20	5	± 0.440	71
Chloride (mg/L)		3.3	3.9	5.6	1 U	to 27.6	8	± 0.470	94
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		0.9	2.6	0.5	0	to 175	5	± 2.200	80

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

Data Group: 245
Printed: 4/16/2025 11:26

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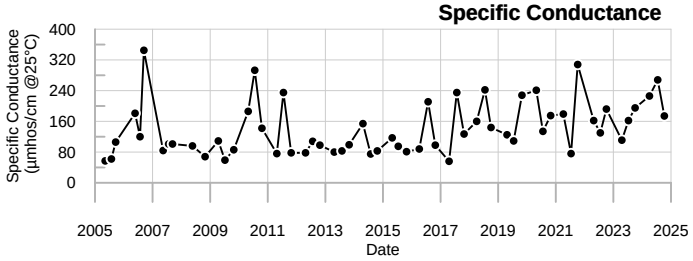
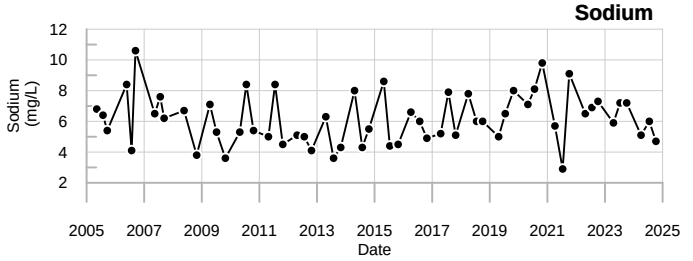
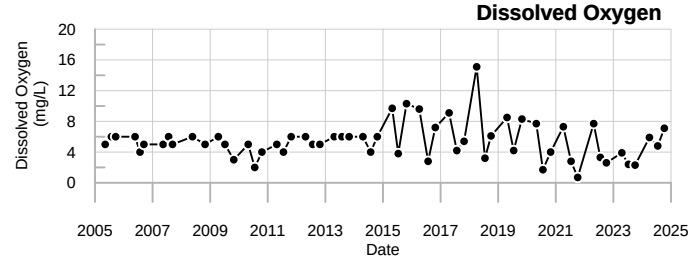
Specific Conductance



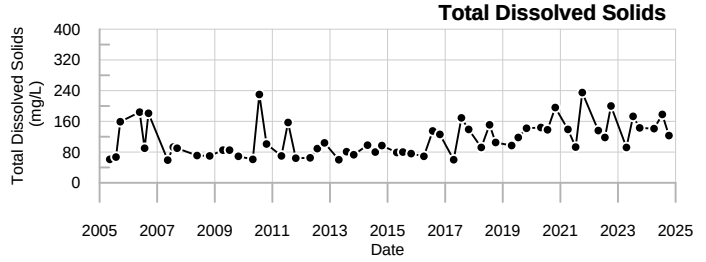
Sodium



Dissolved Oxygen



Total Dissolved Solids



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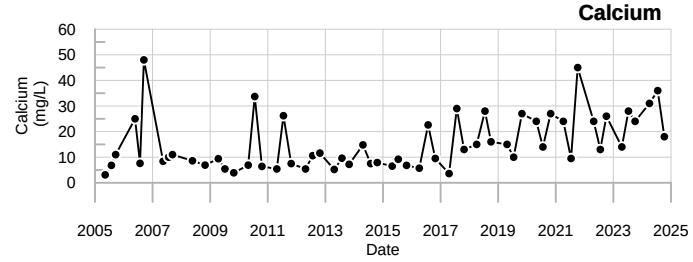

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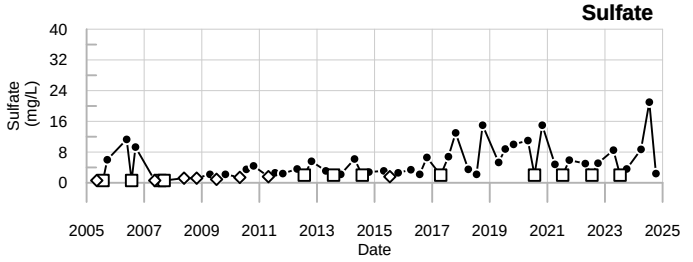

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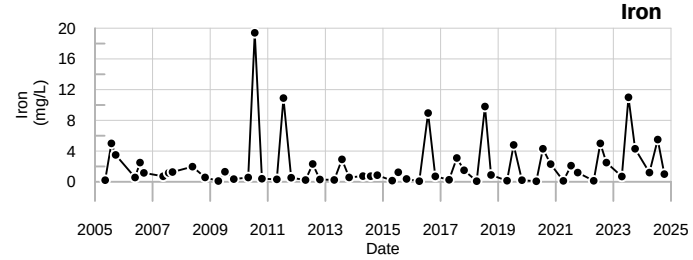
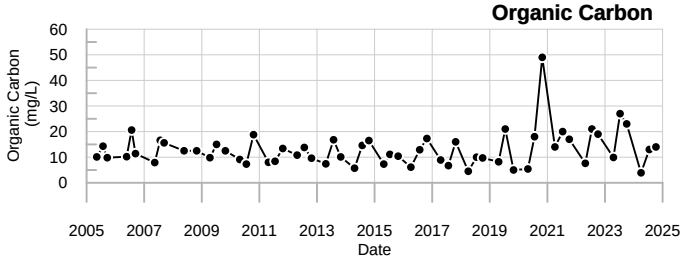
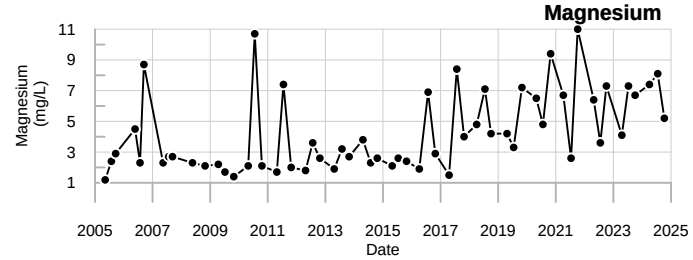


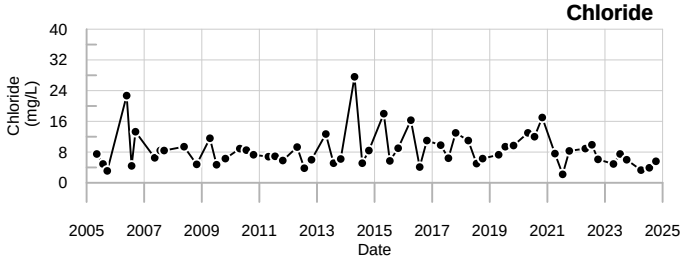
Organic Carbon



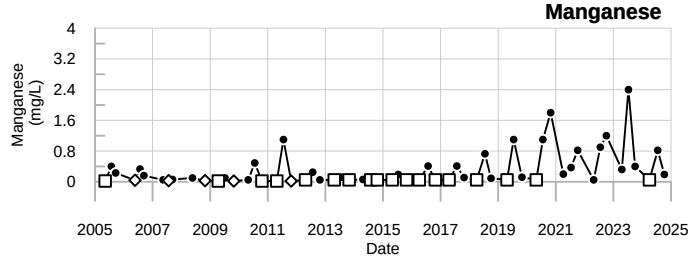
Magnesium



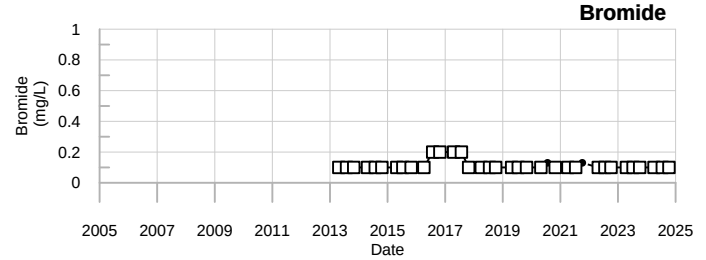
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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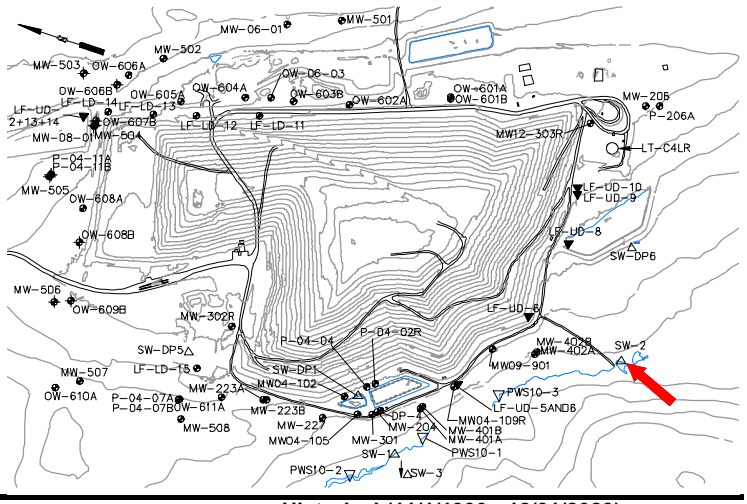
ENGINEERS

SW-1
Juniper Ridge Landfill

Well Description

SW-2 is located upgradient of the landfill and monitors surface water quality in an unnamed tributary to Pushaw Stream.



Sampled: **3 Times Annually**

Sampled Since: **11/13/90**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		59	98	87	10	to 150	74 ±	2.300	107
pH (STU)		6.4	6.3	6.1	5.42	to 8.5	6.6 ±	0.060	109
Temperature (Deg C)		5.2	25.5	15.2	0	to 29.6	13 ±	0.820	108
Eh (mV)		439	375	397	69.2	to 516	330 ±	12.000	71
Dissolved Oxygen (mg/L)		10	3.5	5.6	0.4	to 13.7	4.6 ±	0.260	107
Flow Rate (cfs)		11		0.0111	0.0017	to 14	2.5 ±	0.450	45
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.011	0.0042 ±	0.000	60
Calcium (mg/L)		3.7	10	6.4	0.1 U	to 11	5.9 ±	0.210	95
Iron (mg/L)		0.32	**2.6**	0.93	0.03 U	to 8.8	1.1 ±	0.110	101
Magnesium (mg/L)		1.5	3.1	2.4	0.1 U	to 3.7	2.1 ±	0.062	95
Manganese (mg/L)		0.05 U	0.17	0.052	0.003	to 0.47	0.093 ±	0.009	101
Potassium (mg/L)		0.56	0.3 U	0.31	0.1 U	to 1.7	0.54 ±	0.043	60
Sodium (mg/L)		4.5	5.2	4.4	1 U	to 14	5.4 ±	0.200	101
Nitrite/Nitrate - (N) (mg/L)		0.05 U	0.05 U	0.05 U	0.05 U	to 2 U	0.17 ±	0.074	27
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	0.04 U	0.01	to 0.43	0.054 ±	0.008	74
Total Dissolved Solids (mg/L)		45	109	85	2	to 131	74 ±	2.200	101
Total Suspended Solids (mg/L)		8.3 U	13 U	8.3 U	2.5 U	to 89	9.6 ±	2.000	60
Sulfate (mg/L)		2.3	3.8	2 U	0.1 U	to 9.2	2.2 ±	0.160	101
Bicarbonate Alkalinity (CaCO3) (mg/L)		12	28	22	8.5	to 46	20 ±	1.000	60
Alkalinity (CaCO3) (mg/L)			28	22	No historical data for Alkalinity (CaCO3).				
Organic Carbon (mg/L)		5.9	23	15	1 U	to 30	14 ±	0.540	101
Biochemical Oxygen Demand (mg/L)		2 U	2 U	2	1 U	to 42	4.5 ±	0.580	73
Chloride (mg/L)		8.4	7.8	10	2 U	to 23	8.1 ±	0.440	101
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11 ±	0.006	33
Turbidity (field) (NTU)		0.6	1.3	0.9	0	to 10	1.8 ±	0.200	83

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

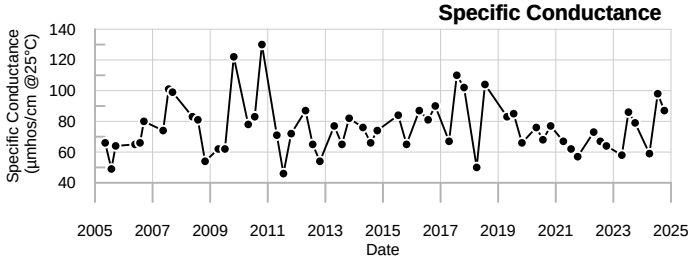
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

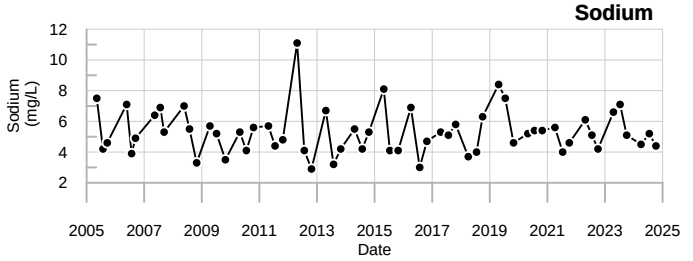
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

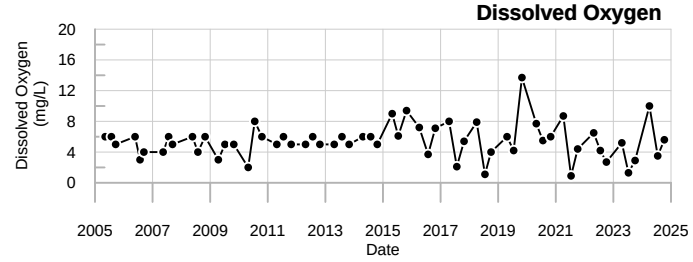
Specific Conductance



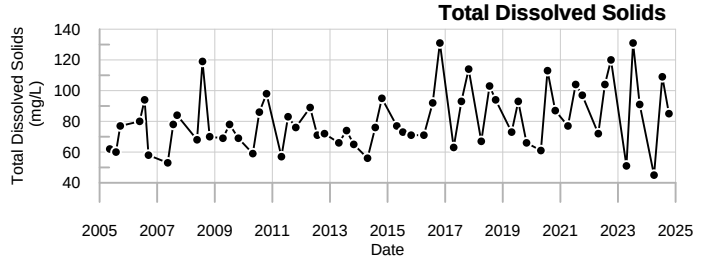
Sodium



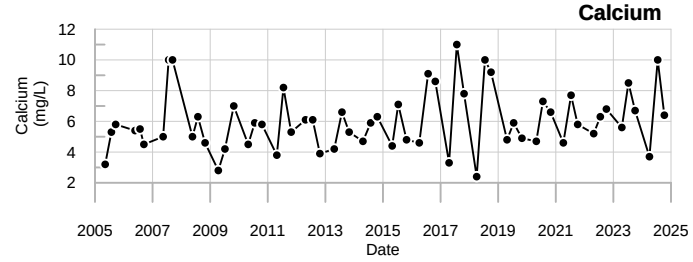
Dissolved Oxygen



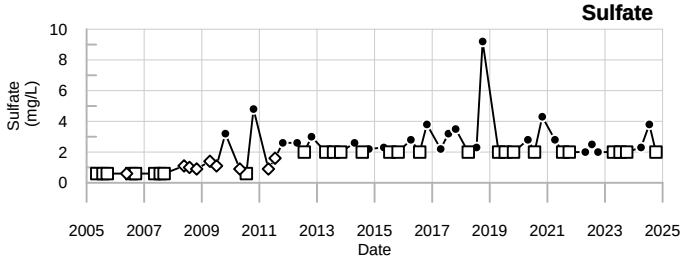
Total Dissolved Solids



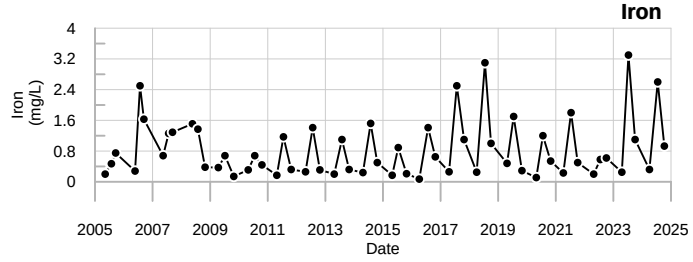
Calcium



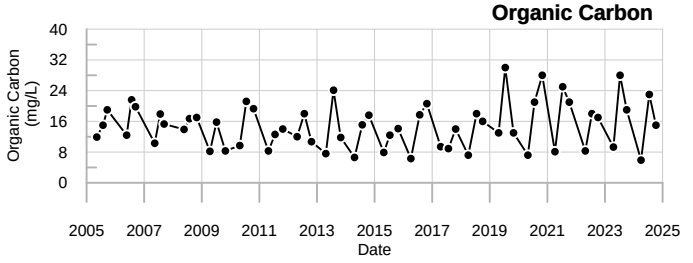
Sulfate



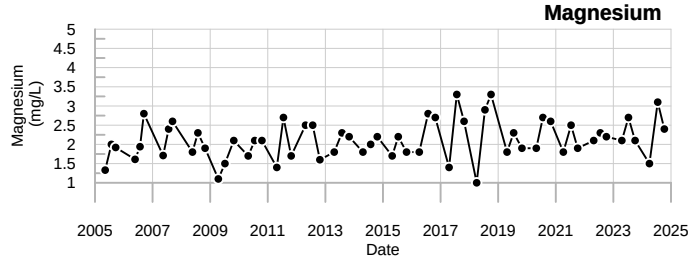
Iron



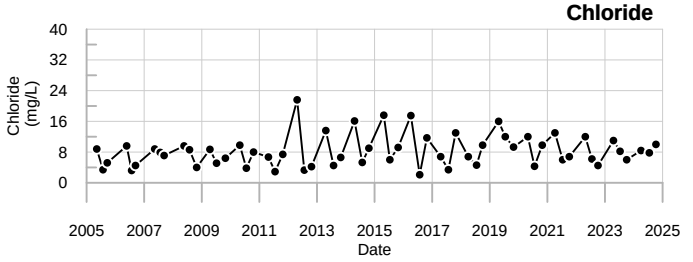
Organic Carbon



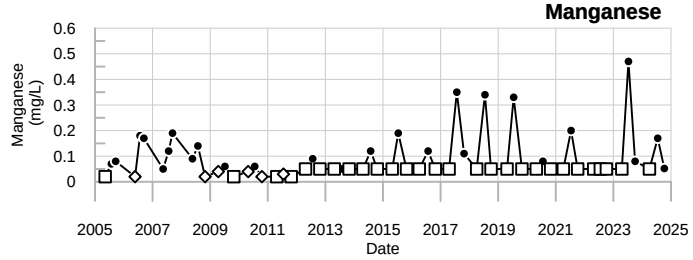
Magnesium



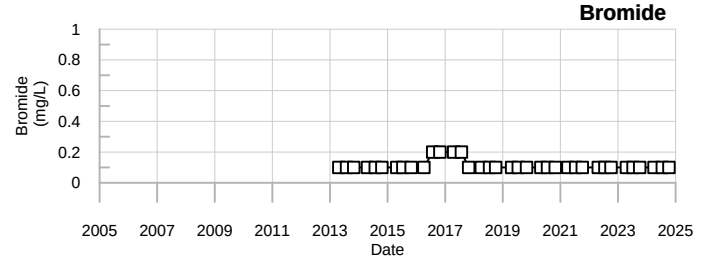
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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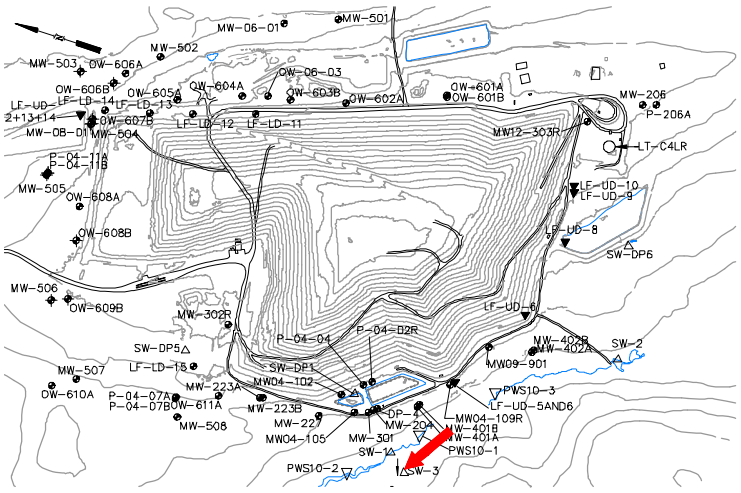
SW-2
Juniper Ridge Landfill

Well Description

SW-3 is located downgradient of the landfill and monitors surface water quality in an unnamed tributary of Pushaw Stream.



Sampled: **3 Times Annually**

Sampled Since: **05/26/94**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		42	119	102	20	to 151	82 ±	2.600	94
pH (STU)		6.8	7	7.9	5.4	to 8.8	6.9 ±	0.072	94
Temperature (Deg C)		8.4	26	14.3	0	to 27.4	13 ±	0.750	94
Eh (mV)		207	359	348	23.8	to 507	320 ±	12.000	72
Dissolved Oxygen (mg/L)		9.9	5.6	8.6	1	to 17.1	6 ±	0.300	93
Flow Rate (cfs)		↑21	0.0223	0.0111	0.0045	to 19	6.6 ±	0.610	44
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.008	0.004 ±	0.000	60
Calcium (mg/L)		↓2.4	11	7.6	2.8	to 12	7 ±	0.240	86
Iron (mg/L)		0.41	**1.5**	**1.5**	0.17	to 3.5	0.89 ±	0.071	93
Magnesium (mg/L)		0.7	2.7	2.1	0.47	to 3.1	1.9 ±	0.060	86
Manganese (mg/L)		0.05 U	0.17	0.26	0.004	to 1.3	0.16 ±	0.023	93
Potassium (mg/L)		0.43	0.54	0.64	0.2	to 2.4	0.73 ±	0.057	60
Sodium (mg/L)		3.2	3.9	3.3	2.4	to 12	4.9 ±	0.170	93
Nitrite/Nitrate - (N) (mg/L)		0.051	0.05 U	0.05 U	0.05 U	to 2 U	0.19 ±	0.074	27
Total Phosphorus Mixed Forms (PO4 and		0.04 U	0.04 U	0.04 U	0.01 U	to 0.4	0.043 ±	0.006	69
Total Dissolved Solids (mg/L)		33	85	73	31	to 210	74 ±	2.500	93
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 30	4.8 ±	0.560	60
Sulfate (mg/L)		2.2	8.8	2.1	0.4	to 35	3.8 ±	0.460	93
Bicarbonate Alkalinity (CaCO3) (mg/L)		↓6.6	30	31	10	to 43	22 ±	1.100	60
Alkalinity (CaCO3) (mg/L)			30	31	No historical data for Alkalinity (CaCO3).				
Organic Carbon (mg/L)		6.2	13	11	5.7	to 40	12 ±	0.450	93
Biochemical Oxygen Demand (mg/L)		2 U	2 U	2	1 U	to 7	3.8 ±	0.220	69
Chloride (mg/L)		4.6	4.6	4.9	1 U	to 20	7.2 ±	0.390	93
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.2 U	0.11 ±	0.006	33
Turbidity (field) (NTU)		0.7	0.8	0.8	0	to 16	1.5 ±	0.240	82

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

Data Group: 245
Printed: 4/16/2025 11:26

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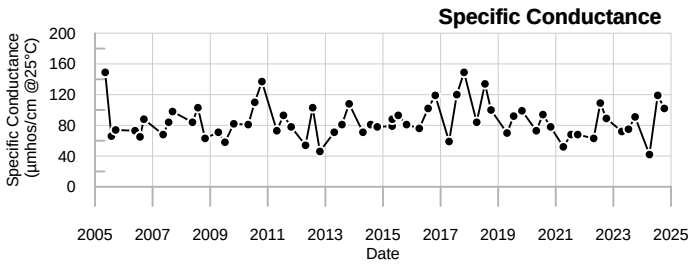

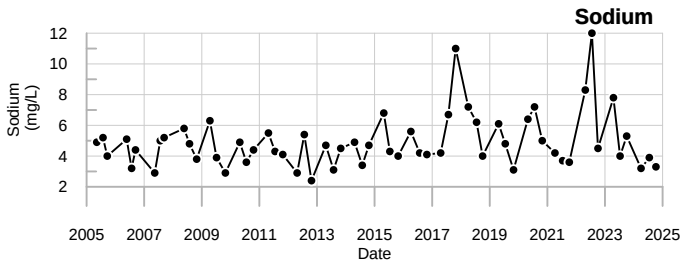

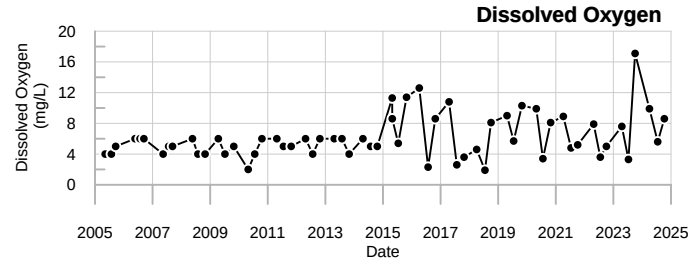

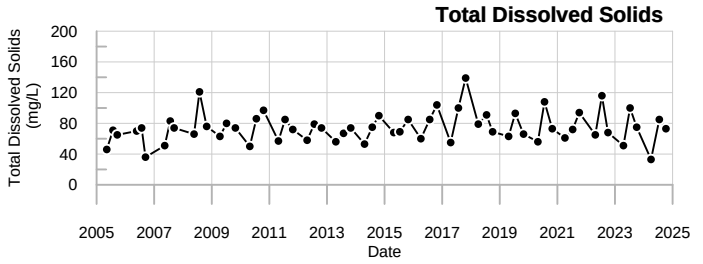

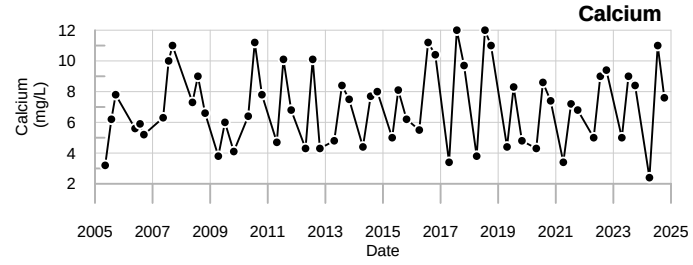

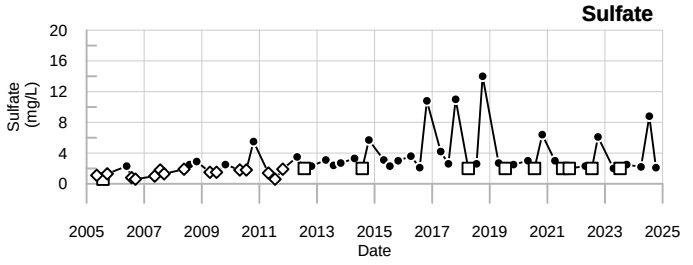

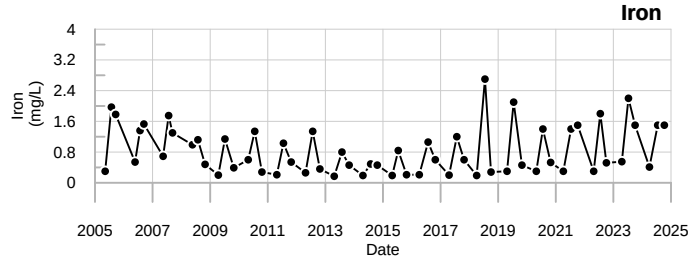

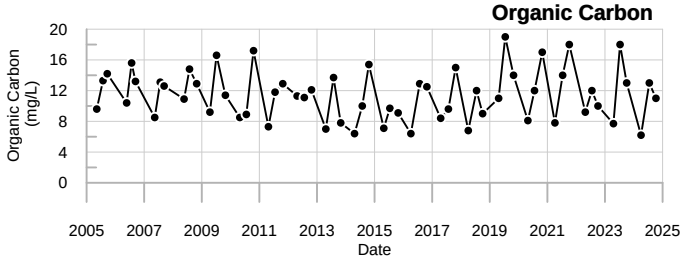

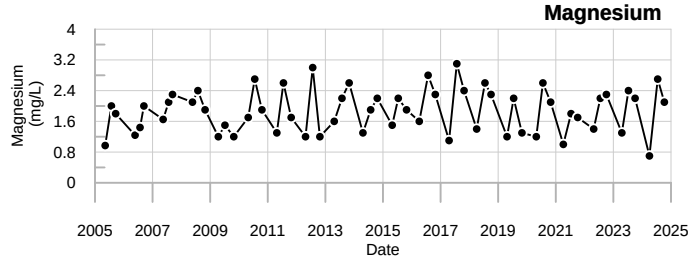

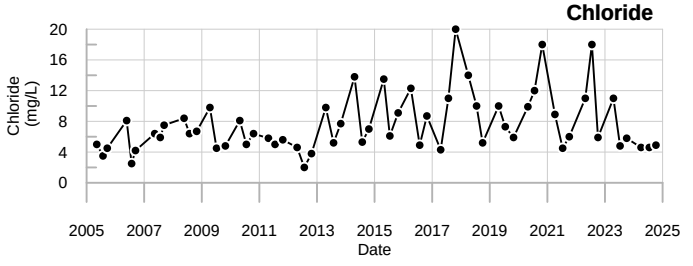

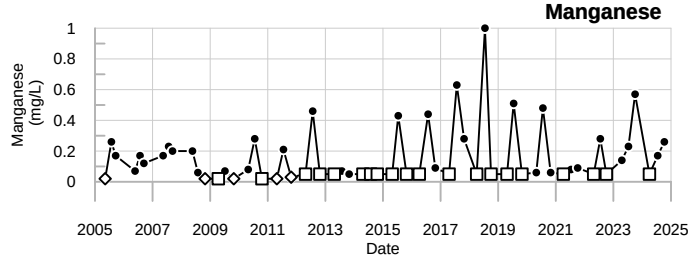

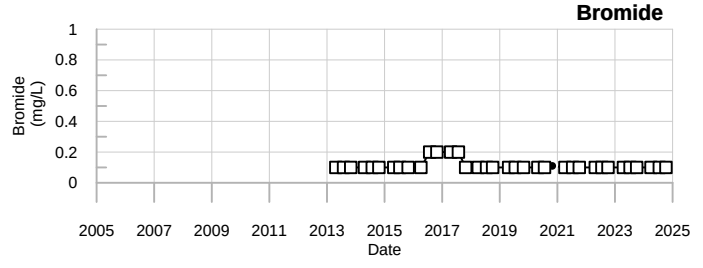

LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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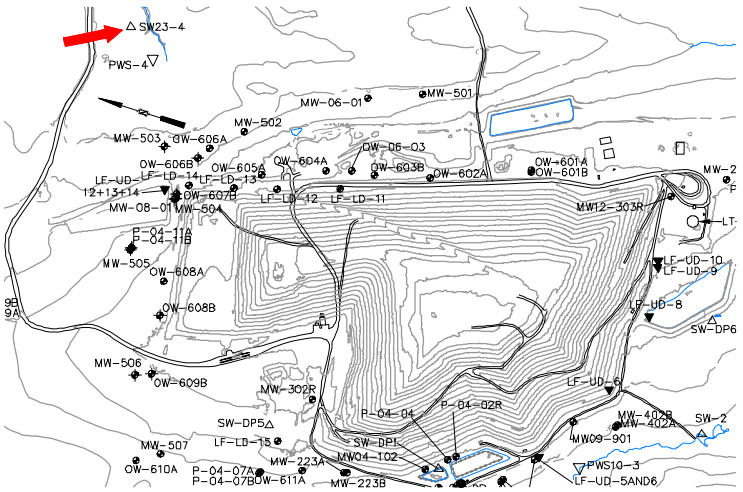
SW-3
Juniper Ridge Landfill

Well Description

SW23-4 is located downgradient of the landfill expansion and monitors surface water quality in an unnamed tributary to Pushaw Stream.



Sampled: **3 Times Annually**

Sampled Since: **1/24/2023**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		119	98	124	91	to 227	150	± 25.000	5
pH (STU)		↑7.9	↓6.5	6.8	6.6	to 7.6	7	± 0.190	5
Temperature (Deg C)		6.7	↑22.1	10.7	3.2	to 18.8	13	± 2.800	5
Eh (mV)		↓105	270	274	154	to 352	230	± 39.000	5
Dissolved Oxygen (mg/L)		9.9	↓1.6	6.4	2.2	to 10.6	6.3	± 1.400	5
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.005 U	to 0.01	0.006	± 0.001	5
Calcium (mg/L)		↓3.5	13	9.9	7.6	to 21	13	± 2.300	5
Copper (mg/L)			↑**0.0055**		0.0008	to 0.003 U	0.0025	± 0.000	5
Iron (mg/L)		↑0.98	↑**1.1**	0.69	0.45	to 0.84	0.66	± 0.075	5
Magnesium (mg/L)		↓0.97	3.2	2.5	2	to 4.6	3.1	± 0.480	5
Manganese (mg/L)		0.05 U	0.13	0.12	0.05 U	to 0.15	0.07	± 0.020	5
Potassium (mg/L)		0.79	↑2	↑1.3	0.72	to 1.2	0.98	± 0.097	5
Sodium (mg/L)		↓2.5	↓2.4	↓2.9	4.4	to 7.7	5.7	± 0.620	5
Boron (mg/L)			↑0.31		0.05 U	to 0.05 U	0.05	± 0.000	5
Total Kjeldahl Nitrogen (mg/L)			↑0.7		0.28	to 0.52	0.4	± 0.041	5
Ammonia (N) (mg/L)			0.5		0.5 U	to 0.5 U	0.5	± 0.000	5
Nitrite/Nitrate - (N) (mg/L)		0.055	0.05 U	↑0.14	0.05 U	to 0.092	0.072	± 0.008	5
Total Phosphorus Mixed Forms (PO4 and		0.04	0.04 U	0.04 U	0.028	to 0.04	0.038	± 0.002	5
Total Dissolved Solids (mg/L)		↓45	93	82	78	to 119	90	± 7.400	5
Total Suspended Solids (mg/L)		8.3 U	8.3 U	8.3 U	2.5 U	to 8.3	4.5	± 1.100	5
Sulfate (mg/L)		4.6	2 U	↑11	2 U	to 6.8	4.4	± 0.910	5
Sulfide (mg/L)			0.1 U		0.1 U	to 0.1 U	0.1	± 0.000	5
Bicarbonate Alkalinity (CaCO3) (mg/L)		7.7	41	29	No historical data for Bicarbonate Alkalinity (CaCO3).				
Alkalinity (CaCO3) (mg/L)			41	30	15	to 68	35	± 9.300	5
Organic Carbon (mg/L)		↑36	↑15	↓5.3	6.7	to 14	9.4	± 1.300	5
Biochemical Oxygen Demand (mg/L)		2 U	↑3	2	2 U	to 2 U	2	± 0.000	5
Chloride (mg/L)		↓3.4	↓2.2	5.3	4.8	to 13	8.5	± 1.500	5
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 0.11	0.1	± 0.002	5
Turbidity (field) (NTU)		↑18.3	7.1	↑8.8	1.7	to 7.3	5.3	± 1.000	5
Methane (ug/L)			↓8.5		20 U	to 20 U	20	± 0.000	5

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

Data Group: 245
Printed: 4/16/2025 11:26

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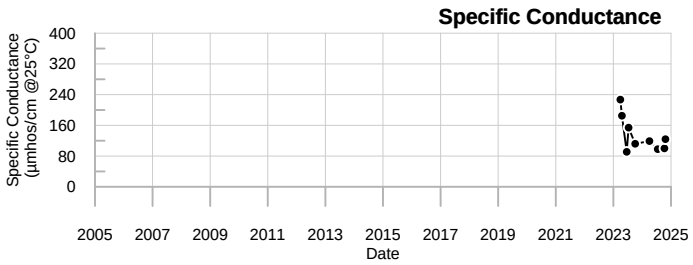

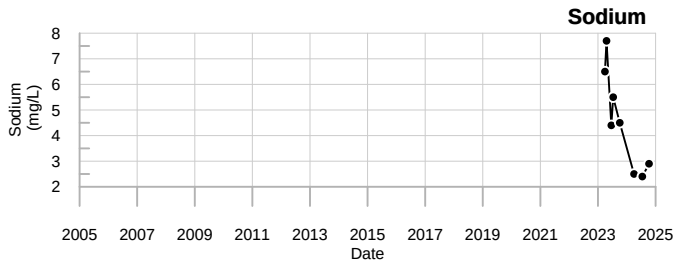

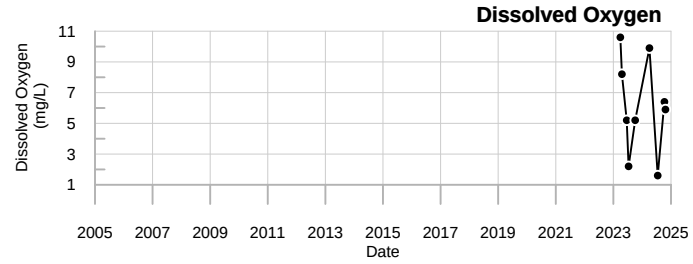

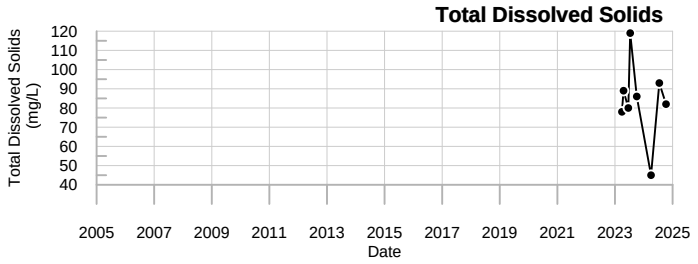

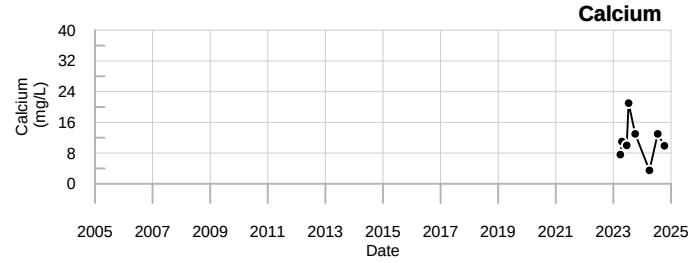

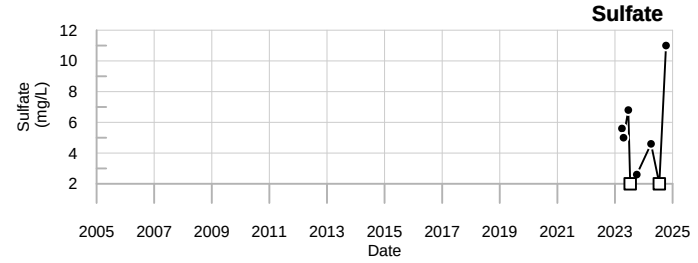

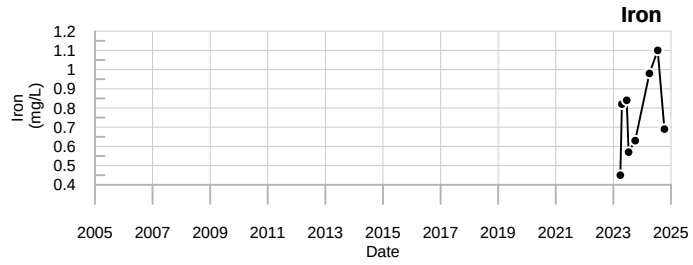

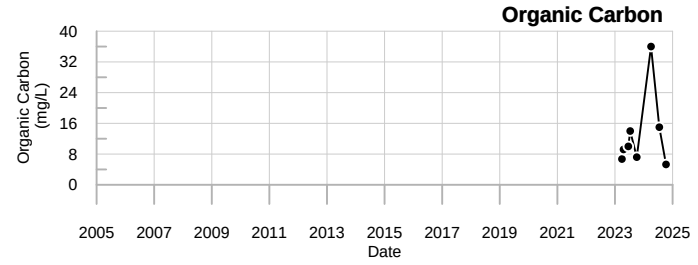

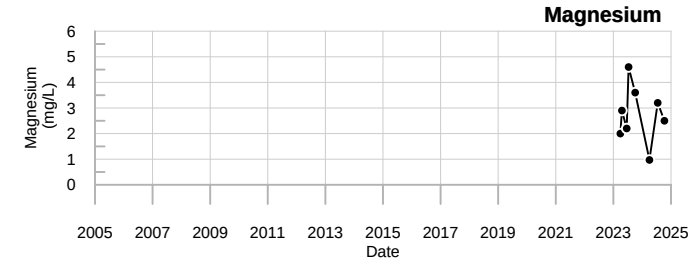

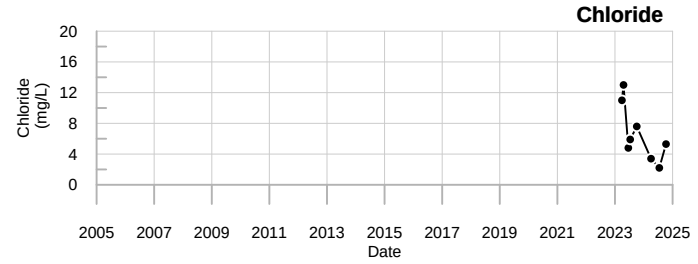

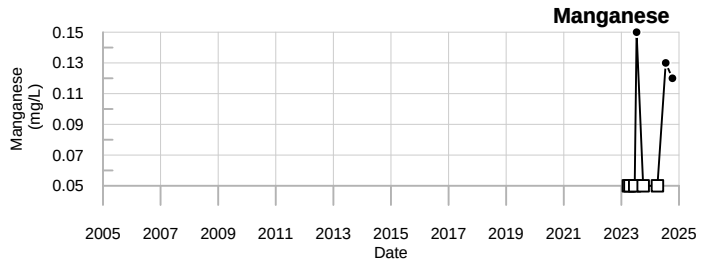

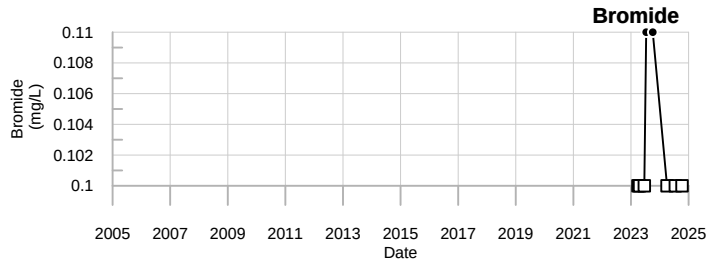

LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

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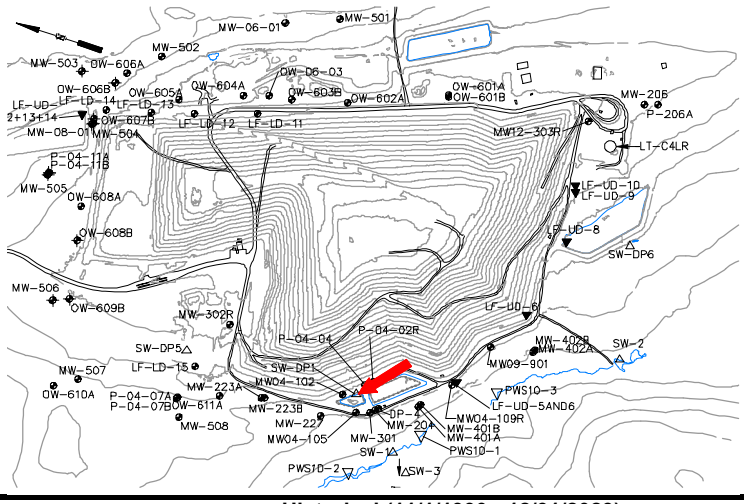
SW23-4
Juniper Ridge Landfill

Well Description

SW-DP1 is located in Detention Pond #1 which is situated to the north of the former leachate pond.



Sampled: **3 Times Annually**

Sampled Since: **05/03/04**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		96	130	105	34	to 439	140 ±	10.000	60
pH (STU)		7.5	6.8	6.9	6.3	to 9.4	7.5 ±	0.091	60
Temperature (Deg C)		10.6	27.9	15.2	1.9	to 31.1	17 ±	0.950	60
Eh (mV)		300	367	355	200	to 486	330 ±	8.900	60
Dissolved Oxygen (mg/L)		11.2	4.1	6	0.8	to 12.5	6.8 ±	0.280	60
Flow Rate (cfs)		↓0.0067			0.0089	to 0.0089	0.0089 ±	0.000	1
Arsenic (mg/L)		0.005 U	0.005 U	0.005 U	0.001 U	to 0.013	0.0046 ±	0.000	60
Calcium (mg/L)		12	20	13	3.8	to 40	18 ±	1.000	60
Iron (mg/L)		0.39	0.65	0.53	0.05	to 8.5	0.83 ±	0.180	60
Magnesium (mg/L)		0.94	1.9	1.4	0.4	to 7.6	2.6 ±	0.190	60
Manganese (mg/L)		0.18	0.14	0.066	0.02	to 0.88	0.12 ±	0.020	60
Potassium (mg/L)		0.97	2.5	2.4	0.3 U	to 25	2.7 ±	0.520	60
Sodium (mg/L)		1.7	1.5	0.96	0.8	to 27	4.1 ±	0.630	60
Nitrite/Nitrate - (N) (mg/L)		0.26	0.61	0.05 U	0.05 U	to 2 U	0.2 ±	0.075	27
Total Phosphorus Mixed Forms (PO4 and		0.07	0.052	0.04	0.01 U	to 0.24	0.062 ±	0.007	60
Total Dissolved Solids (mg/L)		70	89	68	44	to 262	100 ±	6.400	60
Total Suspended Solids (mg/L)		12	8.3 U	8.3 U	2.5 U	to 115	14 ±	2.400	60
Sulfate (mg/L)		22	6.5	11	0.2	to 44	11 ±	1.100	60
Bicarbonate Alkalinity (CaCO3) (mg/L)		↓6.4	54	34	7.2	to 170	46 ±	3.700	60
Organic Carbon (mg/L)		3.1	5.5	3.5	2 U	to 13.3	4 ±	0.340	60
Chloride (mg/L)		2.7	1.4	1.7	1 U	to 79	6.2 ±	1.300	60
Bromide (mg/L)		0.1 U	0.1 U	0.1 U	0.1 U	to 1.1	0.15 ±	0.031	33
Turbidity (field) (NTU)		0.8	0.6	0.3	0	to 28.1	3.2 ±	0.630	60

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

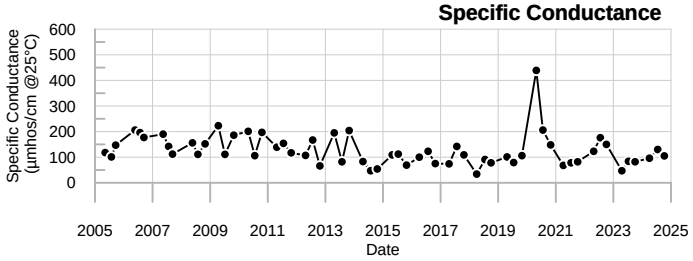
U = Not Detected above the laboratory reporting limit.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

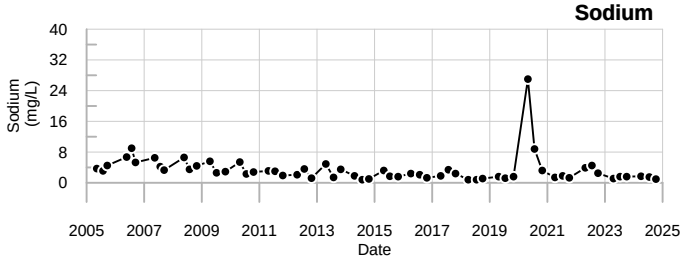
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

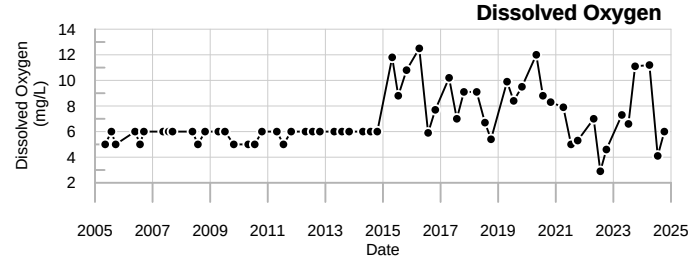
Specific Conductance



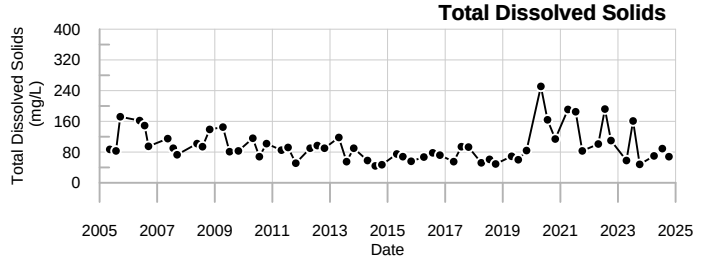
Sodium



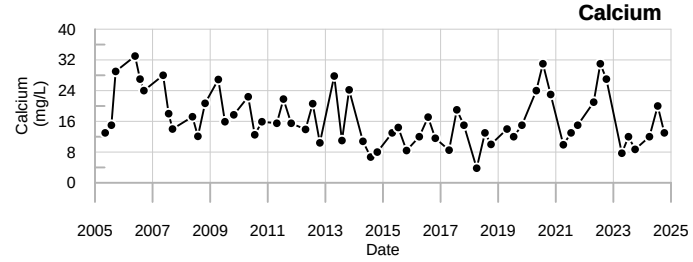
Dissolved Oxygen



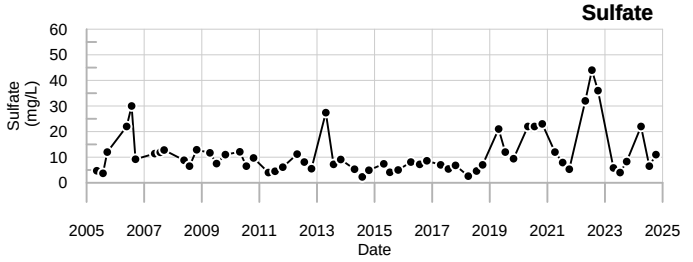
Total Dissolved Solids



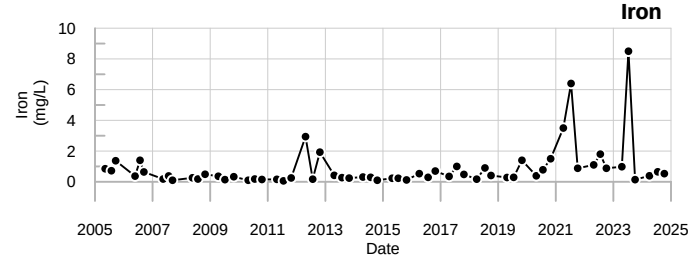
Calcium



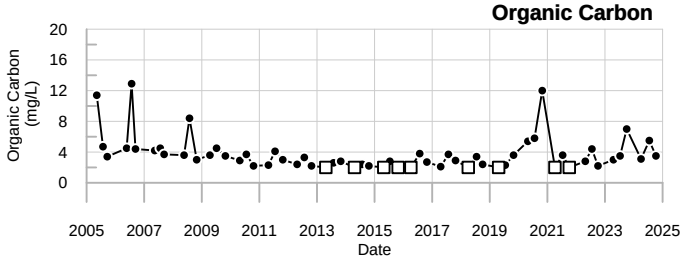
Sulfate



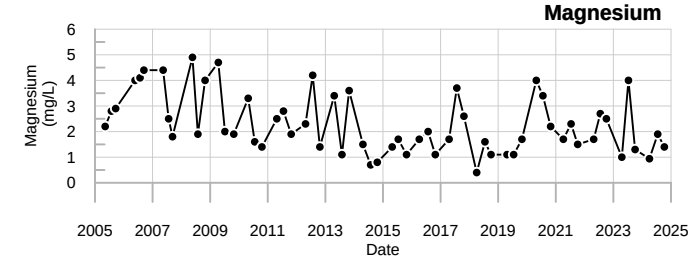
Iron



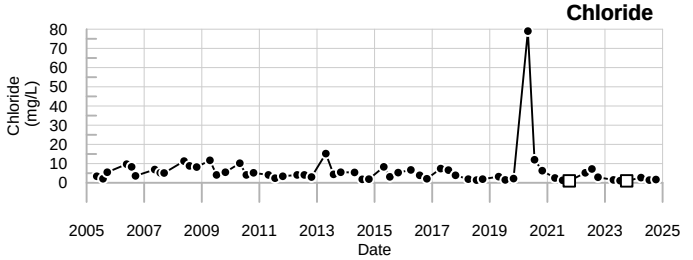
Organic Carbon



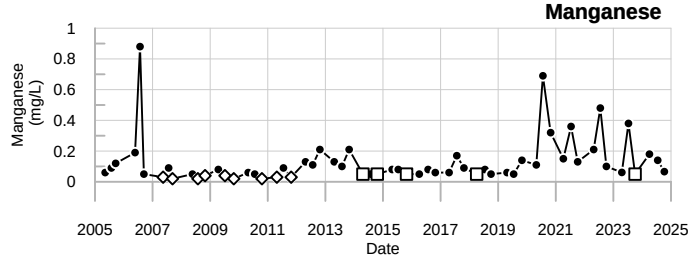
Magnesium



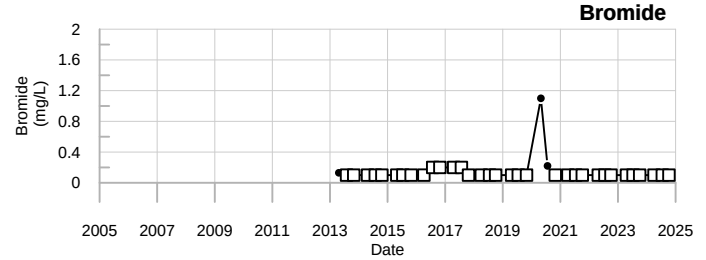
Chloride



Manganese



Bromide



LEGEND

- □ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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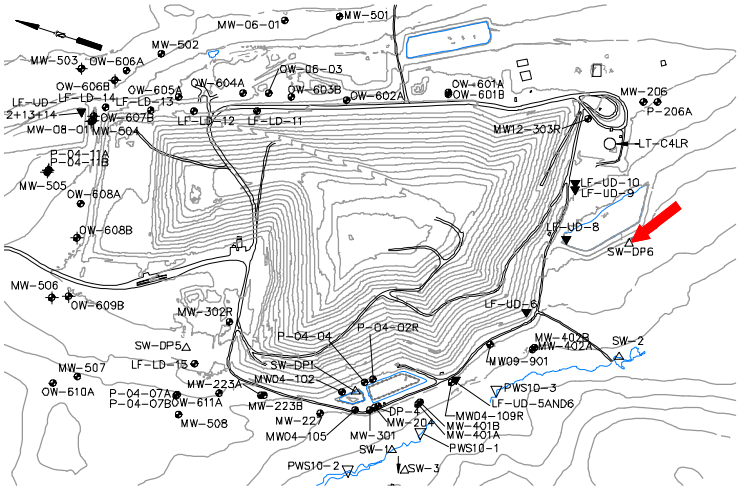
SW-DP1
Juniper Ridge Landfill

Well Description

SW-DP6 is located in Detention Pond #6, which is situated to the south of the landfill and west of the leachate storage tank.



Sampled: **3 Times Annually**

Sampled Since: **10/27/2009**

Sampling Method: **Grab**

Chemical Summary

Indicator Parameters	2024 Q1	2024 Q2	2024 Q3	2024 Q4	Historical (11/1/1990 - 12/31/2023) Min	Max	Mean	SE	n
Specific Conductance (µmhos/cm @25°C)		103	150	D	36	to 465	120	± 15.000	43
pH (STU)		7.9	6.8	D	6.1	to 8.4	7.2	± 0.093	43
Temperature (Deg C)		11.8	↑29.8	D	2.4	to 29.6	17	± 1.300	43
Eh (mV)		331	387	D	212	to 547	360	± 11.000	43
Dissolved Oxygen (mg/L)		11.4	6.6	D	3.9	to 11.7	6.8	± 0.310	43
Flow Rate (cfs)		↓0.0006			0.0022	to 0.0045	0.0034	± 0.001	2
Arsenic (mg/L)		0.005 U	0.005 U	D	0.002 U	to 0.011	0.0051	± 0.000	43
Calcium (mg/L)		11	20	D	3.8	to 74	14	± 2.200	43
Iron (mg/L)		↑**4.9**	↑**16**	D	0.1	to 3.05	0.92	± 0.110	43
Magnesium (mg/L)		2.8	5.3	D	0.7	to 8.6	1.9	± 0.240	43
Manganese (mg/L)		0.13	0.33	D	0.05 U	to 0.96	0.14	± 0.029	43
Potassium (mg/L)		2.4	↑4.7	D	0.7	to 3.4	1.6	± 0.093	43
Sodium (mg/L)		2.4	2.4	D	1.1	to 9.4	3.2	± 0.290	43
Nitrite/Nitrate - (N) (mg/L)		0.064	0.05 U	D	0.05 U	to 2 U	0.17	± 0.074	27
Total Phosphorus Mixed Forms (PO4 and		0.08	↑0.26	D	0.03	to 0.16	0.061	± 0.005	43
Total Dissolved Solids (mg/L)		124	240	D	38	to 356	97	± 10.000	43
Total Suspended Solids (mg/L)		8.3 U	↑130	D	2.5 U	to 54	12	± 2.100	43
Sulfate (mg/L)		16	30	D	2 U	to 200	23	± 5.500	43
Bicarbonate Alkalinity (CaCO3) (mg/L)		25	40	D	6	to 75	21	± 2.600	43
Organic Carbon (mg/L)		2.7	5.6	D	2.1	to 11.9	5.1	± 0.300	43
Chloride (mg/L)		2.1	1.7	D	1 U	to 22.3	6.7	± 0.840	43
Bromide (mg/L)		0.1 U	0.1 U	D	0.1 U	to 0.2 U	0.11	± 0.006	33
Turbidity (field) (NTU)		2.1	1.8	D	0	to 12	2.4	± 0.340	43

underlined/bold - values exceed a regulatory standard listed below.

Note that a value associated with a "U" qualifier is a detection or reporting limit provided by the laboratory. If a detection limit is greater than a standard, the result cannot be said to exceed the standard.

Applicable Limits:
Chloride MFCCC=230 mg/L, Ammonia (N) MFCCC=1.4 mg/L, Iron MFCCC=1 mg/L, Copper MFCCC=0.00236 mg/L, Arsenic MFCCC=0.15 mg/L

↑ indicates a value greater than the historical maximum value; ↓ indicates a value less than the historical minimum value.

Comments

Q2= 4 - 2024
Q3= 7 - 2024
Q4= 10 - 2024

U = Not Detected above the laboratory reporting limit.

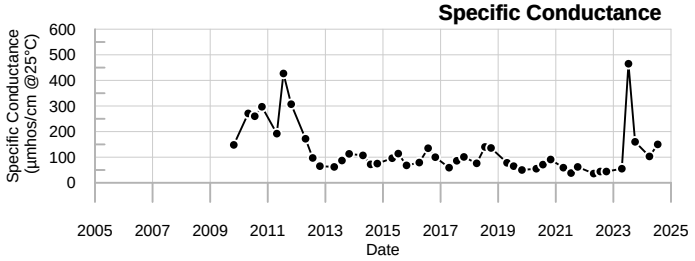
D = The sampling location was dry.

Abbrev.	Type	Standard
MFCCC	SW	MEDEP Freshwater Criterion Continuous Concentration

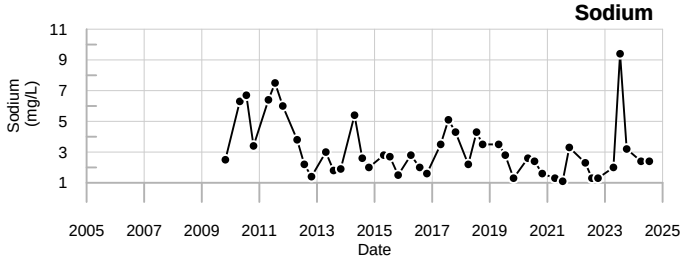
Data Group: 245
Printed: 4/16/2025 11:26

SME SEVEE & MAHER ENGINEERS

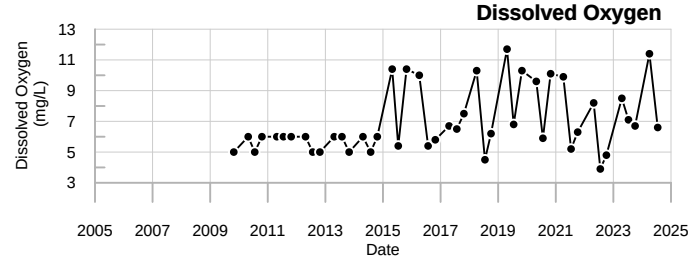
Specific Conductance



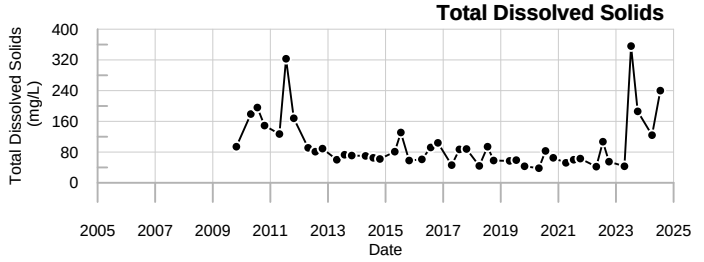
Sodium



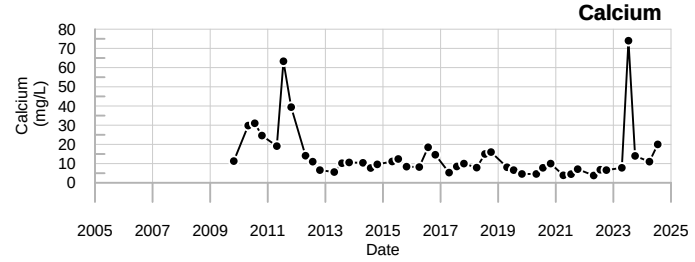
Dissolved Oxygen



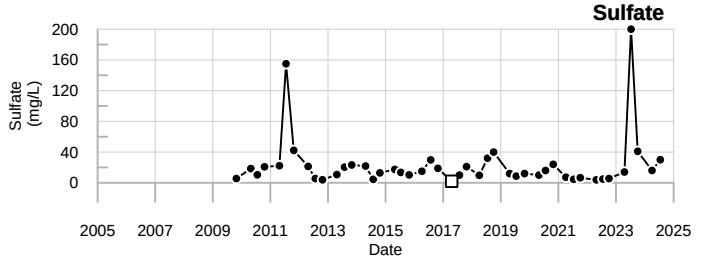
Total Dissolved Solids



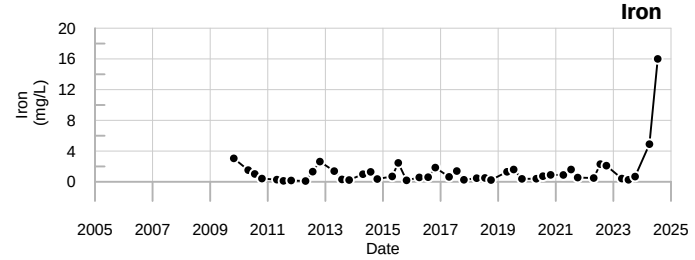
Calcium



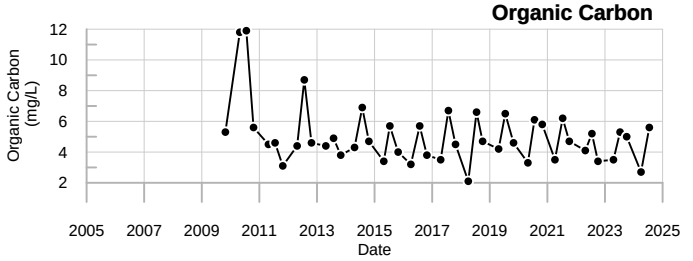
Sulfate



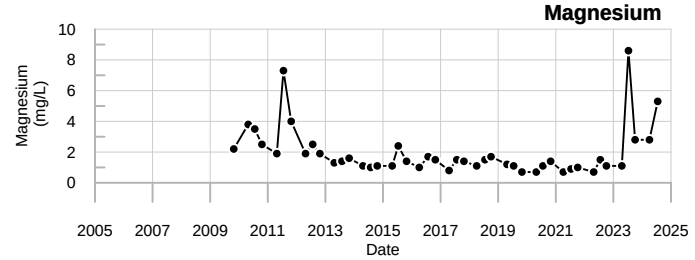
Iron



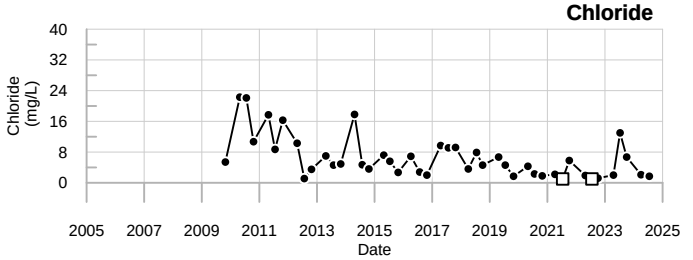
Organic Carbon



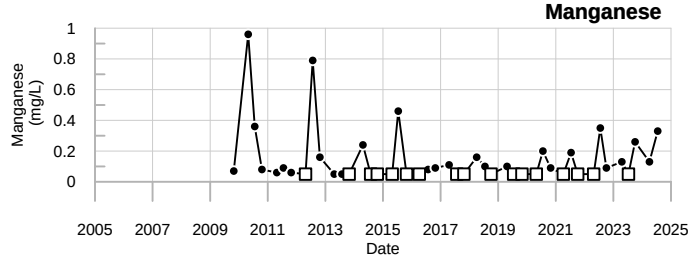
Magnesium



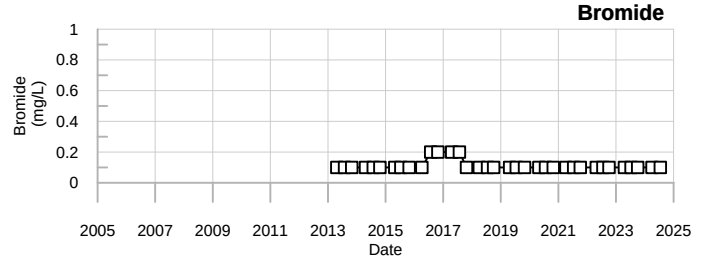
Chloride



Manganese



Bromide



LEGEND

- ☐ - Below reporting Limit, Associate value is the reporting limit.
- ◇ - Estimated Value (J-flagged).

SME
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ENGINEERS

SW-DP6
Juniper Ridge Landfill

APPENDIX F

MANN-KENDALL TREND ANALYSIS RESULTS

SME
SEVEE & MAHER
ENGINEERS

Summary of Mann-Kendall Trend Analysis

Juniper Ridge Landfill

3-yr trend

Confidence Coefficient = 0.95 Level of Significance = 0.05

1/1/2022 - 12/31/2024

LOCATION	Increasing Trends	Decreasing Trends	No Trends
DP-4			DO, Eh, pH, Spec Cond, TURB (fld)
LF-COMP	Spec Cond	DO	ALK (fld), Eh, pH, TURB (fld)
LF-LD-11	Eh, pH	ALK (fld), TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TSS
LF-LD-12	Spec Cond, TURB (fld)	ALK (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TSS
LF-LD-13	ALK (fld), Spec Cond	DO, pH	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, SO4, S=, TDS, TSS, TURB (fld)
LF-LD-14	Spec Cond, TURB (fld)	DO, Eh, pH	ALK (fld)
LF-LD-15	Spec Cond	DO, pH, TURB (fld)	ALK (fld), Eh
LF-UD-12+13+14			ALK (fld), DO, Eh, pH, Spec Cond, TURB (fld)
LF-UD-5and6		Mg, K, TDS, TURB (fld)	ALK (fld), As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, Na, Spec Cond, SO4, P, TSS
LP-COMP	Spec Cond		ALK (fld), DO, Eh, pH, TURB (fld)
LP-UD-2	Eh, Spec Cond		ALK (fld), As, HCO3, Bromide, Ca, Cl, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, SO4, TDS, P, TSS, TURB (fld)
LT-C4L & LT-C4LR		Mg, K, TSS	ALK, Al, NH3 - N, Sb, As, Ba, Be, HCO3, BOD5, Bromide, Cd, Ca, Hard(CaMg), COD, Cl, Cr, Co, Cu, CN, DO, Eh, Fe, Pb, Mn, Ni, NO3 - N, NO2/NO3 - N, OC, pH, Se, Ag, Na, Spec Cond, SO4, S=, Tl, Sn, TDS, TKN, V, Zn
MW-04-09A		ALK, Ca, Cl, Mg, K, Na, Spec Cond, SO4, TDS	NH3 - N, As, Bromide, Cu, DO, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, S=, TKN, TSS, TURB (fld)
MW-04-09B	Cl	K, Na	ALK, NH3 - N, As, Bromide, Ca, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW04-102	Cl	TURB (fld)	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS
MW04-105		TURB (fld)	DO, Eh, pH, Spec Cond
MW04-109 & MW04-109R	OC	Cl, Mg, TURB (fld)	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mn, NO2/NO3 - N, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS
MW06-01	ALK, Mg, Spec Cond, SO4, TDS	NO2/NO3 - N	NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mn, Methane, OC, pH, K, Na, S=, TKN, TSS, TURB (fld)
MW-08-01	DO, Eh, Mg	Fe, K, Na, TSS, TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Mn, Methane, NO2/NO3 - N, OC, pH, Spec Cond, SO4, S=, TDS, TKN
MW09-901		TDS	As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TKN, TSS, TURB (fld)
MW-204			DO, Eh, pH, Spec Cond, TURB (fld)
MW-206	DO, Eh	Mg, K	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-223A	NO2/NO3 - N, Spec Cond	TKN, TURB (fld)	As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, OC, pH, K, Na, SO4, TDS, TSS
MW-223B	NO2/NO3 - N	Cl, TURB (fld)	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, Methane, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS

LOCATION	Increasing Trends	Decreasing Trends	No Trends
MW-227	Cl	As, HCO3, Ca, Mg, K, TDS, TURB (fld)	Bromide, DO, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, Na, Spec Cond, SO4, TKN, TSS
MW-301	Cl, Fe	Mg	As, HCO3, Bromide, Ca, DO, Eh, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-303 & MW12-303R		Cl, Na	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-401A	Cl, Eh, Spec Cond		As, HCO3, Bromide, Ca, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, SO4, TDS, TKN, TSS, TURB (fld)
MW-401B	Bromide, Mn, Spec Cond	Ca, K, Na	As, HCO3, Cl, DO, Eh, Fe, Mg, NO2/NO3 - N, OC, pH, SO4, TDS, TKN, TSS, TURB (fld)
MW-402A	Cl, Eh, Spec Cond	As, Ca, Mg	HCO3, Bromide, DO, Fe, Mn, NO2/NO3 - N, OC, pH, K, Na, SO4, TDS, TKN, TSS, TURB (fld)
MW-402B	DO, Eh	As, Mg	HCO3, Bromide, Ca, Cl, Fe, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-501	Mn, Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-502			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-503		ALK, Ca, Mg, NO2/NO3 - N, K	NH3 - N, As, Bromide, Cl, Cu, DO, Eh, Fe, Mn, Methane, OC, pH, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-504	Spec Cond, SO4	Mn, K, TSS	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, Na, S=, TDS, TKN, TURB (fld)
MW-505	DO	ALK, Cl, Fe, Mn, Na, SO4	NH3 - N, As, Bromide, Ca, Cu, Eh, Mg, Methane, NO2/NO3 - N, OC, pH, K, Spec Cond, S=, TDS, TKN, TSS, TURB (fld)
MW-506		Ca, Cl, Mn, K, Na, Spec Cond, SO4, TDS, TURB (fld)	ALK, NH3 - N, As, Bromide, Cu, DO, Eh, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, S=, TKN, TSS
MW-507			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-508		Ca, Cl, Fe, Mg, NO2/NO3 - N, pH, K, Na, TURB (fld)	ALK, NH3 - N, As, Bromide, Cu, DO, Eh, Mn, Methane, OC, Spec Cond, SO4, S=, TDS, TKN, TSS
OW-06-03			DO, Eh, pH, Spec Cond, TURB (fld)
OW-601A	Eh		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-601B			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-602A	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-603B			
OW-604A	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-605A	DO		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-606A	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-606B			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)

LOCATION	Increasing Trends	Decreasing Trends	No Trends
OW-607B		TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS
OW-608A	DO, Eh		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-608B	Eh	pH	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld), Well Depth
OW-609B			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-610A		pH	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-611A	Eh	TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS
P-04-02 & P-04-02R		K, Na	As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
P-04-04	Cl		As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
P-04-07A		Ca, Cl	ALK, NH3 - N, As, Bromide, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-04-07B	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-04-11A	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-04-11B		DO	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-206A	Cl, SO4	Ca, Mg, K	ALK, NH3 - N, As, HCO3, Bromide, Cu, DO, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, Na, Spec Cond, S=, TDS, TKN, TSS, TURB (fld)
PWS10-1	Eh		As, HCO3, Bromide, Ca, Cl, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
PWS10-2	Spec Cond, TSS	Cl, Na	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, SO4, TDS, P, TURB (fld)
PWS10-3	Eh, pH		As, HCO3, Bromide, Ca, Cl, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
PWS-4	K	Na, Spec Cond, P	ALK, NH3 - N, As, HCO3, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, SO4, S=, TDS, TKN, TSS, TURB (fld)
SW-1	Eh	Cl	As, HCO3, BOD5, Bromide, Ca, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW-2			As, HCO3, BOD5, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW23-4	TKN, TURB (fld)	Na	ALK, NH3 - N, As, HCO3, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Spec Cond, SO4, S=, TDS, P, TSS
SW-3		Cl, Na	As, HCO3, BOD5, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Spec Cond, SO4, TDS, P, TSS, TURB (fld)

LOCATION	Increasing Trends	Decreasing Trends	No Trends
SW-DP1		Na	As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW-DP6	Ca, Mg, Spec Cond, SO4		As, HCO3, Bromide, Cl, DO, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, K, Na, TDS, P, TSS, TURB (fld)

LOCATION	Increasing Trends	Decreasing Trends	No Trends

Parameter Abbreviations:

Ag - Silver
Al - Aluminum
ALK - Alkalinity (CaCO3)
ALK (fld) - Alkalinity (CaCO3) (field)
As - Arsenic
Ba - Barium
Be - Beryllium
BOD5 - Biochemical Oxygen Demand
Bromide - Bromide
Ca - Calcium
Cd - Cadmium
Cl - Chloride
CN - Cyanide
Co - Cobalt
COD - Chemical Oxygen Demand
Cr - Chromium
Cu - Copper
DO - Dissolved Oxygen
Eh - Eh
Fe - Iron
Hard(CaMg) - Ca-mg Hardness (CaCO3)
HCO3 - Bicarbonate Alkalinity (CaCO3)
Hg - Mercury
K - Potassium
Methane - Methane
Mg - Magnesium
Mn - Manganese
Na - Sodium
NH3 - N - Ammonia (N)
Ni - Nickel
NO2/NO3 - N - Nitrite/Nitrate - (N)
NO3 - N - Nitrate (N)
OC - Organic Carbon
P - Total Phosphorus Mixed Forms (PO4 and Organic) As Phosphorus
Pb - Lead
pH - pH
S= - Sulfide
Sb - Antimony
Se - Selenium
Sn - Tin
SO4 - Sulfate
Spec Cond - Specific Conductance
TDS - Total Dissolved Solids
TKN - Total Kjeldahl Nitrogen
Tl - Thallium
TSS - Total Suspended Solids
TURB (fld) - Turbidity (field)
V - Vanadium
Well Depth - Well Depth
Zn - Zinc

Calculations are performed on ProUCL Version 5.2.
Values below the detection limit are passed to ProUCL as a value of zero.
Field duplicate samples are excluded from the analysis.
Data sets with less than 3 data points are not analyzed.

Summary of Mann-Kendall Trend Analysis

Juniper Ridge Landfill

5-yr trend

Confidence Coefficient = 0.95 Level of Significance = 0.05

1/1/2020 - 12/31/2024

LOCATION	Increasing Trends	Decreasing Trends	No Trends
DP-4			DO, Eh, pH, Spec Cond, TURB (fld), Well Depth
LF-COMP	TURB (fld)	ALK (fld), DO, Eh	pH, Spec Cond
LF-LD-11	DO, Eh, pH, K, Na, Spec Cond	ALK (fld), TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, SO4, S=, TDS, TKN, TSS
LF-LD-12	DO, Fe, Mn, pH, Spec Cond, TURB (fld)	ALK (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Eh, Mg, Methane, NO2/NO3 - N, OC, K, Na, SO4, S=, TDS, TKN, TSS
LF-LD-13	ALK (fld), Spec Cond	pH	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, SO4, S=, TDS, TSS, TURB (fld)
LF-LD-14	Spec Cond, TURB (fld)	DO, Eh, pH	ALK (fld)
LF-LD-15	Spec Cond	DO, pH, TURB (fld)	ALK (fld), Eh
LF-UD-12+13+14			ALK (fld), DO, Eh, pH, Spec Cond, TURB (fld)
LF-UD-2	ALK (fld)		As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
LF-UD-4			As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
LF-UD-5and6	Cl, Spec Cond	ALK (fld), Eh, pH, SO4	As, HCO3, Bromide, Ca, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, K, Na, TDS, P, TSS, TURB (fld)
LF-UD-6			As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
LP-COMP	Spec Cond, TURB (fld)	ALK (fld), Eh	DO, pH
LP-UD-2	Fe, Spec Cond, TURB (fld)	Cl, DO, pH, SO4	ALK (fld), As, HCO3, Bromide, Ca, Eh, Mg, Mn, NO2/NO3 - N, OC, K, Na, TDS, P, TSS
LT-C4L & LT-C4LR	Cr	Cl, DO, Mg, TSS	ALK, Al, NH3 - N, Sb, As, Ba, Be, HCO3, BOD5, Bromide, Cd, Ca, Hard(CaMg), COD, Co, Cu, CN, Eh, Fe, Pb, Mn, Hg, Ni, NO3 - N, NO2/NO3 - N, OC, pH, K, Se, Ag, Na, Spec Cond, SO4, S=, Tl, Sn, TDS, TKN, TURB (fld), V, Zn
MW-04-09A	Eh	As, Cl, Fe, Mg, OC, pH, K, Spec Cond, SO4, TDS, TSS	ALK, NH3 - N, Bromide, Ca, Cu, DO, Mn, Methane, NO2/NO3 - N, Na, S=, TKN, TURB (fld), Well Depth
MW-04-09B	Cl	ALK, Fe, pH, K, Na, SO4, TDS	NH3 - N, As, Bromide, Ca, Cu, DO, Eh, Mg, Mn, Methane, NO2/NO3 - N, OC, Spec Cond, S=, TKN, TSS, TURB (fld), Well Depth
MW04-102	Cl	SO4, TURB (fld)	As, HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, TDS, TKN, TSS
MW04-105			DO, Eh, pH, Spec Cond, TURB (fld), Well Depth
MW04-109 & MW04-109R	Fe, Mn, OC	HCO3, Bromide, Ca, Mg, Spec Cond, SO4, TDS, TURB (fld)	As, Cl, DO, Eh, NO2/NO3 - N, pH, K, Na, TKN, TSS
MW06-01	ALK, HCO3, Bromide, Ca, Cl, Mg, Methane, Na, Spec Cond, TDS	DO	NH3 - N, As, Cu, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, K, SO4, S=, TKN, TSS, TURB (fld)
MW-08-01	Ca, Mg, K	Na, TDS	ALK, NH3 - N, As, BOD5, Bromide, Cl, Cu, DO, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, Spec Cond, SO4, S=, TKN, P, TSS, TURB (fld)
MW09-901	OC	pH, K, Na	As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-204			DO, Eh, pH, Spec Cond, TURB (fld), Well Depth
MW-206		As, NO2/NO3 - N, TURB (fld)	ALK, NH3 - N, HCO3, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS

LOCATION	Increasing Trends	Decreasing Trends	No Trends
MW-223A	HCO3, NO2/NO3 - N, Spec Cond, TDS	DO, SO4	As, Bromide, Ca, Cl, Eh, Fe, Mg, Mn, OC, pH, K, Na, TKN, TSS, TURB (fld)
MW-223B	HCO3	Cl	As, Bromide, Ca, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-227		As, HCO3, SO4, TURB (fld)	Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, TDS, TKN, TSS
MW-301	Cl	Eh, TURB (fld)	As, HCO3, Bromide, Ca, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS
MW-302 & MW-302R	HCO3, Ca, NO2/NO3 - N, K	DO, Eh	As, Bromide, Cl, Fe, Mg, Mn, OC, pH, Na, Spec Cond, SO4, TDS, TKN, TSS, TURB (fld)
MW-303 & MW12-303R	Fe, Mn, TSS, TURB (fld)	Ca, Cl, K, Na, Spec Cond, TDS	As, HCO3, Bromide, DO, Eh, Mg, NO2/NO3 - N, OC, pH, SO4, TKN
MW-401A	Ca, Cl, Eh, Mg, Spec Cond, TDS	As, SO4	HCO3, Bromide, DO, Fe, Mn, NO2/NO3 - N, OC, pH, K, Na, TKN, TSS, TURB (fld)
MW-401B	Eh, Spec Cond	As, Fe, pH, SO4, TURB (fld)	HCO3, Bromide, Ca, Cl, DO, Mg, Mn, NO2/NO3 - N, OC, K, Na, TDS, TKN, TSS
MW-402A	Cl, Spec Cond	As, pH, SO4	HCO3, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, K, Na, TDS, TKN, TSS, TURB (fld)
MW-402B	DO, Eh	As, TURB (fld)	HCO3, Bromide, Ca, Cl, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, TKN, TSS
MW-501	ALK, Mn, SO4	Cl	NH3 - N, As, HCO3, Bromide, Ca, Cu, DO, Eh, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, S=, TDS, TKN, TSS, TURB (fld)
MW-502	Eh	pH, TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS
MW-503	Eh, Spec Cond	NO2/NO3 - N, TURB (fld)	ALK, NH3 - N, As, BOD5, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, OC, pH, K, Na, SO4, S=, TDS, TKN, P, TSS
MW-504	Eh	As, pH, K, Na	ALK, NH3 - N, BOD5, Bromide, Ca, Cl, Cu, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, Spec Cond, SO4, S=, TDS, TKN, P, TSS, TURB (fld)
MW-505	Eh	ALK, Cl, Mn, Na, Spec Cond, SO4, TDS, TURB (fld)	NH3 - N, As, BOD5, Bromide, Ca, Cu, DO, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, K, S=, TKN, P, TSS
MW-506		Ca, Cl, Mg, Mn, OC, K, Na, Spec Cond, SO4, TDS	ALK, NH3 - N, As, BOD5, Bromide, Cu, DO, Eh, Fe, Methane, NO2/NO3 - N, pH, S=, TKN, P, TSS, TURB (fld), Well Depth
MW-507			ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
MW-508		Ca, Cl, Fe, Mg, NO2/NO3 - N, pH, K, Na, TURB (fld)	ALK, NH3 - N, As, Bromide, Cu, DO, Eh, Mn, Methane, OC, Spec Cond, SO4, S=, TDS, TKN, TSS
OW-06-03			DO, Eh, pH, Spec Cond, TURB (fld)
OW-601A		TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS
OW-601B		TDS, TURB (fld)	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TKN, TSS
OW-602A	Ca, Mg, Na, Spec Cond, SO4, TDS	DO, pH	ALK, NH3 - N, As, Bromide, Cl, Cu, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, K, S=, TKN, TSS, TURB (fld)
OW-604A	Ca, Cl, Mg, Spec Cond, TDS	DO, TURB (fld)	ALK, NH3 - N, As, Bromide, Cu, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TKN, TSS
OW-605A	DO, Fe	NO2/NO3 - N	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Eh, Mg, Mn, Methane, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-606A	Bromide, Ca, Spec Cond, TDS	Cl, SO4	ALK, NH3 - N, As, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, S=, TKN, TSS, TURB (fld)

LOCATION	Increasing Trends	Decreasing Trends	No Trends
OW-606B	DO, Eh, pH	SO4, TURB (fld)	ALK, NH3 - N, As, BOD5, Bromide, Ca, Cl, Cu, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, S=, TDS, TKN, P, TSS
OW-607B	Mg	As	ALK, NH3 - N, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, P, TSS, TURB (fld)
OW-608A	DO, Eh, pH		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-608B		Spec Cond, SO4, TDS	ALK, NH3 - N, As, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, S=, TKN, P, TSS, TURB (fld), Well Depth
OW-609B		Mn, TDS	ALK, NH3 - N, As, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TKN, P, TSS, TURB (fld), Well Depth
OW-610A		pH	ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
OW-611A	ALK, Eh, Fe, NO2/NO3 - N	TURB (fld)	NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Mg, Mn, Methane, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS
P-04-02 & P-04-02R	Fe, NO2/NO3 - N	As, HCO3, Cl, DO, Mg, pH, K, Na, Spec Cond, SO4, TDS	Bromide, Ca, Eh, Mn, OC, TKN, TSS, TURB (fld)
P-04-04	Ca, Cl, NO2/NO3 - N, Spec Cond, TDS	As, DO	HCO3, Bromide, Eh, Fe, Mg, Mn, OC, pH, K, Na, SO4, TKN, TSS, TURB (fld)
P-04-07A		Ca, Cl	ALK, NH3 - N, As, Bromide, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-04-07B	Spec Cond		ALK, NH3 - N, As, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, TSS, TURB (fld)
P-04-11A		As, SO4, TDS	ALK, NH3 - N, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, S=, TKN, P, TSS, TURB (fld)
P-04-11B	Ca, Mg, Spec Cond	TURB (fld)	ALK, NH3 - N, As, BOD5, Bromide, Cl, Cu, DO, Eh, Fe, Mn, Methane, NO2/NO3 - N, OC, pH, K, Na, SO4, S=, TDS, TKN, P, TSS
P-206A	Cl, Eh, NO2/NO3 - N, SO4	Mn, K, Na, TSS	ALK, NH3 - N, As, HCO3, Bromide, Ca, Cu, DO, Fe, Mg, Methane, OC, pH, Spec Cond, S=, TDS, TKN, TURB (fld)
PWS10-1	DO, Eh	Cl, OC, Na	As, HCO3, Bromide, Ca, Fe, Mg, Mn, Methane, NO2/NO3 - N, pH, K, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
PWS10-2	Eh	Cl, Na, SO4	As, HCO3, Bromide, Ca, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Spec Cond, TDS, P, TSS, TURB (fld)
PWS10-3	Cl, Eh, pH, K		As, HCO3, Bromide, Ca, DO, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
PWS-4	K	Na, Spec Cond, P	ALK, NH3 - N, As, HCO3, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, SO4, S=, TDS, TKN, TSS, TURB (fld)
SW-1	Eh	Cl	As, HCO3, BOD5, Bromide, Ca, DO, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW-2		pH	As, HCO3, BOD5, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW23-4	TKN, TURB (fld)	Na	ALK, NH3 - N, As, HCO3, BOD5, Bromide, Ca, Cl, Cu, DO, Eh, Fe, Mg, Mn, Methane, NO2/NO3 - N, OC, pH, K, Spec Cond, SO4, S=, TDS, P, TSS
SW-3		Cl, TURB (fld)	As, HCO3, BOD5, Bromide, Ca, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS

LOCATION	Increasing Trends	Decreasing Trends	No Trends
SW-DP1		HCO3, Cl, Mg, K, Na, TDS, TURB (fld)	As, Bromide, Ca, DO, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, Spec Cond, SO4, P, TSS
SW-DP5			As, HCO3, Bromide, Ca, Cl, DO, Eh, Fe, Mg, Mn, NO2/NO3 - N, OC, pH, K, Na, Spec Cond, SO4, TDS, P, TSS, TURB (fld)
SW-DP6	HCO3, Ca, Mg, K, TDS		As, Bromide, Cl, DO, Eh, Fe, Mn, NO2/NO3 - N, OC, pH, Na, Spec Cond, SO4, P, TSS, TURB (fld)

LOCATION	Increasing Trends	Decreasing Trends	No Trends

Parameter Abbreviations:

Ag - Silver
Al - Aluminum
ALK - Alkalinity (CaCO3)
ALK (fld) - Alkalinity (CaCO3) (field)
As - Arsenic
Ba - Barium
Be - Beryllium
BOD5 - Biochemical Oxygen Demand
Bromide - Bromide
Ca - Calcium
Cd - Cadmium
Cl - Chloride
CN - Cyanide
Co - Cobalt
COD - Chemical Oxygen Demand
Cr - Chromium
Cu - Copper
DO - Dissolved Oxygen
Eh - Eh
Fe - Iron
Hard(CaMg) - Ca-mg Hardness (CaCO3)
HCO3 - Bicarbonate Alkalinity (CaCO3)
Hg - Mercury
K - Potassium
Methane - Methane
Mg - Magnesium
Mn - Manganese
Na - Sodium
NH3 - N - Ammonia (N)
Ni - Nickel
NO2/NO3 - N - Nitrite/Nitrate - (N)
NO3 - N - Nitrate (N)
OC - Organic Carbon
P - Total Phosphorus Mixed Forms (PO4 and Organic) As Phosphorus
Pb - Lead
pH - pH
S= - Sulfide
Sb - Antimony
Se - Selenium
Sn - Tin
SO4 - Sulfate
Spec Cond - Specific Conductance
TDS - Total Dissolved Solids
TKN - Total Kjeldahl Nitrogen
Tl - Thallium
TSS - Total Suspended Solids
TURB (fld) - Turbidity (field)
V - Vanadium
Well Depth - Well Depth
Zn - Zinc

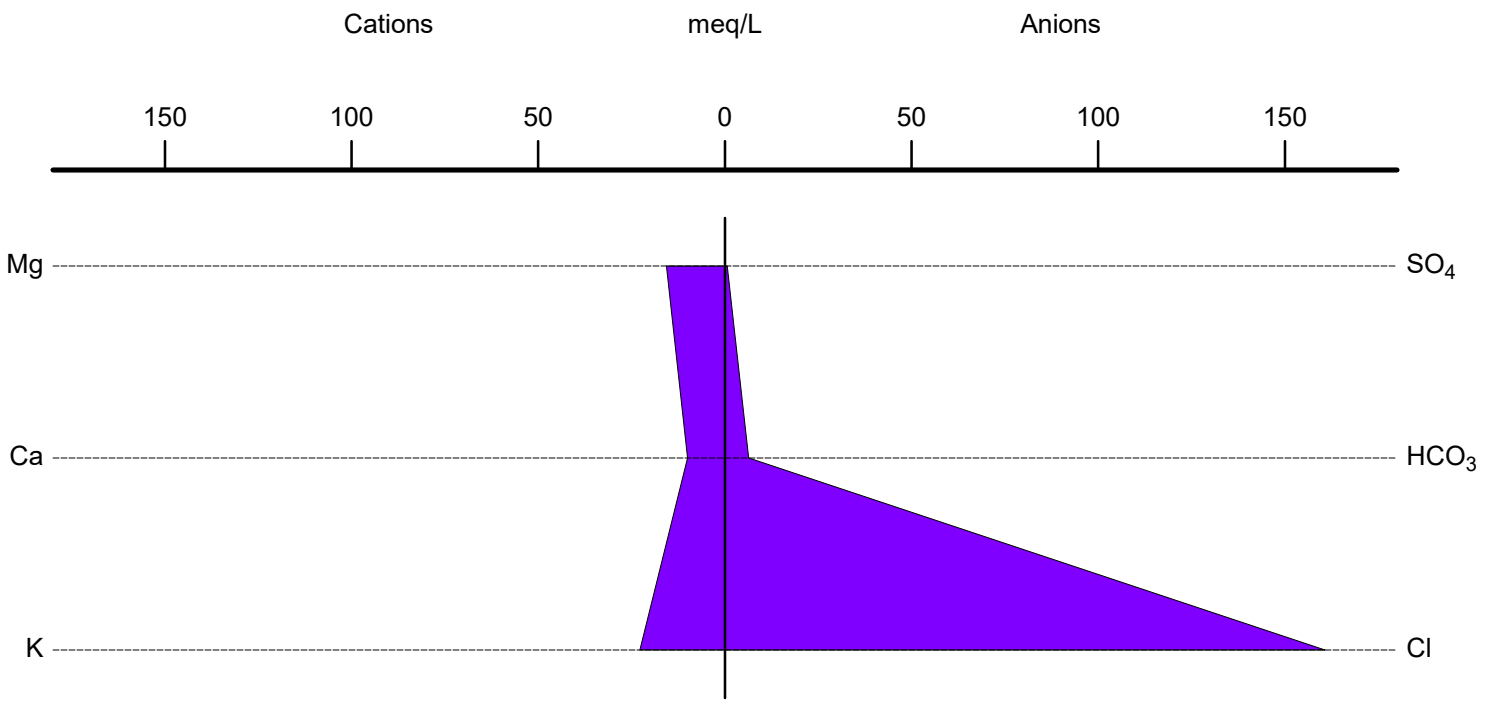
Calculations are performed on ProUCL Version 5.2.
Values below the detection limit are passed to ProUCL as a value of zero.
Field duplicate samples are excluded from the analysis.
Data sets with less than 3 data points are not analyzed.

APPENDIX G

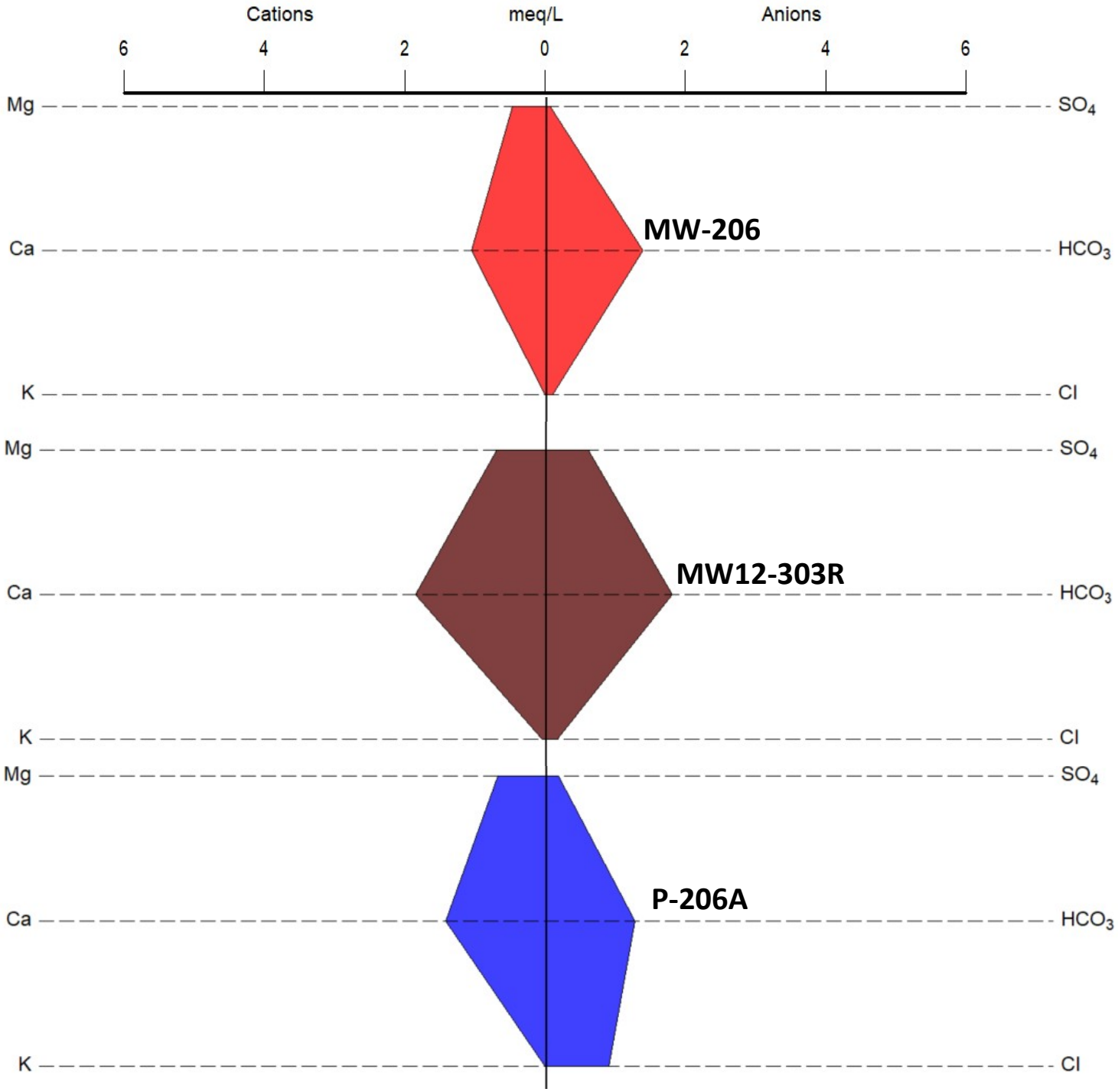
STIFF AND PIPER DIAGRAMS

SME
SEVEE & MAHER
ENGINEERS

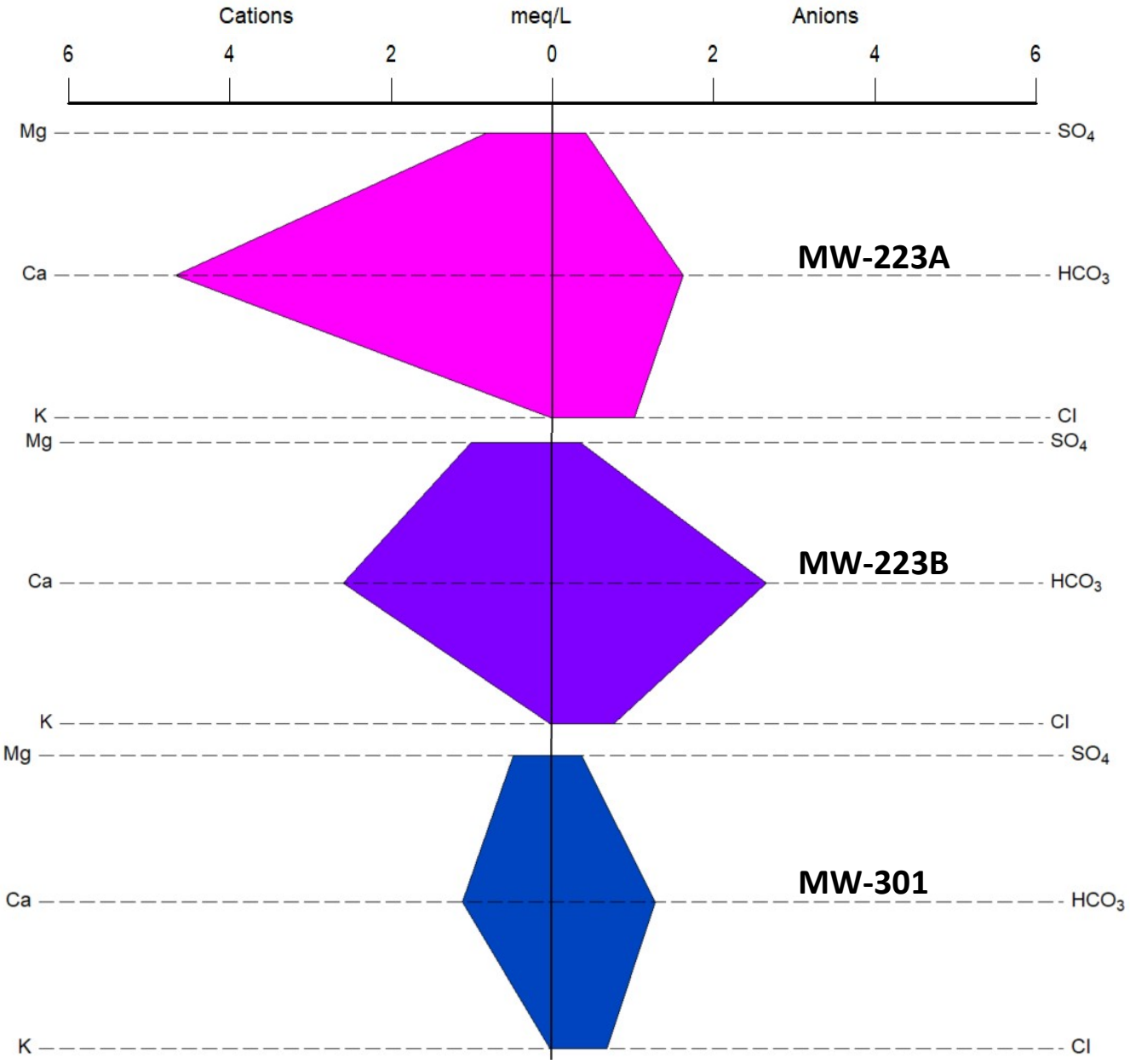
Stiff Diagram - October 2024 Leachate



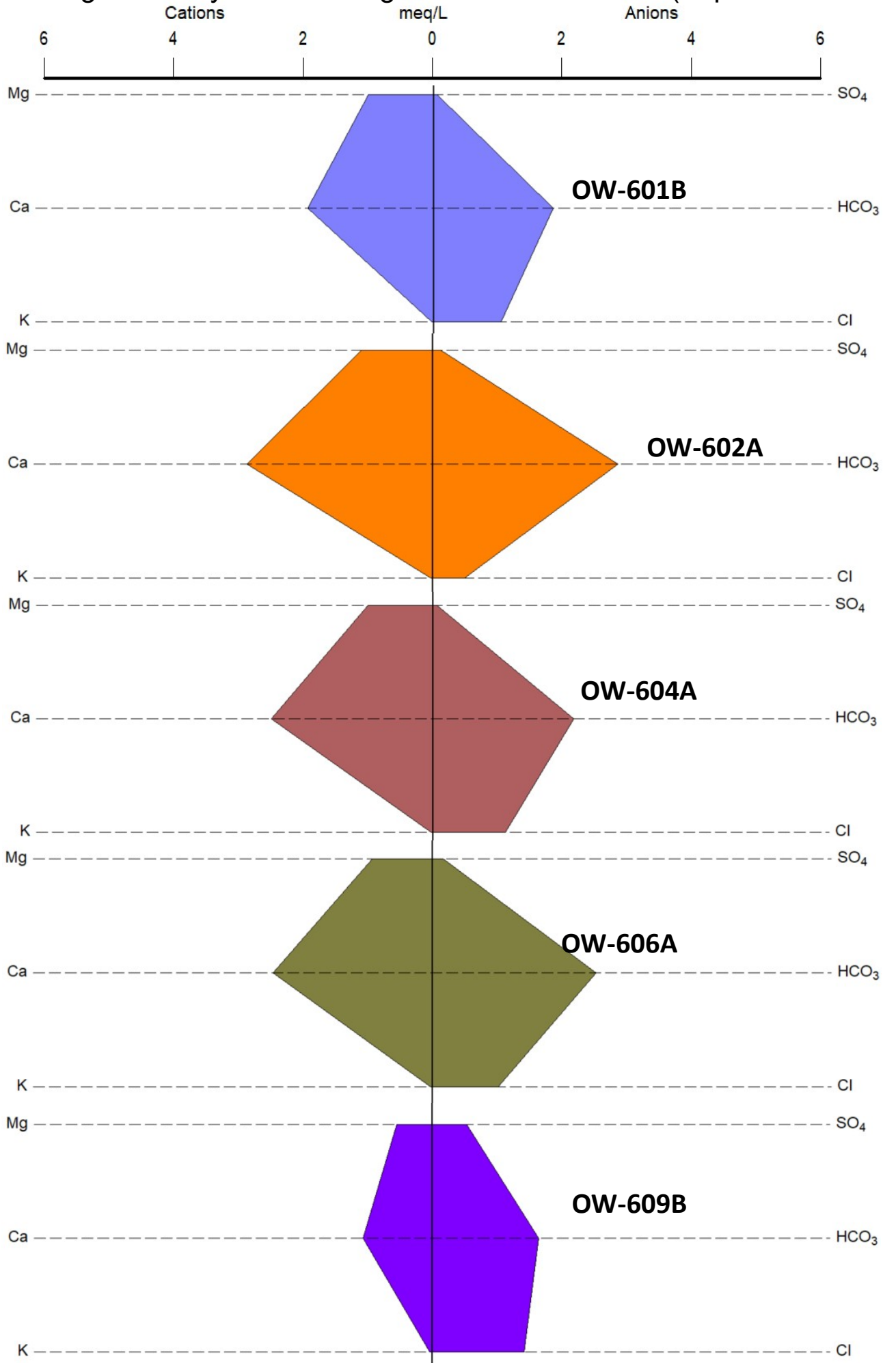
Stiff Diagram - July 2024 Upgradient Groundwater



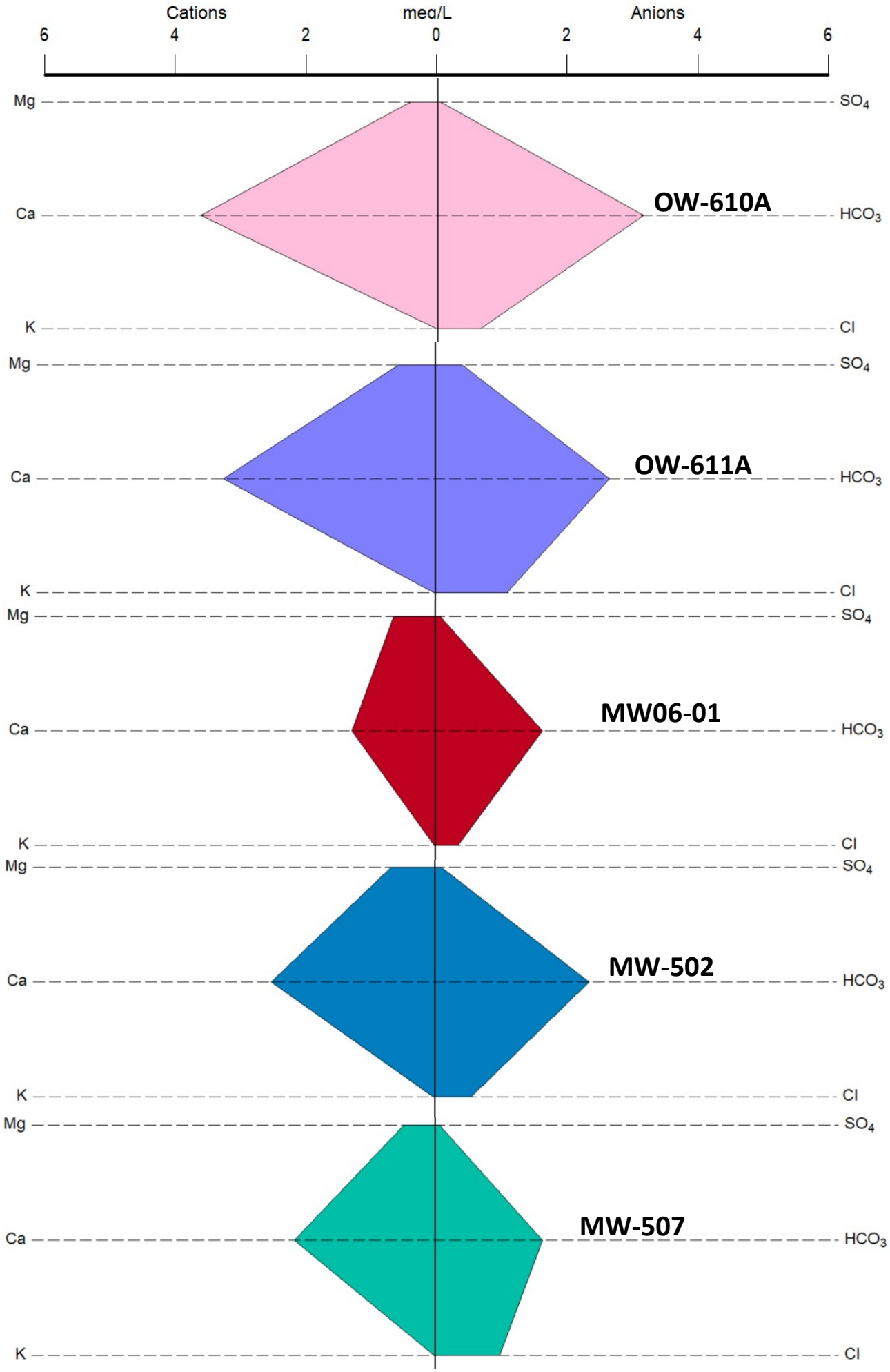
Stiff Diagram - October 2024 Downgradient Groundwater (Cells 1-10)



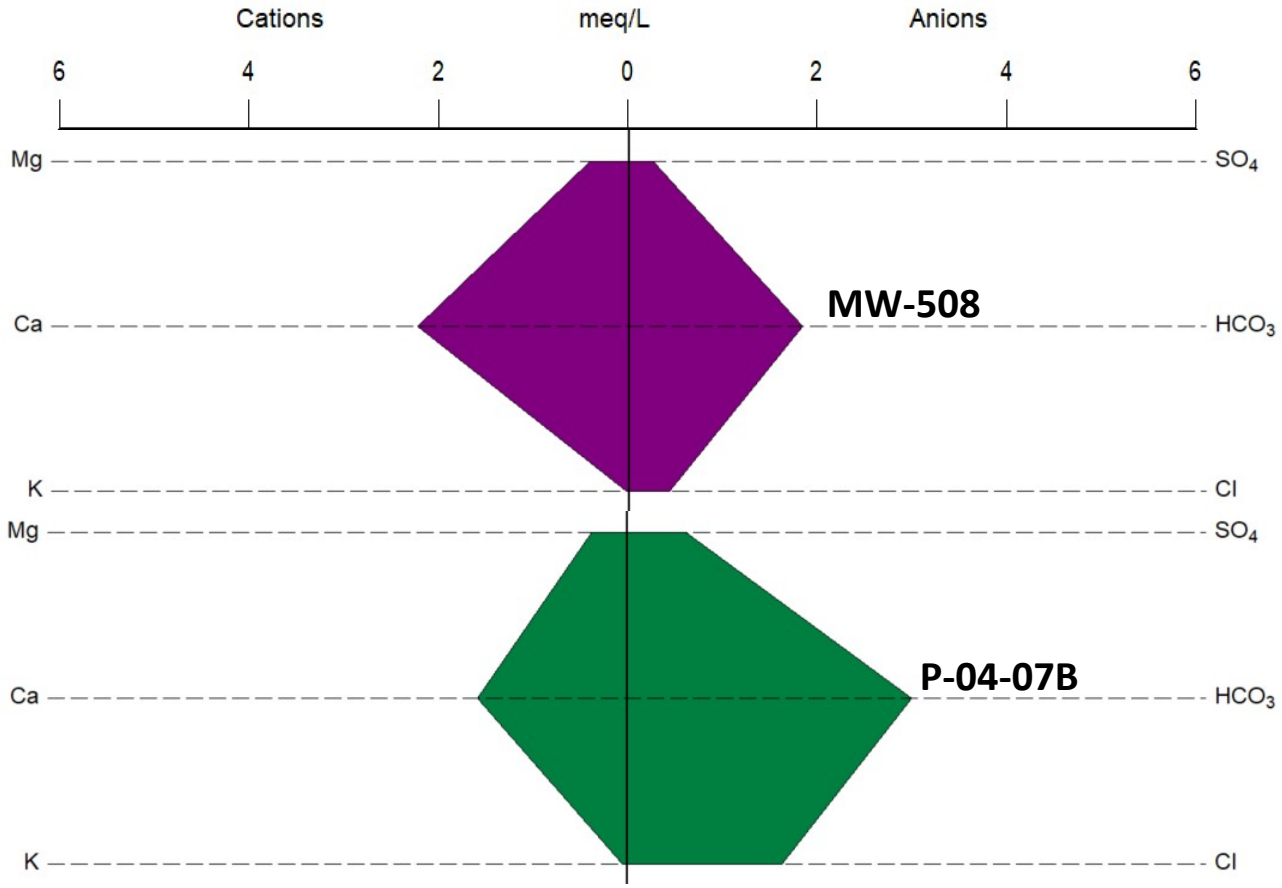
Stiff Diagram - July 2024 Downgradient Groundwater (Expansion Cells)



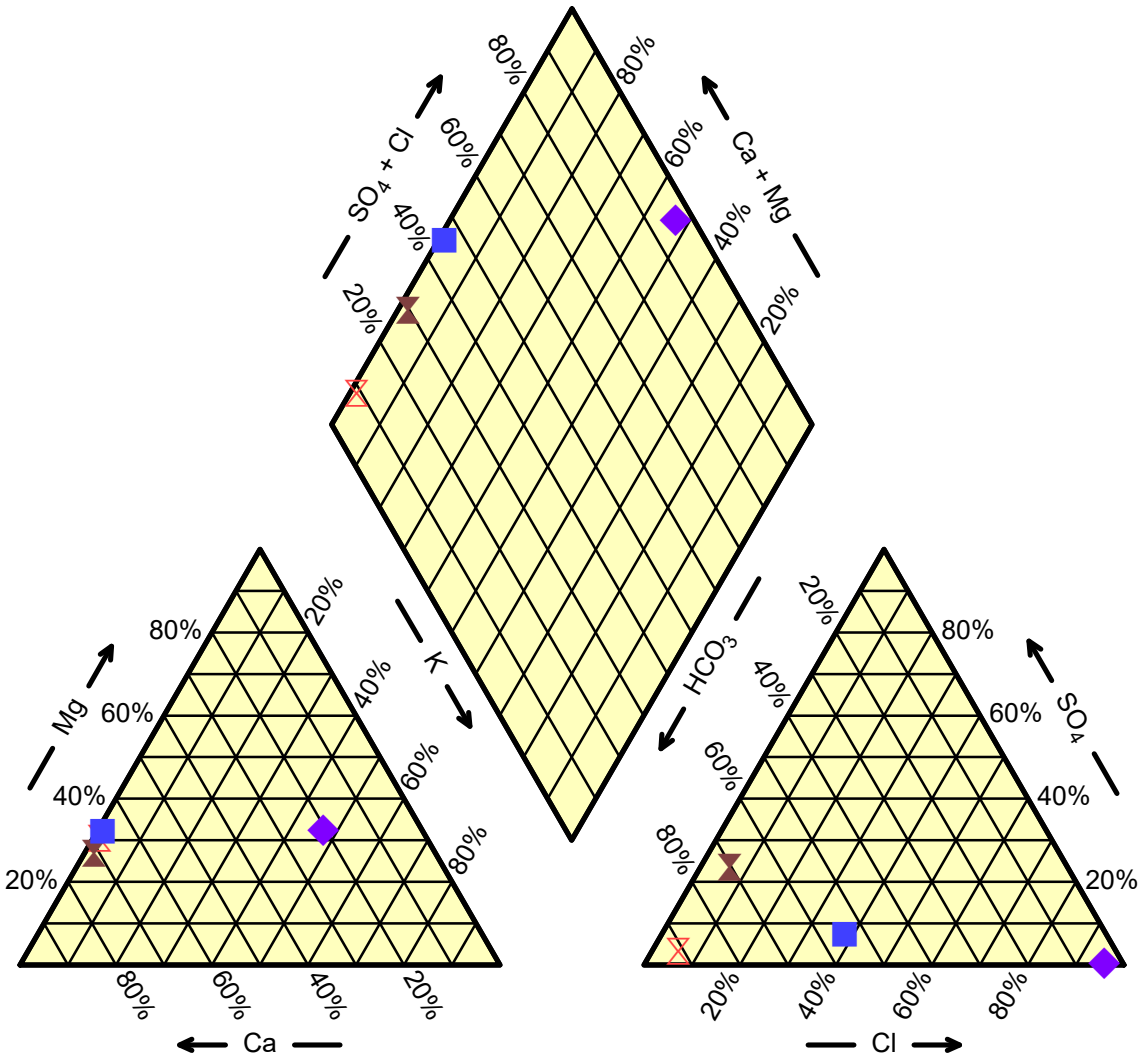
Stiff Diagram - July 2024 Downgradient Groundwater (Expansion Cells)



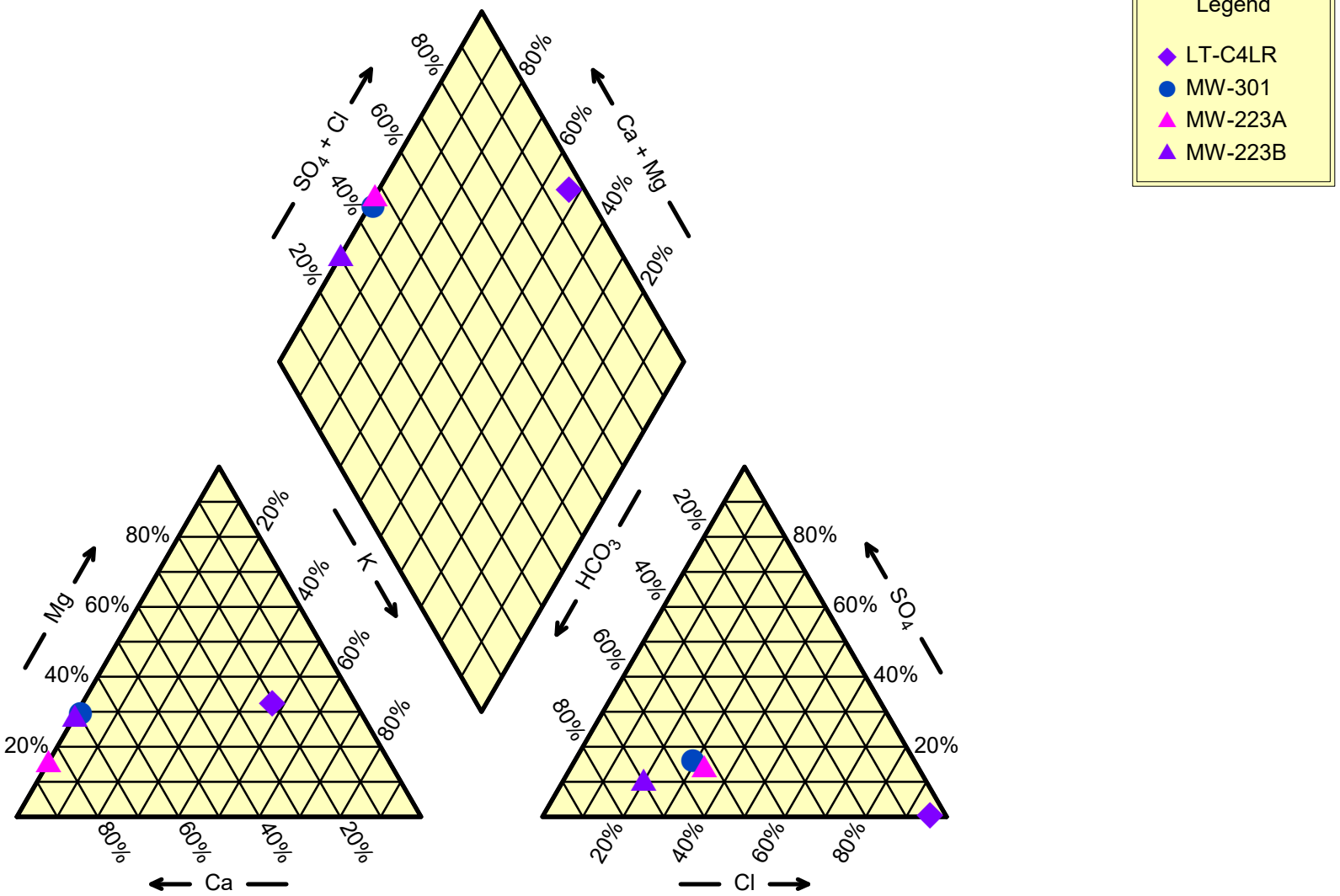
Stiff Diagram - July 2024 Downgradient Groundwater (Expansion Cells)



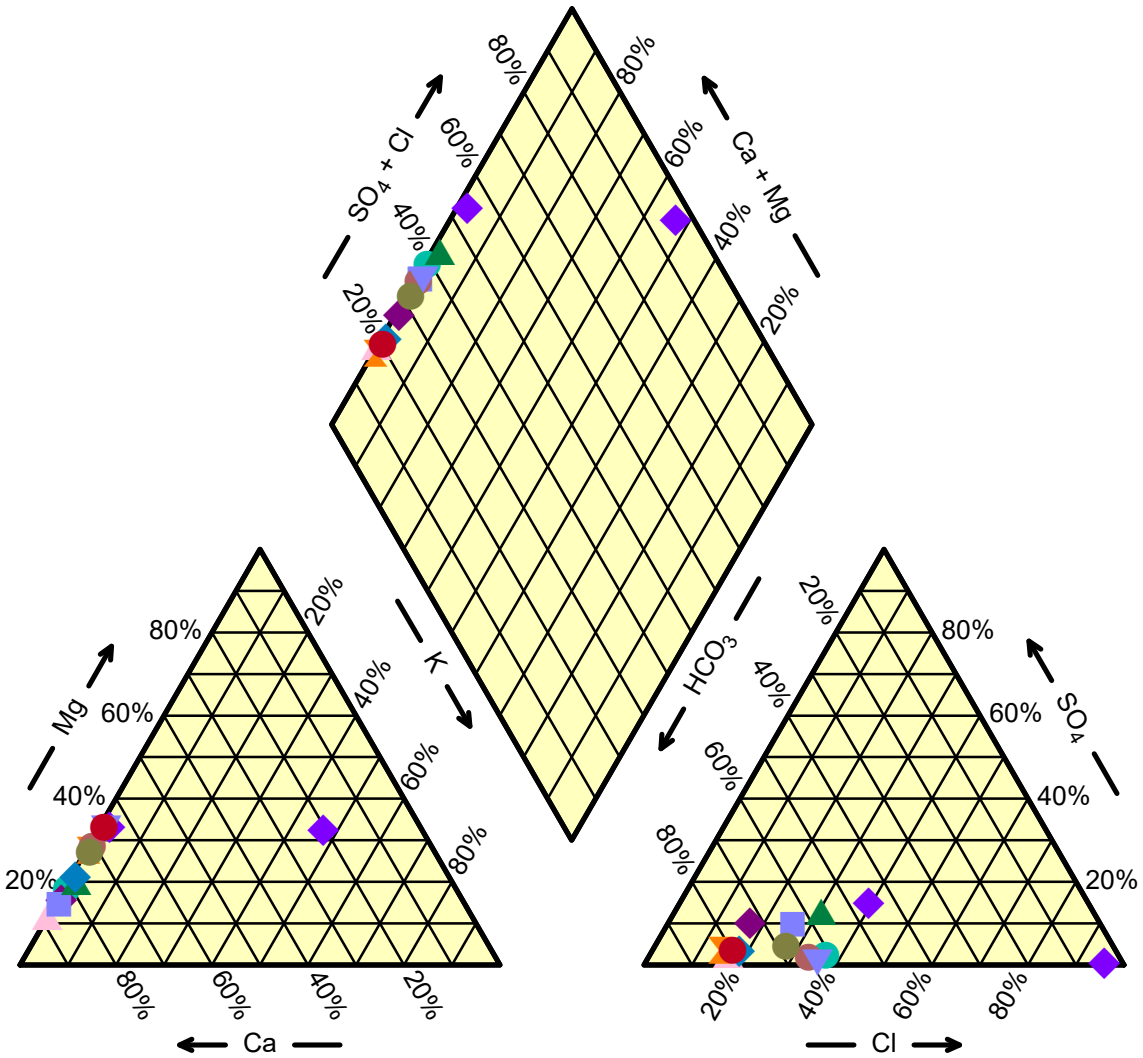
Piper Diagram - July 2024 Upgradient Groundwater



Piper Diagram - October 2024 Downgradient Groundwater (Cells 1-10)



Piper Diagram - July 2024 Downgradient Groundwater (Expansion Cells)



Legend

- LT-C4LR
- OW-609B
- MW-507
- MW-508
- OW-610A
- OW-611A
- P-04-07B
- MW-502
- OW-602A
- OW-604A
- OW-606A
- OW-601B
- MW06-01

APPENDIX H

2024 AND HISTORICAL GAS MEASUREMENT DATA

SME
SEVEE & MAHER
ENGINEERS

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
DP-4						
4/29/2015	0.1 US	0.1 US	0	0	21.5	0
7/14/2015	0.1 US	0.1 US	0	0	20.7	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/6/2016	0.1 US	0.1 US	0	0	19.5	0
7/25/2016	0.1 US	0.1 US	0	0	20.4	0
10/25/2016	0.1 US	0.1 US	0	0	20.7	0
4/18/2017	0.1 US	0.1 US	0	0	20.9	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/23/2017	0.1 US	0.1 US	0	0	20.7	0
4/3/2018	0.1 US	0.1 US	0	0	21	0
7/16/2018	0.1 US	0.1 US	0	0	20.5	0
10/1/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/18/2022	0.1 US	0.1 US	0	0	20.9	0
10/3/2022	0.1 US	0.1 US	0	0	20.9	0
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/10/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/15/2024	0.1 US	0.1 US	0	0	20.7	0
10/7/2024	0.1 US	0.1 US	0	0	20.9	0
LT-C4L & LT-C4LR						
4/29/2015	0.1 US	0.1 US	0	0	22.4	0
7/14/2015	0.1 US	0.1 US	0	0	20.6	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/6/2016	0.1 US	0.1 US	0	0	19.6	0
7/26/2016	0.1 US	0.1 US	0	0	20.3	0
10/25/2016	0.1 US	0.1 US	0	0	20.6	0
4/18/2017	0.1 US	0.1 US	0	0	20.9	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/24/2017	0.1 US	0.1 US	0	0	20.7	0
4/3/2018	0.1 US	0.1 US	0	0	20.9	0
7/16/2018	0.1 US	0.1 US	0	0	20.1	0
10/1/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LT-C4L & LT-C4LR) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.9	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-LD-11															
7/19/2022	0.1 US	0.1 US	0	0	19.1	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-LD-12															
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-LD-13															
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-LD-14															
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-LD-14) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-LD-15															
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
LF-UD															
4/28/2015	0.1 US	0.1 US	0	0	24.8	0									
7/14/2015	0.1 US	0.1 US	0	0	20.1	0									
10/27/2015	0.1 US	0.1 US	0	0	22	0									
4/5/2016	0.1 US	0.1 US	0	0	20.3	0									
7/26/2016	0.1 US	0.1 US	0	0	20.7	0									
10/25/2016	0.1 US	0.1 US	0	0	20.6	0									
4/18/2017	0.1 US	0.1 US	0	0	20.9	0									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	17.2	0									
10/2/2018	0.1 US	0.1 US	0	0	20.9	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.8	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	17.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-UD-5and6															
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
LF-UD-6															
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LF-UD-6) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LF-UD-8						
7/19/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LF-UD-9						
7/19/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LF-UD-10						
7/19/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LF-UD-12+13+14						
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LP-LD						
4/28/2015	0.1 US	0.1 US	0	0	22.1	0
7/14/2015	0.1 US	0.1 US	0	0	20.6	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/5/2016	0.1 US	0.1 US	0	0	20.3	0
7/26/2016	0.1 US	0.1 US	0	0	18.9	0
10/25/2016	0.1 US	0.1 US	0	0	20.6	0
4/18/2017	0.1 US	0.1 US	0	0	20.9	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(LP-LD) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
10/24/2017	0.1 US	0.1 US	0	0	20.7	0
4/3/2018	0.1 US	0.1 US	0	0	21.1	0
7/16/2018	0.1 US	0.1 US	0	0	20	0
10/2/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/19/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
LP-UD						
4/28/2015	0.1 US	0.1 US	0	0	22.1	0
7/14/2015	0.1 US	0.1 US	0	0	20.8	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/5/2016	0.1 US	0.1 US	0	0	20.3	0
7/26/2016	0.1 US	0.1 US	0	0	20.4	0
10/25/2016	0.1 US	0.1 US	0	0	20.7	0
4/18/2017	0.1 US	0.1 US	0	0	20.9	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/24/2017	0.1 US	0.1 US	0	0	20.6	0
4/3/2018	0.1 US	0.1 US	0	0	21.1	0
7/16/2018	0.1 US	0.1 US	0	0	20	0
10/2/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/19/2022	0.1 US	0.1 US	0	0	20.7	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0

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CUMBERLAND CENTER, ME 04021

(LP-UD) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.6	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
MW-04-09A						
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/6/2021	0.1 US	0.1 US	0	0	20.9	0
7/20/2022	0.1 US	0.1 US	0	0	20.9	0
10/5/2022	0.1 US	0.1 US	0	0	20.9	0
4/19/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/4/2023	0.1 US	0.1 US	0	0	20.9	0
4/10/2024	0.1 US	0.1 US	0	0	20.9	0
7/17/2024	0.1 US	0.1 US	0	0	20.7	0
10/9/2024	0.1 US	0.1 US	0	0	20.9	0
MW-04-09B						
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/6/2021	0.1 US	0.1 US	0	0	20.9	0
7/20/2022	0.1 US	0.1 US	0	0	20.9	0
10/5/2022	0.1 US	0.1 US	0	0	20.9	0
4/19/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/4/2023	0.1 US	0.1 US	0	0	20.9	0
4/10/2024	0.1 US	0.1 US	0	0	20.9	0
7/17/2024	0.1 US	0.1 US	0	0	20.7	0
10/9/2024	0.1 US	0.1 US	0	0	20.9	0
MW04-102						
4/29/2015	0.1 US	0.1 US	0	0	22.4	0
7/14/2015	0.1 US	0.1 US	0	0	20.8	0
10/27/2015	0.1 US	0.1 US	0	0	21.5	0
4/5/2016	0.1 US	0.1 US	0	0	20.6	0
7/26/2016	0.1 US	0.1 US	0	0	20.4	0
10/25/2016	0.1 US	0.1 US	0	0	20.6	0
4/19/2017	0.1 US	0.1 US	0	0	20.2	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/25/2017	0.1 US	0.1 US	0	0	20.7	0
4/3/2018	0.1 US	0.1 US	0	0	21	0
7/16/2018	0.1 US	0.1 US	0	0	20.5	0
10/1/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0

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(MW04-102) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW04-105															
4/28/2015	0.1 US	0.1 US	0	0	20.9	0									
7/14/2015	0.1 US	0.1 US	0	0	20.6	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/5/2016	0.1 US	0.1 US	0	0	20.6	0									
7/26/2016	0.1 US	0.1 US	0	0	20.5	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/19/2017	0.1 US	0.1 US	0	0	20.4	0									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/23/2017	0.1 US	0.1 US	0	0	20.7	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.6	0									
10/1/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.8	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW04-109 & MW04-109R															
4/28/2015	0.1 US	0.1 US	0	0	20.7	0									
7/14/2015	0.1 US	0.1 US	0	0	20.6	0									
10/27/2015	0.1 US	0.1 US	0	0	21.5	0									
4/5/2016	0.1 US	0.1 US	0	0	20.6	0									
7/26/2016	0.1 US	0.1 US	0	0	20.5	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/18/2017	0.1 US	0.1 US	0	0	20.9	0									

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(MW04-109 & MW04-109R) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21.1	0									
7/16/2018	0.1 US	0.1 US	0	0	20.4	0									
10/2/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.7	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
MW06-01															
4/22/2019	0.1 US														
4/23/2019		0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/29/2020	M	M	M	M	M	M									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/28/2022	0.1 US	0.1 US	0	0	20.9	0									
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-08-01															
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									

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(MW-08-01) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
MW09-901															
4/28/2015	0.1 US	0.1 US	0	0	21.2	0									
7/14/2015	0.1 US	0.1 US	0	0	20.6	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/5/2016	0.1 US	0.1 US	0	0	20.6	0									
7/26/2016	0.1 US	0.1 US	0	0	20	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/18/2017	0.1 US	0.1 US	0	0	20.8	0									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21.1	0									
7/16/2018	0.1 US	0.1 US	0	0	20.4	0									
10/2/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/28/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.7	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-204															
4/29/2015	0.1 US	0.1 US	0	0	21.4	0									
7/14/2015	0.1 US	0.1 US	0	0	20.8	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/6/2016	0.1 US	0.1 US	0	0	19.5	0									
7/26/2016	0.1 US	0.1 US	0	0	20.4	0									
10/25/2016	0.1 US	0.1 US	0	0	20.6	0									
4/18/2017	0.1 US	0.1 US	0	0	20.9	0									
7/25/2017	0.1 US	0.1 US	0	0	20.4	0									
10/23/2017	0.1 US	0.1 US	0	0	20.7	0									
4/3/2018	0.1 US	0.1 US	0	0	20.9	0									
7/16/2018	0.1 US	0.1 US	0	0	20.6	0									
10/1/2018	0.1 US	0.1 US	0	0	19.8	0									

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CUMBERLAND CENTER, ME 04021

(MW-204) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.8	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/18/2022	0.1 US	0.1 US	0	0	20.9	0
10/3/2022	0.1 US	0.1 US	0	0	20.9	0
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/10/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	!	!	!	!	!	!
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/15/2024	0.1 US	0.1 US	0	0	20.7	0
10/7/2024	0.1 US	0.1 US	0	0	20.9	0
MW-206						
4/27/2015	0.1 US	0.1 US	0	0	21.9	0
7/13/2015	0.1 US	0.1 US	0	0	21	0
10/26/2015	0.1 US	0.1 US	0	0	21	0
4/4/2016	0.1 US	0.1 US	0	0	20.8	0
7/26/2016	0.1 US	0.1 US	0	0	20.5	0
10/24/2016	0.1 US	0.1 US	0	0	20.7	0
4/17/2017	0.1 US	0.1 US	0	0	21.2	0
7/24/2017	0.1 US	0.1 US	0	0	20.9	0
10/23/2017	0.1 US	0.1 US	0	0	20.7	0
4/2/2018	0.1 US	0.1 US	0	0	20.8	0
7/16/2018	0.1 US	0.1 US	0	0	20.3	0
10/1/2018	0.1 US	0.1 US	0	0	20.9	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.8	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.8	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/18/2022	0.1 US	0.1 US	0	0	20.9	0
10/3/2022	0.1 US	0.1 US	0	0	20.9	0
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/10/2023	0.1 US	0.1 US	0	0	20.9	0
10/2/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/15/2024	0.1 US	0.1 US	0	0	20.7	0
10/7/2024	0.1 US	0.1 US	0	0	20.9	0

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

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(MW-223A)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide (Ambient)	Hydrogen Sulfide	Oxygen	Carbon Dioxide
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.
MW-223A						
4/28/2015	0.1 US	0.1 US	0	0	20.7	0
7/14/2015	0.1 US	0.1 US	0	0	20.6	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/5/2016	0.1 US	0.1 US	0	0	20.6	0
7/26/2016	0.1 US	0.1 US	0	0	20	0
10/25/2016	0.1 US	0.1 US	0	0	20.6	0
4/18/2017	0.1 US	0.1 US	0	0	20.9	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/24/2017	0.1 US	0.1 US	0	0	20.6	0
4/3/2018	0.1 US	0.1 US	0	0	21.1	0
7/16/2018	0.1 US	0.1 US	0	0	20.2	0
10/2/2018	0.1 US	0.1 US	0	0	21.1	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/28/2020	0.1 US	0.1 US	0	0	20.8	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/18/2022	0.1 US	0.1 US	0	0	20.9	0
10/3/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/3/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/16/2024	0.1 US	0.1 US	0	0	20.8	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
MW-223B						
4/28/2015	0.1 US	0.1 US	0	0	20.7	0
7/14/2015	0.1 US	0.1 US	0	0	20.6	0
10/27/2015	0.1 US	0.1 US	0	0	21.3	0
4/5/2016	0.1 US	0.1 US	0	0	20.6	0
7/26/2016	0.1 US	0.1 US	0	0	20.3	0
10/25/2016	0.1 US	0.1 US	0	0	20.6	0
4/18/2017	0.1 US	0.1 US	0	0	21	0
7/25/2017	0.1 US	0.1 US	0	0	20.9	0
10/24/2017	0.1 US	0.1 US	0	0	20.6	0
4/3/2018	0.1 US	0.1 US	0	0	21.1	0
7/16/2018	0.1 US	0.1 US	0	0	20.2	0
10/2/2018	0.1 US	0.1 US	0	0	21.2	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/28/2020	0.1 US	0.1 US	0	0	20.8	0

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(MW-223B) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.8	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-227															
4/28/2015	0.1 US	0.1 US	0	0	20.8	0									
7/14/2015	0.1 US	0.1 US	0	0	20.7	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/5/2016	0.1 US	0.1 US	0	0	20.7	0									
7/26/2016	0.1 US	0.1 US	0	0	20.3	0									
10/25/2016	0.1 US	0.1 US	0	0	20.6	0									
4/18/2017	0.1 US	0.1 US	0	0	20.9	0									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.3	0									
10/2/2018	0.1 US	0.1 US	0	0	21.1	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/28/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/3/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/16/2024	0.1 US	0.1 US	0	0	20.9	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-301															
4/29/2015	0.1 US	0.1 US	0	0	21	0									
7/14/2015	0.1 US	0.1 US	0	0	20.6	0									

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(MW-301) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
10/27/2015	0.1 US	0.1 US	0	0	21.5	0									
4/6/2016	0.1 US	0.1 US	0	0	19.6	0									
7/27/2016	0.1 US	0.1 US	0	0	18.7	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/19/2017	0.1 US	0.1 US	0	0	20.1	0									
7/25/2017	0.1 US	0.1 US	0	0	20.9	0									
10/25/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.6	0									
10/1/2018	0.1 US	0.1 US	0	0	21.2	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-303 & MW12-303R															
4/27/2015	0.1 US	0.1 US	0	0	21.9	0									
7/13/2015	0.1 US	0.1 US	0	0	21	0									
10/26/2015	0.1 US	0.1 US	0	0	21	0									
4/4/2016	0.1 US	0.1 US	0	0	20.6	0									
7/25/2016	0.1 US	0.1 US	0	0	20.4	0									
10/24/2016	0.1 US	0.1 US	0	0	20.6	0									
4/17/2017	0.1 US	0.1 US	0	0	21.3	0									
7/24/2017	0.1 US	0.1 US	0	0	20.9	0									
10/23/2017	0.1 US	0.1 US	0	0	20.7	0									
4/2/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.9	0									
10/1/2018	0.1 US	0.1 US	0	0	20.9	0									
4/22/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.7	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									

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(MW-303 & MW12-303R) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.9	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-401A															
4/27/2015	0.1 US	0.1 US	0	0	20.9	0									
7/13/2015	0.1 US	0.1 US	0	0	20.9	0									
10/26/2015	0.1 US	0.1 US	0	0	21.3	0									
4/6/2016	0.1 US	0.1 US	0	0	19.5	0									
7/25/2016	0.1 US	0.1 US	0	0	20.2	0									
10/24/2016	0.1 US	0.1 US	0	0	20.6	0									
4/17/2017	0.1 US	0.1 US	0	0	21.2	0									
7/24/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/2/2018	0.1 US	0.1 US	0	0	20.9	0									
7/16/2018	0.1 US	0.1 US	0	0	20.4	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-401B															
4/27/2015	0.1 US	0.1 US	0	0	20.9	0									
7/13/2015	0.1 US	0.1 US	0	0	20.9	0									
10/26/2015	0.1 US	0.1 US	0	0	21.3	0									
4/6/2016	0.1 US	0.1 US	0	0	19.5	0									
7/25/2016	0.1 US	0.1 US	0	0	20.3	0									
10/24/2016	0.1 US	0.1 US	0	0	20.6	0									

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(MW-401B) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
4/17/2017	0.1 US	0.1 US	0	0	21.2	0									
7/24/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.7	0									
4/2/2018	0.1 US	0.1 US	0	0	20.9	0									
7/16/2018	0.1 US	0.1 US	0	0	20.4	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-402A															
4/29/2015	0.1 US	0.1 US	0	0	21.3	0									
7/15/2015	0.1 US	0.1 US	0	0	20.9	0									
10/28/2015	0.1 US	0.1 US	0	0	21.9	0									
4/6/2016	0.1 US	0.1 US	0	0	20	0									
7/27/2016	0.1 US	0.1 US	0	0	19.9	0									
10/26/2016	0.1 US	0.1 US	0	0	20.7	0									
4/19/2017	0.1 US	0.1 US	0	0	21.2	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/4/2018	0.1 US	0.1 US	0	0	20.5	0									
7/16/2018	0.1 US	0.1 US	0	0	20.5	0									
10/1/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.8	0									
7/20/2020	0.1 US	0.1 US	0	0	20.8	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									

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(MW-402A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/10/2023	0.1 US	0.1 US	0	0	20.9	0
10/2/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/15/2024	0.1 US	0.1 US	0	0	20.7	0
10/7/2024	0.1 US	0.1 US	0	0	20.9	0
MW-402B						
4/29/2015	0.1 US	0.1 US	0	0	21.3	0
7/15/2015	0.1 US	0.1 US	0	0	20.9	0
10/28/2015	0.1 US	0.1 US	0	0	21.9	0
4/6/2016	0.1 US	0.1 US	0	0	20	0
7/27/2016	0.1 US	0.1 US	0	0	19.9	0
10/26/2016	0.1 US	0.1 US	0	0	20.7	0
4/19/2017	0.1 US	0.1 US	0	0	19.9	0
7/26/2017	0.1 US	0.1 US	0	0	20.9	0
10/24/2017	0.1 US	0.1 US	0	0	20.6	0
4/4/2018	0.1 US	0.1 US	0	0	20.6	0
7/16/2018	0.1 US	0.1 US	0	0	20.5	0
10/1/2018	0.1 US	0.1 US	0	0	21	0
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/27/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.8	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/25/2022	0.1 US	0.1 US	0	0	20.9	0
7/18/2022	0.1 US	0.1 US	0	0	20.9	0
10/3/2022	0.1 US	0.1 US	0	0	20.9	0
4/17/2023	0.1 US	0.1 US	0	0	20.9	0
7/10/2023	0.1 US	0.1 US	0	0	20.9	0
10/2/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/15/2024	0.1 US	0.1 US	0	0	20.7	0
10/7/2024	0.1 US	0.1 US	0	0	20.9	0
MW-501						
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/29/2020	M	M	M	M	M	M
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/28/2022	0.1 US	0.1 US	0	0	20.9	0

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(MW-501) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-502															
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/6/2021	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-503															
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-504															
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-505															
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
MW-506															
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									

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(MW-506) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
10/5/2022	0.1 US	0.1 US	0	0	20.9	0
4/18/2023	0.1 US	0.1 US	0	0	20.9	0
7/11/2023	0.1 US	0.1 US	0	0	20.9	0
10/4/2023	0.1 US	0.1 US	0	0	20.9	0
4/10/2024	0.1 US	0.1 US	0	0	20.9	0
7/17/2024	0.1 US	0.1 US	0	0	20.7	0
10/9/2024	0.1 US	0.1 US	0	0	20.9	0
MW-507						
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/6/2021	0.1 US	0.1 US	0	0	20.9	0
7/20/2022	0.1 US	0.1 US	0	0	20.9	0
10/5/2022	0.1 US	0.1 US	0	0	20.9	0
4/19/2023	0.1 US	0.1 US	0	0	20.9	0
7/13/2023	0.1 US	0.1 US	0	0	20.9	0
10/5/2023	0.1 US	0.1 US	0	0	20.9	0
4/10/2024	0.1 US	0.1 US	0	0	20.9	0
7/17/2024	0.1 US	0.1 US	0	0	20.7	0
10/8/2024	0.1 US	0.1 US	0	0	20.9	0
MW-508						
4/19/2023	0.1 US	0.1 US	0	0	20.9	0
7/13/2023	0.1 US	0.1 US	0	0	20.9	0
10/4/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/17/2024	0.1 US	0.1 US	0	0	20.6	0
10/10/2024	0.1 US	0.1 US	0	0	20.9	0
OW-06-03						
4/23/2019	0.1 US	0.1 US	0	0	15.6	0
7/15/2019	0.1 US	0.1 US	0	0	20.4	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/29/2020	0.1 US	0.1 US	0	0	20.9	0
7/20/2020	13	0.1 US	0	0	13.2	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/28/2022	0.1 US	0.1 US	0	0	20.9	0
7/20/2022	0.1 US	0.1 US	0	0	20.9	0
4/20/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/4/2023	0.1 US	0.1 US	0	0	20.9	0
4/2/2024	0.1 US	0.1 US	0	0	20.9	0
7/18/2024	0.1 US	0.1 US	0	0	20.7	0
10/10/2024	0.1 US	0.1 US	0	0	20.9	0
OW-601A						
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0

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(OW-601A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.
4/29/2020	M	M	M	M	M	M
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.8	0
7/12/2021	0.1 US	0.1 US	0	0	20.8	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/28/2022	0.1 US	0.1 US	0	0	20.9	0
7/21/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/20/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/5/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/18/2024	0.1 US	0.1 US	0	0	20.7	0
10/10/2024	0.1 US	0.1 US	0	0	20.9	0
OW-601B						
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/29/2020	M	M	M	M	M	M
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/28/2022	0.1 US	0.1 US	0	0	20.9	0
7/21/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/20/2023	0.1 US	0.1 US	0	0	20.9	0
7/12/2023	0.1 US	0.1 US	0	0	20.9	0
10/5/2023	0.1 US	0.1 US	0	0	20.9	0
4/1/2024	0.1 US	0.1 US	0	0	20.9	0
7/18/2024	0.1 US	0.1 US	0	0	20.7	0
10/10/2024	0.1 US	0.1 US	0	0	20.9	0
OW-602A						
4/23/2019	0.1 US	0.1 US	0	0	20.9	0
7/15/2019	0.1 US	0.1 US	0	0	20.9	0
10/28/2019	0.1 US	0.1 US	0	0	20.9	0
4/29/2020	M	M	M	M	M	M
7/20/2020	0.1 US	0.1 US	0	0	20.9	0
10/26/2020	0.1 US	0.1 US	0	0	20.9	0
4/5/2021	0.1 US	0.1 US	0	0	20.9	0
7/12/2021	0.1 US	0.1 US	0	0	20.9	0
10/4/2021	0.1 US	0.1 US	0	0	20.9	0
4/28/2022	0.1 US	0.1 US	0	0	20.9	0
7/21/2022	0.1 US	0.1 US	0	0	20.9	0
10/6/2022	0.1 US	0.1 US	0	0	20.9	0
4/20/2023	0.1 US	0.1 US	0	0	20.9	0

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(OW-602A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.7	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-603B															
4/23/2019	0.1 US	0.1 US	0	0	8.6	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/29/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	4.7	0									
10/26/2020	0.1 US	0.1 US	0	0	20.8	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/28/2022	0.1 US	0.1 US	0	0	20.9	0									
7/21/2022	0.1 US	0.1 US	0	0	20.9	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.7	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-604A															
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/29/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/28/2022	0.1 US	0.1 US	0	0	20.9	0									
7/21/2022	0.1 US	0.1 US	0	0	20.9	0									
10/6/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.7	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-605A															
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/6/2021	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									

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(OW-605A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-606A															
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/6/2021	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-606B															
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/2/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-607B															
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-608A															
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/6/2021	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.8	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-608B															

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(OW-608B) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.8	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-609B															
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/11/2023	0.1 US	0.1 US	0	0	20.9	0									
10/4/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.7	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-610A															
4/18/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.7	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
OW-611A															
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/6/2021	0.1 US	0.1 US	0	0	20.9	0									
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/8/2024	0.1 US	0.1 US	0	0	20.9	0									
P-04-02 & P-04-02R															
7/15/2015	0.1 US	0.1 US	0	0	20.8	0									
10/28/2015	0.1 US	0.1 US	0	0	21.9	0									
4/6/2016	0.1 US	0.1 US	0	0	21	0									
7/27/2016	0.1 US	0.1 US	0	0	19.6	0									
10/26/2016	0.1 US	0.1 US	0	0	20.8	0									
4/19/2017	0.1 US	0.1 US	0	0	20.2	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/25/2017	0.1 US	0.1 US	0	0	20.7	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.3	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/22/2019	0.1 US	0.1 US	0	0	20.9	0									

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-02 & P-04-02R) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
P-04-04															
4/29/2015	0.1 US	0.1 US	0	0	21.7	0									
7/15/2015	0.1 US	0.1 US	0	0	20.8	0									
10/28/2015	0.1 US	0.1 US	0	0	21.9	0									
4/6/2016	0.1 US	0.1 US	0	0	21	0									
7/27/2016	0.1 US	0.1 US	0	0	19.6	0									
10/26/2016	0.1 US	0.1 US	0	0	20.8	0									
4/19/2017	0.1 US	0.1 US	0	0	21.2	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/25/2017	0.1 US	0.1 US	0	0	20.6	0									
4/3/2018	0.1 US	0.1 US	0	0	21	0									
7/16/2018	0.1 US	0.1 US	0	0	20.3	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/22/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/19/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									

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4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-04-07A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
P-04-07A															
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.7	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
P-04-07B															
4/19/2023	0.1 US	0.1 US	0	0	20.9	0									
7/13/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/17/2024	0.1 US	0.1 US	0	0	20.6	0									
10/10/2024	0.1 US	0.1 US	0	0	20.9	0									
P-04-11A															
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
P-04-11B															
7/20/2022	0.1 US	0.1 US	0	0	20.9	0									
10/5/2022	0.1 US	0.1 US	0	0	20.9	0									
4/20/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/5/2023	0.1 US	0.1 US	0	0	20.9	0									
4/10/2024	0.1 US	0.1 US	0	0	20.9	0									
7/18/2024	0.1 US	0.1 US	0	0	20.6	0									
10/9/2024	0.1 US	0.1 US	0	0	20.9	0									
P-206A															
4/27/2015	0.1 US	0.1 US	0	0	21.9	0									
7/13/2015	0.1 US	0.1 US	0	0	21	0									
10/26/2015	0.1 US	0.1 US	0	0	21	0									
4/4/2016	0.1 US	0.1 US	0	0	20.8	0									
7/25/2016	0.1 US	0.1 US	0	0	20.5	0									
10/24/2016	0.1 US	0.1 US	0	0	20.7	0									
4/17/2017	0.1 US	0.1 US	0	0	21.2	0									
7/24/2017	0.1 US	0.1 US	0	0	20.9	0									
10/23/2017	0.1 US	0.1 US	0	0	20.7	0									
4/2/2018	0.1 US	0.1 US	0	0	20.8	0									
7/16/2018	0.1 US	0.1 US	0	0	20.3	0									
10/1/2018	0.1 US	0.1 US	0	0	20.9	0									
4/22/2019	0.1 US	0.1 US	0	0	20.9	0									

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4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(P-206A) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.8	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/12/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/10/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.7	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
W Property Line A															
4/27/2015	0.1 US	0.1 US	0	0	21.4	0									
7/15/2015	0.1 US	0.1 US	0	0	20.9	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/4/2016	0.1 US	0.1 US	0	0	20.6	0									
7/25/2016	0.1 US	0.1 US	0	0	20.2	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/18/2017	0.1 US	0.1 US	0	0	20.8	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.6	0									
4/4/2018	0.1 US	0.1 US	0	0	20.8	0									
7/16/2018	0.1 US	0.1 US	0	0	20.5	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.9	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(W Property Line B)	Methane Equivalent	Methane Equivalent (Ambient)	Hydrogen Sulfide (Ambient)	Hydrogen Sulfide	Oxygen	Carbon Dioxide									
Date	% Vol.	% Vol.	ppm	ppm	% Vol.	% Vol.									
W Property Line B															
4/27/2015	0.1 US	0.1 US	0	0	21.4	0									
7/15/2015	0.1 US	0.1 US	0	0	20.9	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/4/2016	0.1 US	0.1 US	0	0	20.6	0									
7/25/2016	0.1 US	0.1 US	0	0	20.1	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/18/2017	0.1 US	0.1 US	0	0	20.8	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.7	0									
4/4/2018	0.1 US	0.1 US	0	0	20.7	0									
7/16/2018	0.1 US	0.1 US	0	0	20.4	0									
10/1/2018	0.1 US	0.1 US	0	0	21.1	0									
4/23/2019	0.1 US	0.1 US	0	0	20.9	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.8	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.9	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									
S Property Line															
4/27/2015	0.1 US	0.1 US	0	0	21.3	0									
7/15/2015	0.1 US	0.1 US	0	0	20.8	0									
10/27/2015	0.1 US	0.1 US	0	0	21.3	0									
4/4/2016	0.1 US	0.1 US	0	0	20.6	0									
7/25/2016	0.1 US	0.1 US	0	0	20	0									
10/25/2016	0.1 US	0.1 US	0	0	20.7	0									
4/18/2017	0.1 US	0.1 US	0	0	20.8	0									
7/26/2017	0.1 US	0.1 US	0	0	20.9	0									
10/24/2017	0.1 US	0.1 US	0	0	20.7	0									
4/4/2018	0.1 US	0.1 US	0	0	20.8	0									
7/16/2018	0.1 US	0.1 US	0	0	20.5	0									
10/1/2018	0.1 US	0.1 US	0	0	21	0									
4/23/2019	0.1 US	0.1 US	0	0	20.7	0									
7/15/2019	0.1 US	0.1 US	0	0	20.9	0									
10/28/2019	0.1 US	0.1 US	0	0	20.9	0									
4/27/2020	0.1 US	0.1 US	0	0	20.9	0									

DATA SUMMARY TABLE

Methane - H2S - Oxygen - CO2 - Report

SEVEE & MAHER ENGINEERS, INC.
4 BLANCHARD ROAD
CUMBERLAND CENTER, ME 04021

(S Property Line) Date	Methane Equivalent % Vol.	Methane Equivalent (Ambient) % Vol.	Hydrogen Sulfide (Ambient) ppm	Hydrogen Sulfide ppm	Oxygen % Vol.	Carbon Dioxide % Vol.									
7/20/2020	0.1 US	0.1 US	0	0	20.9	0									
10/26/2020	0.1 US	0.1 US	0	0	20.9	0									
4/5/2021	0.1 US	0.1 US	0	0	20.9	0									
7/13/2021	0.1 US	0.1 US	0	0	20.9	0									
10/4/2021	0.1 US	0.1 US	0	0	20.9	0									
4/25/2022	0.1 US	0.1 US	0	0	20.9	0									
7/18/2022	0.1 US	0.1 US	0	0	20.9	0									
10/3/2022	0.1 US	0.1 US	0	0	20.9	0									
4/17/2023	0.1 US	0.1 US	0	0	20.9	0									
7/12/2023	0.1 US	0.1 US	0	0	20.9	0									
10/2/2023	0.1 US	0.1 US	0	0	20.9	0									
4/1/2024	0.1 US	0.1 US	0	0	20.9	0									
7/15/2024	0.1 US	0.1 US	0	0	20.9	0									
10/7/2024	0.1 US	0.1 US	0	0	20.9	0									

Notes: TYPE - Sample Type Qualifier where D = Duplicate Sample.

Concentration Qualifier Notes:

! - The sampling location was damaged or destroyed.
M - Results are missing or not reliable due to a meter malfunction.
US - Not Detected above the reported reporting limit determined by interpreted instrument specification.