February 2024
Monthly Compliance Report

Solid Waste Permit No. 588
Bristol Integrated Solid Waste Management Facility
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02218208.05-30 | March 8, 2024

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INTRODUCTION

On behalf of the City of Bristol, Virginia (City), SCS Engineers has prepared this report to the Virginia Department of Environmental Quality (VDEQ) in accordance with item 8.iii in Appendix A of the Consent Decree between the City and VDEQ. This report provides updates regarding the progress towards completion of the items outlined in Appendix A of the Consent Decree between the City and VDEQ. The following sections outline progress during the month of February 2024 related to Solid Waste Permit (SWP) No. 588.

1.0 GAS COLLECTION

The following sections describe the steps the City, in collaboration with its consultants and contractors, has taken to improve the operation, monitoring, and performance of the facility's landfill gas collection and control system (GCCS).

1.1 SURFACE AND LEACHATE COLLECTION EMISSIONS

1.1.1 Surface Emissions

1.1.1.1 Quarterly SEM

SCS performed the Fourth Quarter 2023 surface emissions monitoring event on December 14, 2023. The results of the Quarterly SEM were summarized in the December 2023 Compliance Report for the SWP No. 588 Landfill. A report outlining the results and exceedance locations was included in the Semi-Annual Report submitted to VDEQ on March 1, 2024.

The First Quarter 2024 SEM Event is scheduled to be completed by March 31, 2024.

1.1.1.2 Weekly SEM

In addition to the standard regulatory quarterly surface emissions monitoring, SCS performed additional surface emissions monitoring on February 8, 2024; February 14, 2024; February 20, 2024; and February 29, 2024. These weekly surface emissions monitoring (SEM) events were performed in accordance item 1.i in Appendix A of the Consent Decree between the City and VDEQ.

The monitoring in February generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The surface emission monitoring route included the entire waste footprint of the Permit No. 588 landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint.

The Facility submitted letters to VDEQ outlining the results of the January monitoring events on February 14, 2024; February 21, 2024; February 28, 2024; and March 6, 2024.

Table 1. Summary of January Surface Emissions Monitoring

Description	February 8, 2024	February 14, 2024	February 20, 2024	February 29, 2024
Number of Points Sampled	171	170	171	170
Number of Points in Serpentine Route	100	100	100	100
Number of Points at Surface Cover Penetrations	71	70	71	70
Number of Exceedances	2	2	3	2
Number of Serpentine Exceedances	0	0	1	0
Number of Pipe Penetration Exceedances	2	2	2	2

There was one serpentine exceedance detected in February 2024 at Tag #29 in the southwest corner of the landfill. In addition, new exceedances were detected at pipe penetrations of three vertical extraction wells (EW-52, EW-66, and EW-67). While the exact cause of these exceedances is unknown, exceedances typically have corresponded to periods of pump down time, insufficient soil cover, and reduced vacuum in the vicinity.

During February, additional soil cover was placed throughout the SWP# 588 landfill, including at some of these exceedance locations. By the final weekly monitoring event of the month, corrective actions had been successful for all previous exceedance locations and only one new exceedance at EW-67 remained. Corrective actions taken at this location may include placement of additional soil, addition of a well-bore skirt, installation of a foam or bentonite seal, continued and improved dewatering activities, and well tuning to increase gas extraction. Corrective actions to address the ongoing exceedance are planned for the month of March 2024.

1.1.2 Leachate Collection Emissions

SCS Field Services (SCS-FS) visited the Bristol Landfill on February 2, 2024, and performed monitoring of the leachate, witness zone, and gradient control clean-outs at the northern and southern ends of the landfill. The results of that monitoring are included in Table 2. Table 2 also lists the cleanout pipe description based on site records and a review of correspondence.

Please note that LC07 is not connected to LFG collection system. During connection of the other leachate cleanouts to the LFGCCS in 2020, measurements of gas composition in LC07 indicated low levels of landfill gas in this cleanout.

Table 2. Leachate Cleanout Pipe Monitoring Results

Description	ID#	Record Date	CH4 (% by Vol)	CO2 (% by Vol)	O2 (% by Vol)	Balance Gas (% by Vol)	Initial Temp (°F)	Adj Temp (°F)	Initial Static Pressure (in H2O)	Adj Static Pressure (in H2O)	System Pressure (in H2O)
Southern Cleanouts Gradient West	LC01	2/2/2024 12:16:10 PM	48.3	50.5	0.0	1.2	61.0	61.1	-10.77	-10.75	-10.99
Southern Cleanouts Gradient East	LC02	2/2/2024 12:17:43 PM	50.2	49.5	0.0	0.4	61.3	61.3	-10.51	-10.43	-10.81
Southern Cleanouts Leachate Center	LC03	2/2/2024 12:19:39 PM	22.0	16.8	13.0	48.2	60.6	60.5	-11.11	-11.11	-10.85
Southern Cleanouts Witness East	LC04	2/2/2024 12:21:44 PM	4.5	4.3	19.1	72.2	60.1	60.0	-10.77	-10.77	-10.77
Southern Cleanouts Leachate West	LC05	2/2/2024 12:24:57 PM	51.8	48.2	0.0	0.0	59.4	59.4	-10.43	-10.43	-10.89
Southern Cleanouts Gradient Center West	LC06	2/2/2024 12:26:45 PM	48.9	31.6	3.9	15.6	58.9	59.0	-10.78	-10.78	-10.78
Southern Cleanouts Leachate East	LC08	2/2/2024 12:28:28 PM	51.4	46.8	0.0	1.8	58.8	58.9	-10.43	-10.43	-10.78
Southern Cleanouts Gradient Center East	LC09	2/2/2024 12:30:05 PM	14.6	30.3	12.4	42.7	59.1	59.1	-10.43	-10.52	-10.77
Southern Cleanouts Leachate West	LC10	2/2/2024 12:31:34 PM	5.4	8.0	18.6	68.1	59.1	59.1	-10.77	-10.77	-10.71
Northern Cleanouts Leachate East	NC01	2/2/2024 12:39:28 PM	9.3	6.7	17.2	66.8	57.9	57.9	-14.47	-14.47	0.00
Northern Cleanouts Leachate Center	NC02	2/2/2024 12:40:26 PM	6.8	5.1	18.8	69.4	59.3	58.9	-14.28	-14.51	0.00
Northern Cleanouts Leachate West	NC03	2/2/2024 12:41:29 PM	2.9	1.8	20.3	75.0	58.7	58.4	-14.49	-14.51	0.00
Northern Cleanouts Witness East	NC04	2/2/2024 12:43:32 PM	26.0	17.9	10.2	45.9	54.6	54.5	-14.81	-14.47	0.00
Northern Cleanouts Witness Center	NC05	2/2/2024 12:44:54 PM	46.9	30.3	1.9	20.9	54.2	54.7	-14.51	-14.51	0.00

Description	ID#	Record Date	CH4 (% by Vol)	CO2 (% by Vol)	O2 (% by Vol)	Balance Gas (% by Vol)	Initial Temp (°F)	Adj Temp (°F)	Initial Static Pressure (in H2O)	Adj Static Pressure (in H2O)	System Pressure (in H2O)
Northern Cleanouts Witness West	NC06	2/2/2024 12:46:16 PM	3.1	2.1	20.3	74.6	57.9	58.1	-14.52	-14.49	0.00
Northern Cleanouts Gradient East	NC07	2/2/2024 12:48:04 PM	49.7	35.8	0.5	14.0	59.2	59.0	-10.12	-10.10	0.00
Northern Cleanouts Gradient Center East	NC08	2/2/2024 12:49:31 PM	51.5	35.6	1.3	11.6	58.7	58.6	-10.14	-10.14	0.00
Northern Cleanouts Gradient Center West	NC09	2/2/2024 12:50:38 PM	54.1	37.0	1.0	7.9	57.0	56.4	-10.11	-10.10	0.00
Northern Cleanouts Gradient West	NC10	2/2/2024 12:52:04 PM	14.1	10.8	16.0	59.1	57.6	57.7	-10.43	-10.43	0.00

1.2 EXISTING GAS EXTRACTION SYSTEM PERFORMANCE

SCS and SCS-FS have been coordinating with the City to improve the performance of the existing gas system. Specific actions taken to maintain and improve the system are detailed in the following sections of this report.

Additional actions taken by SCS-FS include the following:

- Replacing air regulators at individual wells
- Troubleshooting air compressor
- Adjusting blower set-points
- Investigation of high oxygen levels
- Replacing a Kanaflex hose on wellheads
- Modifications to lateral piping
- Placement of enhanced posi-shell on Quarry sidewalls
- Replacement of sample ports
- Winterizing GCCS components

1.3 REMOTE MONITORING SYSTEM

In the Fall of 2022, SCS Remote Monitoring & Control (SCS-RMC) installed 25 industrial internet of things (IIoT) temperature sensors in the landfill gas wellheads. The purpose of the sensors is to record and transmit well-head gas temperatures via a cellular connection to a database managed by SCS-RMC.

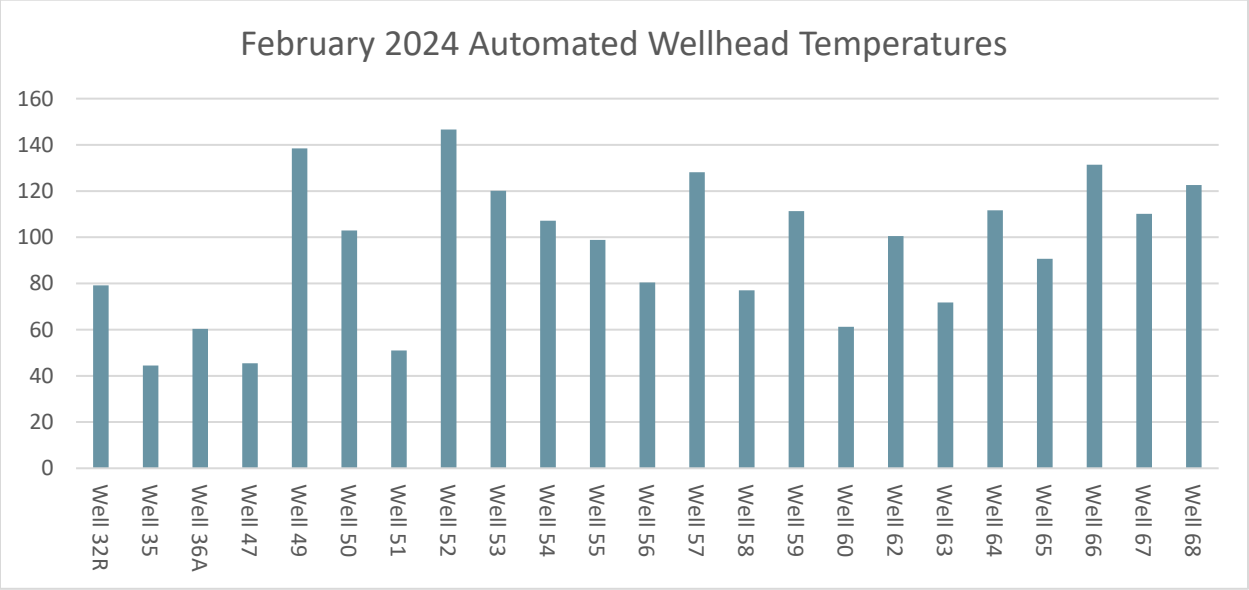
The City is providing average temperatures recorded by the sensors to VDEQ on a daily basis via email. Average daily temperatures recorded by the remote monitoring system during the month of January are included in Appendix C. In addition, SCS previously prepared semi-monthly status updates to satisfy the conditions of compliance provision #2 of the Environmental Protection Agency (EPA) Region III letter, Approval of Higher Operating Temperature Values for Landfill Gas Wells and Submission of Gas Treatment Alternatives at the Bristol Virginia Integrated Solid Waste Management Facility, dated August 23, 2021. On August 2, 2023, VDEQ requested that such updates be included in the monthly compliance reports going forward. Accordingly, this section is a summary of temperature monitoring activities during the monthly monitoring period of February 2024.

1.3.1 Automated Wellhead Temperature Measurements

SCS reviewed the automated hourly temperature measurements from February 2024, and identified the following trends:

- **Temperature probes removed at decommissioned wells:** Temperature probes at EW-34 and EW-40 were removed in December due to the decommissioning of the wells. In February, SCS and the City were still procuring the proper fittings to deploy these sensors to 3" CPVC wells where temperature measurements would provide pertinent information.
- **Temperatures over 145°F:** Temperatures over the NESHAP AAAA compliance threshold of 145°F were recorded consistently at EW-52, EW-53, and EW-54 in February. The highest average temperature, 146.6°F, was measured at EW-52 (see Figure 1). SCS believes that wintry ambient temperatures are reflected in the lower average LFG temperatures recorded by automated wellhead sensors. The highest average temperatures in February shown in Figure 1 are between 130 and 140°F, while they were on the order of 150 to 160°F in fall 2023.
- **Low average temperatures at certain wells:** Average temperatures less than 50°F recorded at EW-35, EW-47, and EW-51 correlate to very low LFG flowrates through the wellheads; all less than 6 scfm in February.

Figure 1. Average Automated Wellhead Temperatures



1.3.2 Comparison with Manual Temperature Measurements

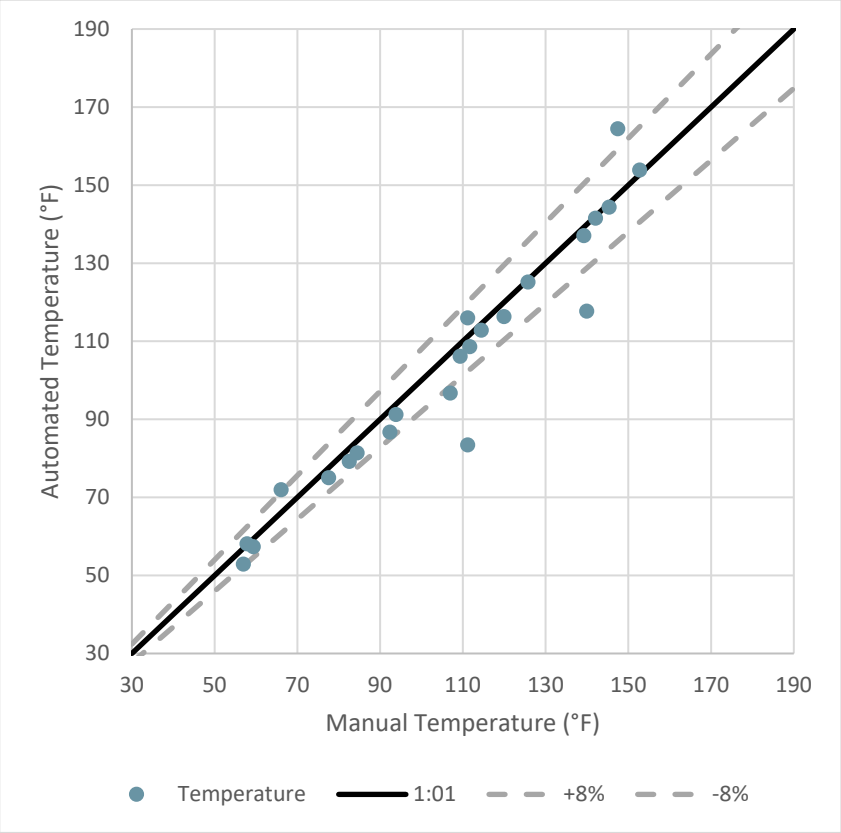
Per the approval issued by VDEQ on August 2, 2023, the Facility ceased dedicated daily manual temperature measurements in the Permit No. 588 Landfill. In lieu of these measurements, the City has agreed to compare instantaneous hourly automated temperature measurements with temperatures measured at each wellhead with a handheld sensor during monthly compliance monitoring. These comparisons are shown in Figure 2, with the ±8% deviation goals as prescribed in the VDEQ approval.

Temperature comparisons outside the ±8% deviation goal lines were found at wells EW-36A, EW-53, EW-54, EW-58 and EW-64. At EW-36A, the stainless-steel well casing appears to be a limiting factor in obtaining precise LFG temperatures with a handheld sensor.

At EW-54 the disparity between manual and automated temperature measurements was 11.5%; just outside the 8% threshold. SCS has historically noted challenges recording precise LFG temperatures at low flow rates when utilizing automated sensors, and LFG flowrates were consistently low (less than 5 cfm) during the month's wellfield monitoring events. Additionally, at the time the manual measurement was taken, the hourly automated temperature rapidly increased between automated measurements, which seems the most likely cause of the difference in measured temperatures.

The disparity between automated and manual temperature measurements at EW-58 and EW-64 continued to be more significant; 25%, and 16%, respectively. SCS has ruled out known typical causes (battery failure, low LFG flow, and casing material), but is still investigating potential causes of temperature disparity at EW-58 and EW-64 and will provide an update when a cause of this discrepancy has been identified.

Figure 2. Automated vs. Manual Temperature Measurements



1.3.3 Monthly Regulatory Wellhead Temperature Measurements

Routine monthly temperature monitoring for purposes of complying with 40 CFR 60.36f(a)(5) was conducted February 1, 2023, with follow-up monitoring several days after. Additionally, SCS typically measures wellhead temperatures at the SWP No. 588 Landfill on a semi-monthly basis. During this monitoring period, temperature exceedances were resolved at EW-36A, 65, and 94. Table 3 provides the status of all exceedances recorded during this monitoring period. An HOV request was submitted for EW-52, EW-64, EW-81, EW-85, EW-88, EW-89, EW-91, and EW-99 on November 8, 2023 and was subsequently approved on January 9, 2024.

Table 3. January Temperature Exceedance Summary

Well ID	Initial Exceedance Date	Last date/temperature measured	Duration of Exceedance	Status as of 2/29/24
EW-49	2/28/24	2/29/24 144°F	1 day	Resolved within 15 days
EW-52	1/30/24	2/1/24 152.8°F	2 days	Resolved within 15 days
EW-53	1/19/24	2/1/24 107°F	12 days	Resolved within 15 days

Well ID	Initial Exceedance Date	Last date/temperature measured	Duration of Exceedance	Status as of 2/29/24
EW-54	1/19/24	2/15/24 100.7°F	27 days	Resolved within 15 days
EW-54	2/26/24	2/29/24 185.4°F	3 days	Ongoing, within 15-day timeline
EW-77	12/19/23	2/26/24 144.1°F	70 days	Resolved within 120-day timeline
EW-80	12/4/23	2/29/23 149.4°F	88 days	Ongoing, within 120-day timeline
EW-81	2/14/24	2/29/24 173°F	16 days	Resolved within 15 days
EW-83	12/4/23	2/29/24 173°F	88 days	Ongoing, within 120-day timeline
EW-85	2/26/24	2/29/24 181.1°F	3 days	Ongoing, within 15-day timeline
EW-97	1/3/24	2/7/24 133.7°F	36 days	Resolved within 60-days
EW-97	2/26/24	2/29/24 149.1°F	3 days	Ongoing, within 15-day timeline

1.3.4 LFG Sampling

SCS collected weekly LFG samples from wells with temperature exceedances lasting more than 7 days using 1.5-L Summa canisters during January. The samples were sent to Enthalpy Analytical for lab analysis of carbon monoxide (CO) and hydrogen (H_2) content. As of 1/31/24, the City is in possession of lab results for sampling on January 24, February 1, February 7, and February 15 to fulfill the requirement in 40 CFR 63.1961(a)(5). Lab results are summarized in Table 4.

Table 4. LFG Wellhead Sampling Summary

Sample Date		1/24/24	2/1/24	2/7/24	2/15/24
77	CO (ppmv)	964	944	824	189
	H2 (Vol. %)	0.28	0.45	0.3	0.38
80	CO (ppmv)	ND	ND	ND	ND
	H2 (Vol. %)	1.31	1.12	1.13	0.99
81	CO (ppmv)				424
	H2 (Vol. %)				12.2
83	CO (ppmv)	598	624	623	556
	H2 (Vol. %)	16.2	16.1	16	15
88	CO (ppmv)				347
	H2 (Vol. %)				9.05
97	CO (ppmv)	417	362		
	H2 (Vol. %)	10.6	8.17		

The presence of hydrogen in the samples collected during this monitoring period indicates that combustion reactions are unlikely.

Carbon monoxide and hydrogen at wells EW-80 and EW-83 for the last five weeks or more are shown in Figures 3 and 4. There have been low concentrations of carbon monoxide and hydrogen at EW-80 compared to other wells under enhanced monitoring at this site. Measured concentrations of these gases in these wells do not indicate trends in either compound.

Figure 1. CO and H_2 Concentration at EW-80

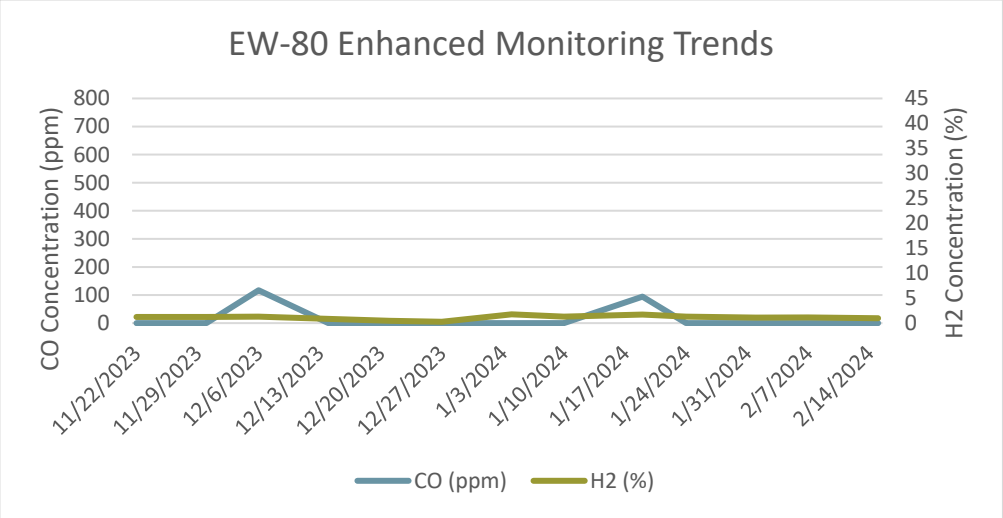
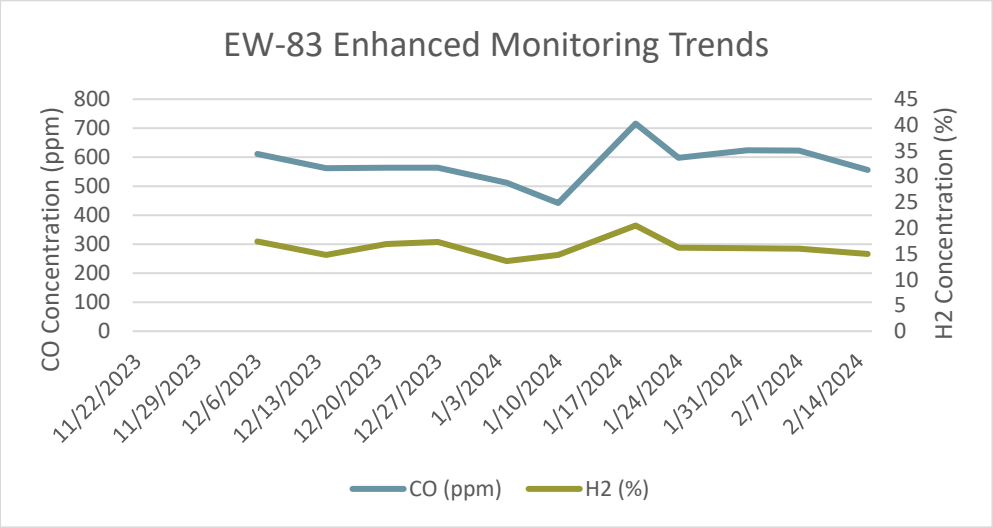


Figure 1. CO and H_2 Concentration at EW-83



1.4 LARGE-DIAMETER DUAL-PHASE EXTRACTION WELLS

SCS completed design work on an expansion of the existing GCCS during the month of December 2022. The proposed expansion includes at least 5 large diameter dual-phase extraction wells. SCS submitted the design to VDEQ prior to December 31, 2022. The City commenced solicitation of contractor's bids for this project by advertising for bids and received one bid for the project from SCS

Field Services Construction (SCS-CONS). On January 26, 2023, the City awarded the project to SCS-CONS. The City's construction contractor left site as of the GCCS expansion project completion on October 12, 2023.

1.5 VDEQ CONCURRENCE ON WELLS

As described in previous monthly compliance reports, the City engaged with VDEQ in discussions about the proposed approach for landfill GCCS improvements and expansions. Upon completion of the landfill gas collection system, SCS will submit updated as-built drawings depicting the completed system to VDEQ.

2.0 SIDEWALL ODOR MITIGATION

The City has designed and constructed a system to control fugitive emissions emanating from the quarry sidewalls. Specific aspects of the proposed design features are described in the following sections.

2.1 PERIMETER GAS COLLECTION SYSTEM

SCS's design of the GCCS expansion described in Section 1.4 included perimeter LFG wells. These wells are closer to the sidewall to intercept landfill gas that potentially could migrate to the quarry wall. These wells supplement the sidewall odor mitigation system described in Section 2.2. As described in the April 2023 Monthly Compliance Report for the SWP No. 588 Landfill, construction of the perimeter gas collection system was completed. SCS submitted a letter to VDEQ documenting completion of the Perimeter Gas Collection System on May 1, 2023.

2.2 SIDEWALL ODOR MITIGATION SYSTEM

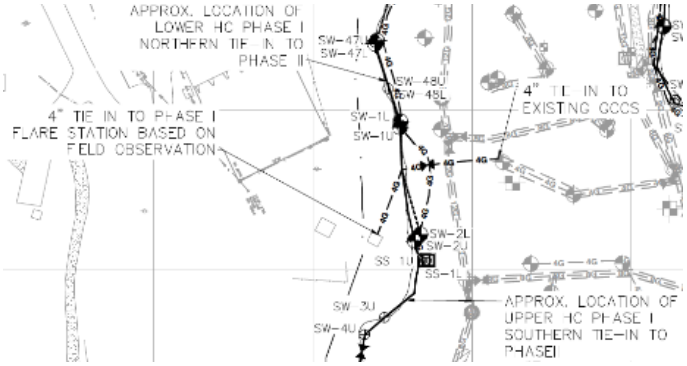
On behalf of the City and in an effort to capture emissions from the quarry sidewall, SCS designed a sidewall odor mitigation system (SOMS) during the month of October 2022. The design of this system was prepared and submitted to VDEQ on November 1, 2022.

2.3 PILOT SYSTEM CONSTRUCTION

SCS-CONS completed substantial construction of Phase 1 of the SOMS during the month of February 2023, SCS-FS began monitoring Phase 1 connected Horizontal Collector (HC) wellheads during the month of March, and SCS-FS continued weekly wellhead monitoring into the month of May 2023. Phase 1 is considered the pilot system portion of the SOMS. SCS submitted a design engineer certification to VDEQ on February 10, 2023 that documented the substantial completion of Phase 1 of the SOMS. Details of Phase 1 construction progress and monitoring can be found in the monthly compliance reports for the SWP No. 588 landfill.

Figure 5 shows the Phase 1 as-built, which includes the locations of the HC wellheads and HC sumps installed in Phase I, as well as the 4" header connection to the existing LFGCCS. The lower collector installed as part of Phase II was tied-in to the north end of the Phase I lower collector, and the upper collector installed as part of Phase II was tied-in to the south end of the Phase I upper collector.

Figure 2. SOMS Phase I As-Built[1]



Both the upper and lower collectors of Phase 1 of the system have been connected to the substantially completed Phase 2 of the system. Collection of landfill gas by both the upper and lower collectors indicates that the system is working as intended. Based on this data, Phase 2 was constructed utilizing the same general configuration.

2.4 FULL SYSTEM CONSTRUCTION

SCS-CONS substantially completed construction of Phase 2 of the SOMS during the month of June 2023 as Phase 2 was connected to vacuum as of June 14, 2023. Cover soil placement continued into the month of October 2023, and ceased when the construction crew left site on October 12, 2023 upon project final completion. Figure 6 shows SOMS Phase 2 wellhead installation and connections at HC wells along the southeastern perimeter of the landfill.

Figure 3. Phase 2 SOMS Wellhead Connections

During the month of February 2024, SCS-FS collected monitoring data at each wellhead under vacuum. A summary of those measurements is shown in Table 5.

[1] Location data was collected using mapping grade global positioning system equipment.

Table 5. System Averages of Sidewall Wellhead Gas Quality

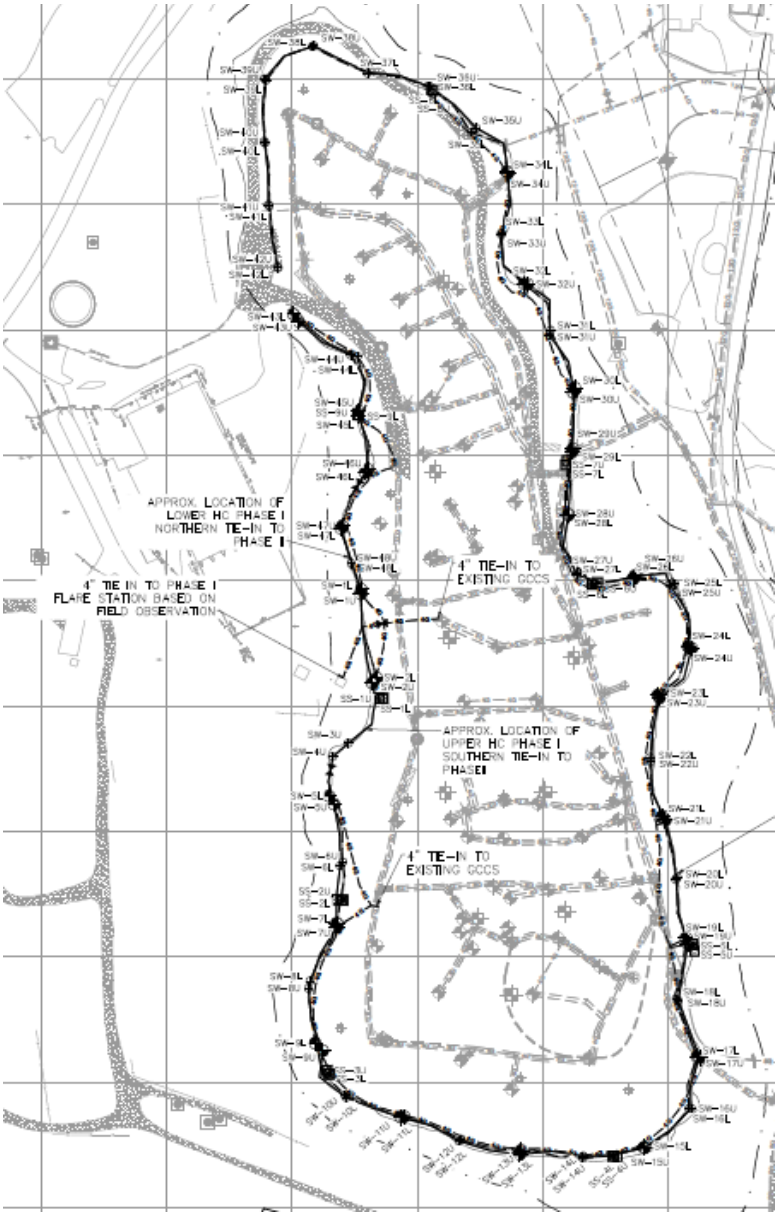
Record Date	Average CH4 [%]	Average CO2 [%]	Average O2 [%]	Average Bal Gas [%]
1/23/2024	5.7	10.1	16.8	67.4
2/5/2024	3.0	5.8	18.6	72.7
2/20/2024	3.6	6.2	17.7	72.5

Isolation valves have been installed on the SOMS to allow for manipulation of flow routed to the supplemental flare, currently being leased. The flare was constructed by Perennial Energy Incorporated (PEI). In cases where in is practical given the layout of the overall system, the gas is being re-routed to the supplemental flare because of the lower quality of the gas. The City is attempting to improve the quality of the gas directed to the primary flare and energy generation facility.

The sidewall system average gas composition indicates lower methane content than typical landfill gas collection systems. The gas quality measurements indicate that the SOMS is functioning as designed because landfill gas is being withdrawn and oxygen intrusion is acceptable. The wide-ranged gas composition may indicate that some areas of the landfill may be experiencing higher landfill gas concentrations than areas where methane content is seemingly insignificant. SCS-FS will adjust SOMS wellheads based on gas quality to increase flow from sections of the system with high methane content and reduce flow from sections of the system with low methane content. Phase 2 lower and upper collectors locations, including HC wellhead riser and sump locations, are shown in the as-built depicted as Figure 7[2].

[2] During construction, redundant risers were put in place to accommodate supplemental wellhead and installation in the future. Figure 10 shows all riser and sump locations. The final submittal to VDEQ, Revised June 26, 2023, shows the locations of actual wellhead installation. The facility may relocate wellheads based on field conditions.

Figure 4. Phase 2 Sidewall Odor Mitigation System As-Built[3]



At this time, not every SOMS horizontal collector riser (HC) has a wellhead installed, but HC risers may receive a wellhead at a future date as warranted by field conditions.

3.0 WASTE TEMPERATURE MONITORING

On behalf of the City, SCS designed a temperature monitoring system to collect temperature data throughout the waste mass. The steps taken by the City to implement this system are described in the following sections.

[3] Location data was collected using mapping grape global positioning system equipment.

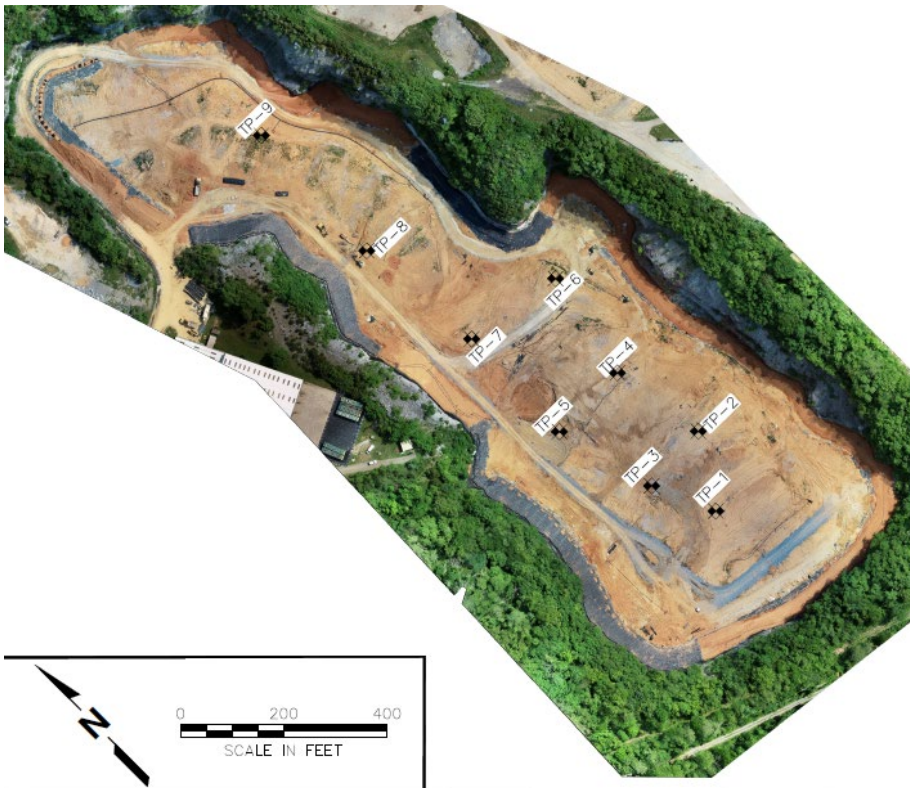
3.1 TEMPERATURE MONITORING SYSTEM DESIGN

The temperature monitoring system consists of 9 boreholes drilled into the waste mass. A steel casing was placed in each borehole and the hole was backfilled around the casing with aggregate. A series of temperature sensors was placed inside the steel casing. At the top of each borehole, an IIoT transmitter collects the data from the sensors and transmits it to a cloud-based RMC system. The City submitted design of the temperature monitoring system to VDEQ on November 30, 2022.

3.2 TEMPERATURE MONITORING SYSTEM INSTALLATION

Installation of the in-situ Landfill Temperature Monitoring System began in October of 2022 and installation of replacement sensors was completed in February of 2023. Details of construction progress can be found in the monthly compliance reports for the SWP No. 588 Landfill. The locations of the temperature probes are shown in Figure 5.

Figure 5. Temperature Monitoring Probe Locations



SCS began collecting temperature data daily on February 15, 2023. The temperature sensors continued to transmit temperature data during the month of February 2024. Average daily temperatures recorded by the sensors for the Month of February are included in Appendix D. Each week the average temperatures from a select day of that week are downloaded and compared to temperatures recorded during the previous week. Average daily temperatures recorded on select days during the month of February are shown in Appendix B. The average temperatures recorded during the months of March 2023 through February 2024 are shown in Figures 6 through 14 on the following pages.

Figure 6 shows daily average temperatures record by Temperature Probe 1 (TP-1) during the months of March 2023 through February 2024. Based on the data, temperatures were consistent from March through May and saw increases during the months of June, July and August at depths or 100 feet and below. In September, average temperatures showed little change when compared to August and in some cases, show a small decrease. Temperatures have stayed generally consistent based on measurements collected between September 2023 and February 2024.

TP-1 was originally drilled to a depth of 180 feet, but the contractor was unable to install the casing beyond a depth of 160 feet. TP-1 did not record temperatures between July 23, 2023 and July 30, 2023 due to a dead battery. The battery was replaced and TP-1 began recording temperatures again on July 31, 2023.

Figure 6. TP-1 Average Temperatures for the Months of March 2023 through February 2024

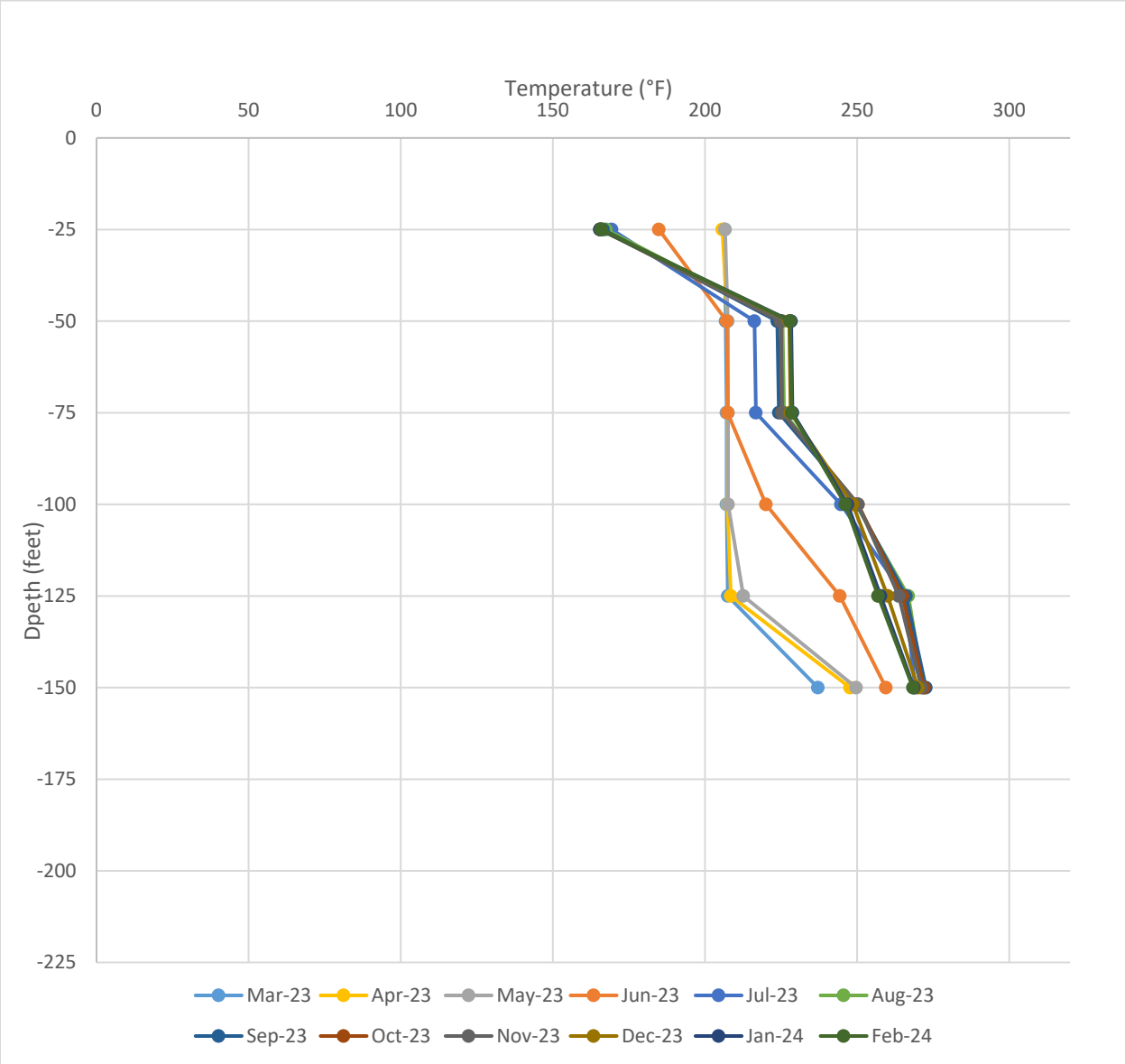


Figure 7 shows daily average temperatures in Temperature Probe 2 (TP-2) during the months of March 2023 through February 2024. Based on the data, temperatures have been consistent during the last eleven months, with an increase at 25 ft. during January 2024 and February 2024.

TP-2 was originally drilled to a depth of 160 feet. TP-2 did not record temperatures between August 15, 2023 and September 17, 2023 due to a dead battery. A replacement battery was installed in September of 2023 and TP-2 recording temperatures again on September 18, 2023.

Figure 7. TP-2 Average Temperatures for the Months of March 2023 through February 2024

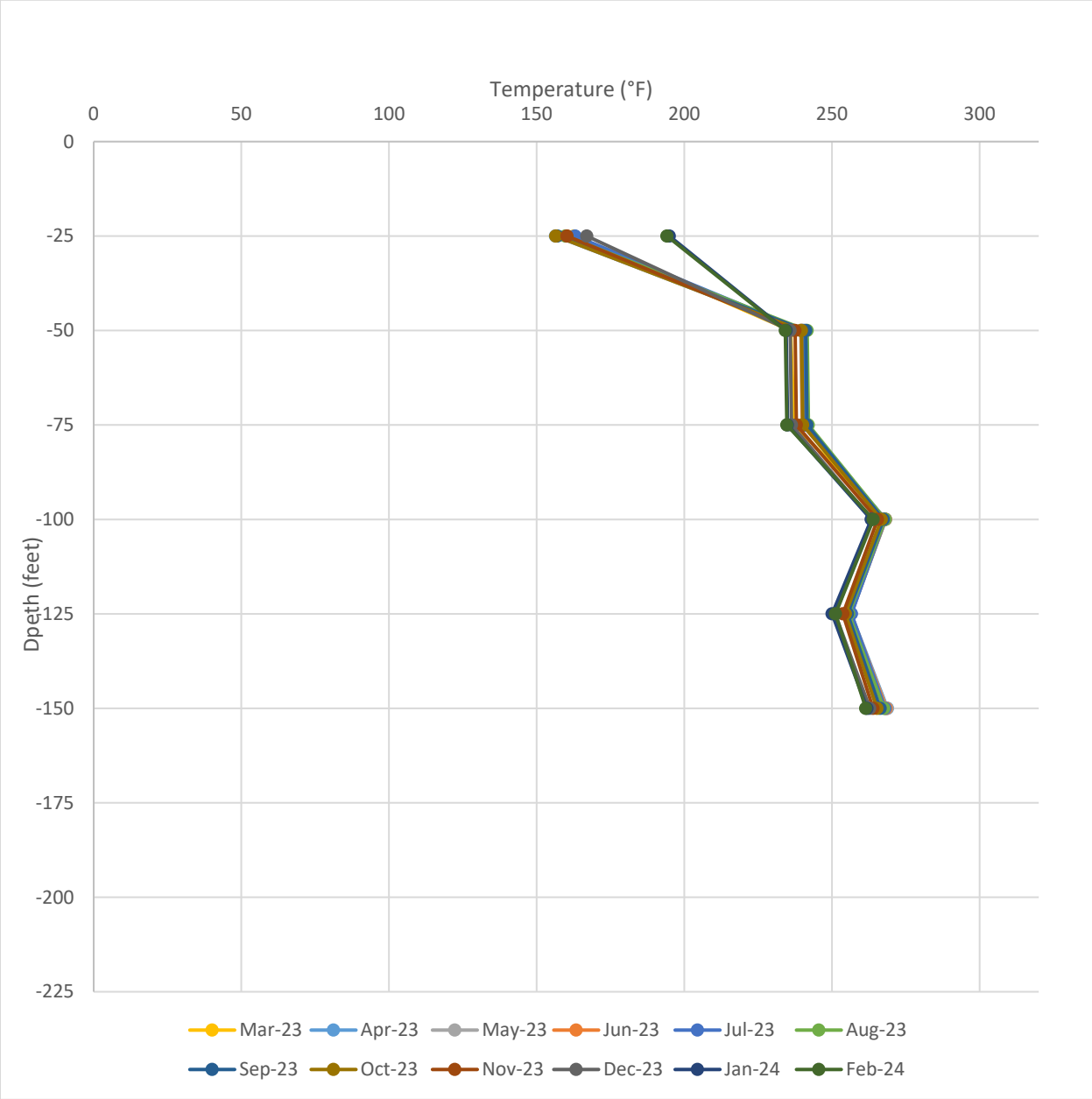


Figure 8 shows daily average temperatures in Temperature Probe 3 (TP-3) during the months of March 2023 through February 2024. Based on the data, temperatures have been generally consistent during the last year. There has been an increase in temperatures during the months of October 2023 through February 2024 at the 50-foot and 75-foot depths. Temperatures were consistent during the months of November 2023, December of 2023, January 2024, and February. SCS will continue to review temperature data recorded by this probe.

Figure 8. TP-3 Average Temperatures for the Months of March 2023 through February 2024

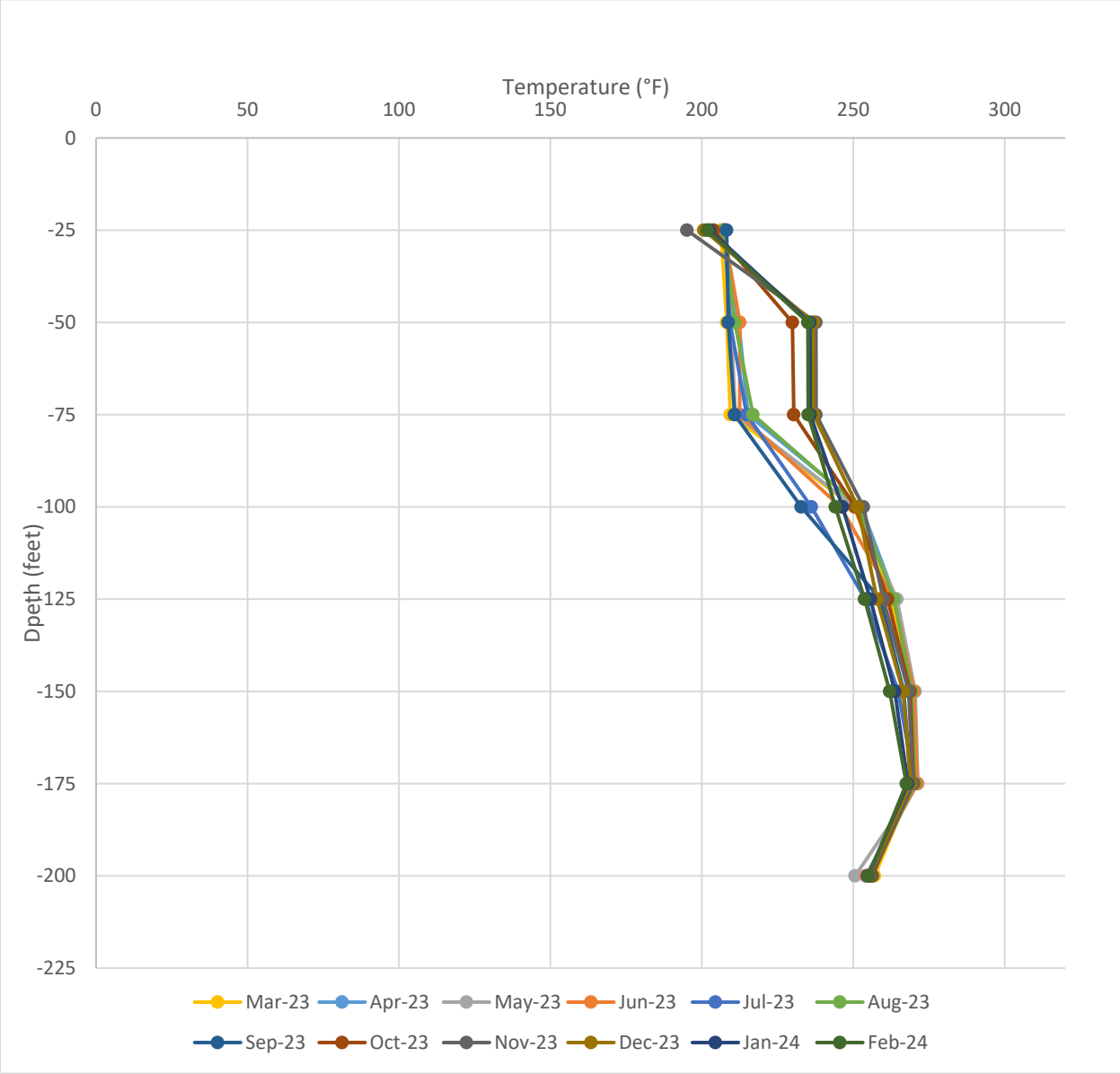


Figure 9 shows daily average temperatures in Temperature Probe 4 (TP-4) during the months of March 2023 through February 2024. Based on the data, temperatures appeared to drop during the months of April 2023 and May 2023, but returned to levels closer to baseline during the months of

June 2023 through February 2024. December temperatures appear to be closer to baseline than the low temperatures observed in April and May.

Figure 9. TP-4 Average Temperatures for the Months of March 2023 through February 2024

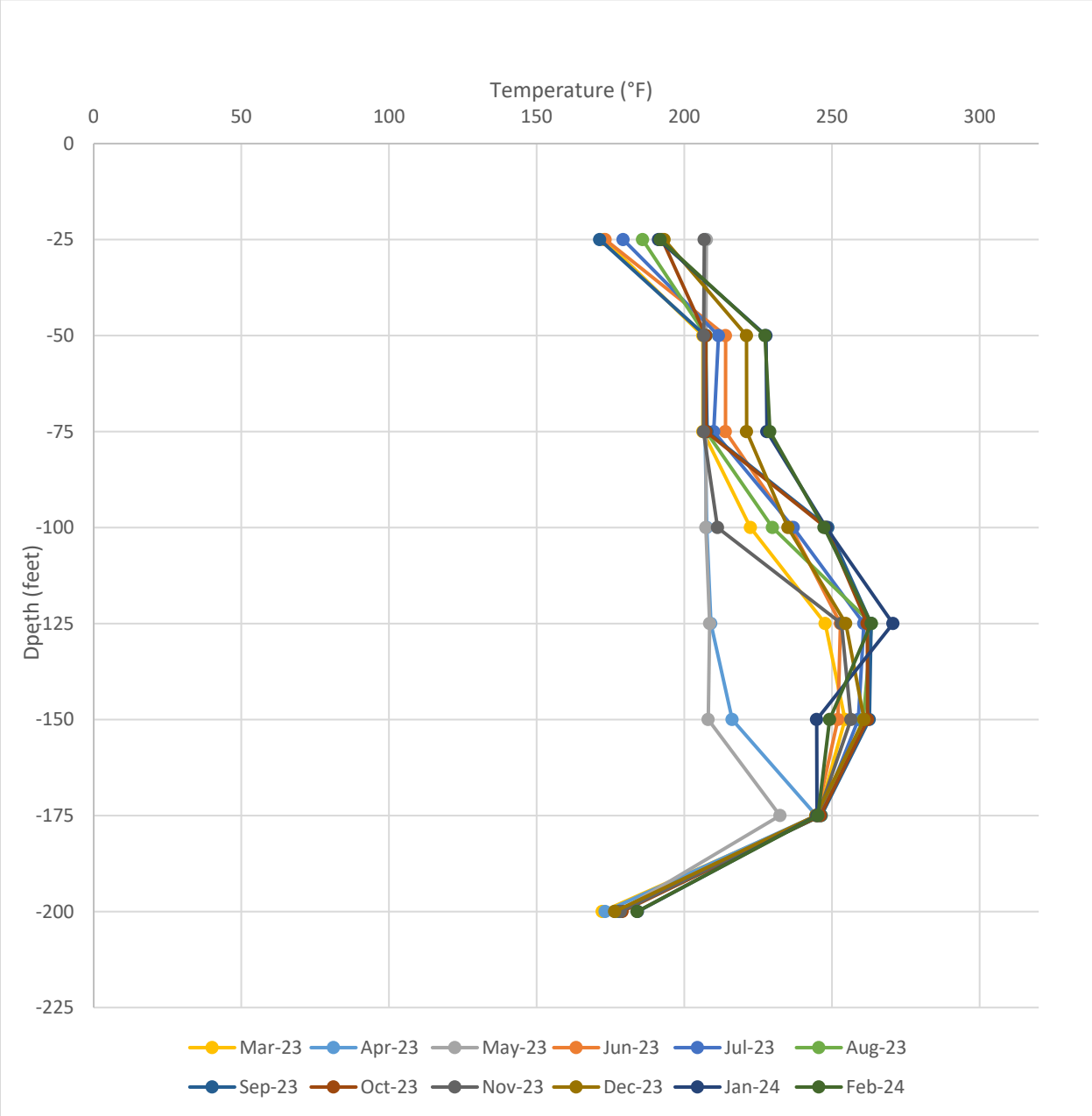


Figure 10 shows daily average temperatures in Temperature Probe 5 (TP-5) during the months of March 2023 through February 2024. Based on the data, temperatures have been consistent during the last nine months.

TP-5 was damaged in late October 2023 and the sensors at the 125-foot, 150-foot, 175-foot, and 200-foot depths stopped functioning. SCS completed troubleshooting during the month of November 2023 and the sensors returned to operation later that month. TP-5 appears to have stopped recording temperatures again during the latter half of February 2024. SCS is in the process of investigating the reason for the failure to record temperature data.

Figure 10. TP-5 Average Temperatures for the Months of March 2023 through February 2024

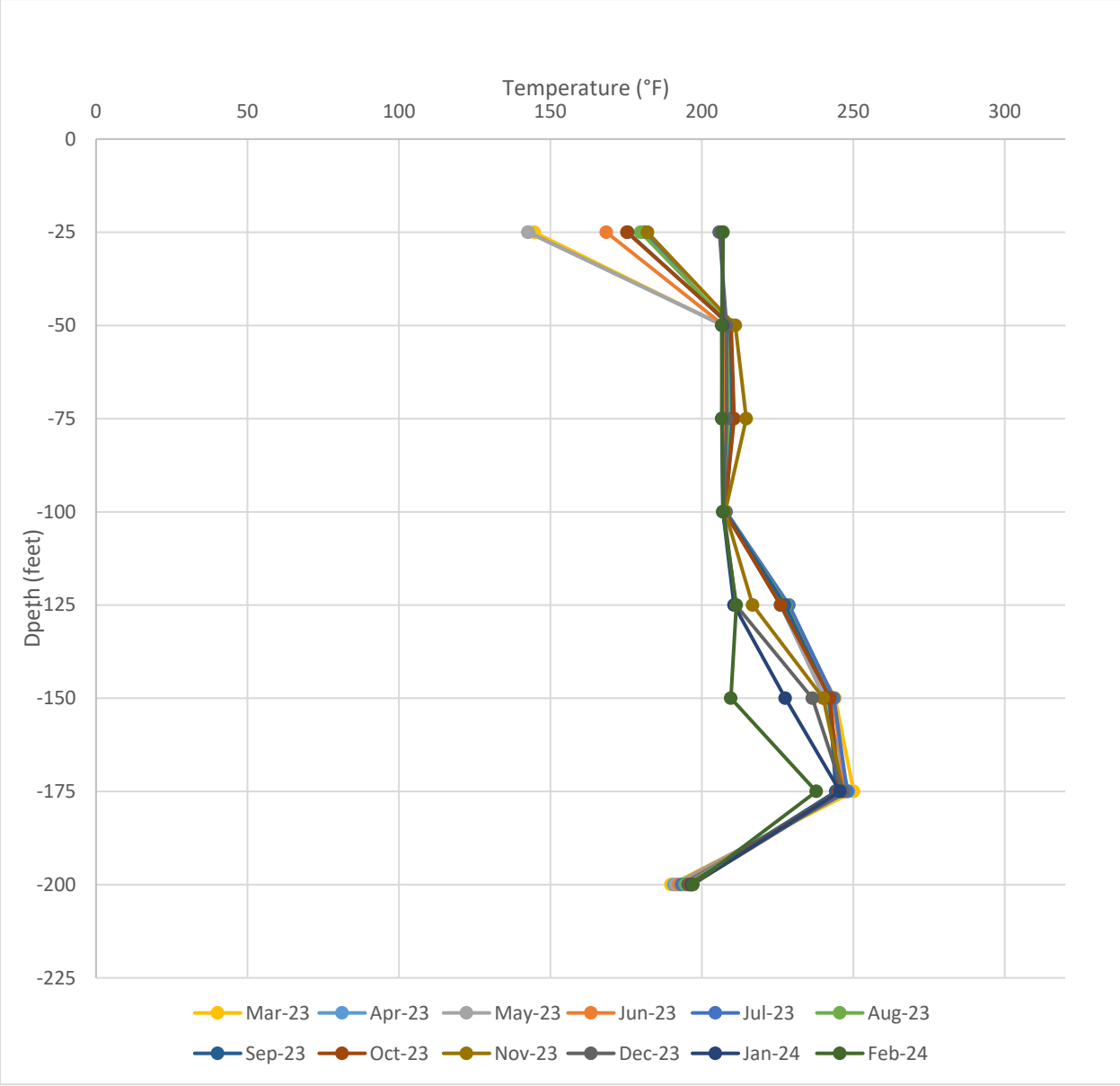


Figure 11 shows daily average temperatures in Temperature Probe 6 (TP-6) during the months of March 2023 through February 2024. Based on the data, temperatures have been generally consistent during the last nine months below the 25-foot level. A decrease at the 25-foot level was observed during the months of June 2023, September 2023, and October 2023. Temperatures returned to baseline during the months of July 2023 and August 2023. Temperatures at the 25-foot level dropped again in December 2023 and rose in January 2024. There was also an increase at the 125-foot level in January 2024 and February.

TP-6 was originally drilled to a depth of 208 feet and casing was installed to the full depth. During the installation of the installation of replacement sensors, a blockage within the casing prevented placement of sensors below the 125-foot depth.

Figure 11. TP-6 Average Temperatures for the Months of March 2023 through February 2024

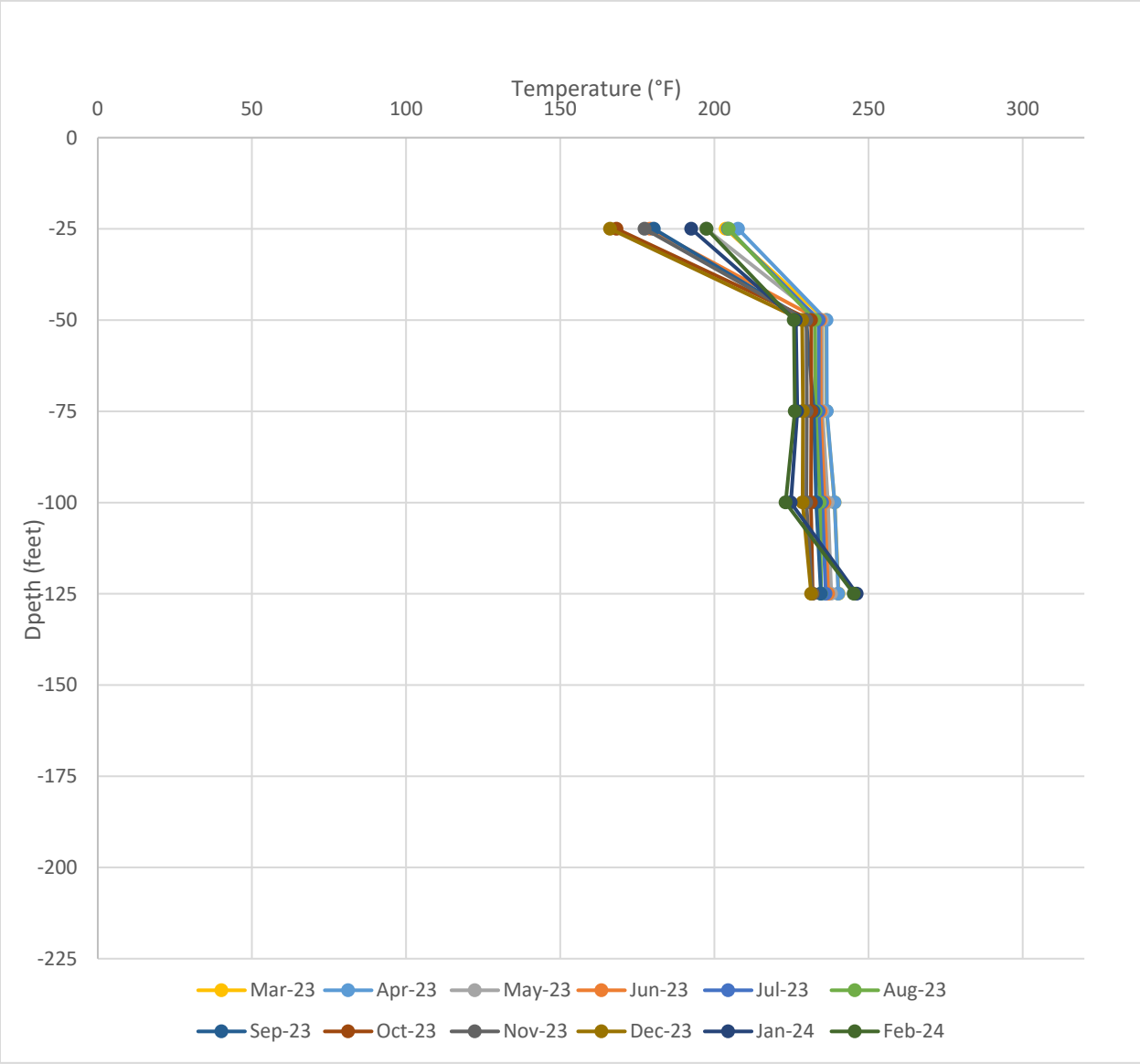


Figure 12 shows daily average temperatures in Temperature Probe 7 (TP-7) during the months of March 2023 through February 2024. Based on the data, temperatures have been consistent during the months of March 2023 through November 2023. Average temperatures dropped during the month of December 2023. Changes in temperatures observed during the month of January 2024 varied by depth. Readings in February 2024 are similar to those from December 2023. Observations of adjacent wells indicate that there may be below grade settlement of waste occurring in this area.

TP-7 did not record temperatures between August 15, 2023 and September 17, 2023 due to a dead battery. A replacement battery was installed in September of 2023 and TP-7 recording temperatures again on September 18, 2023.

Figure 12. TP-7 Average Temperatures for the Months of March 2023 through February 2024

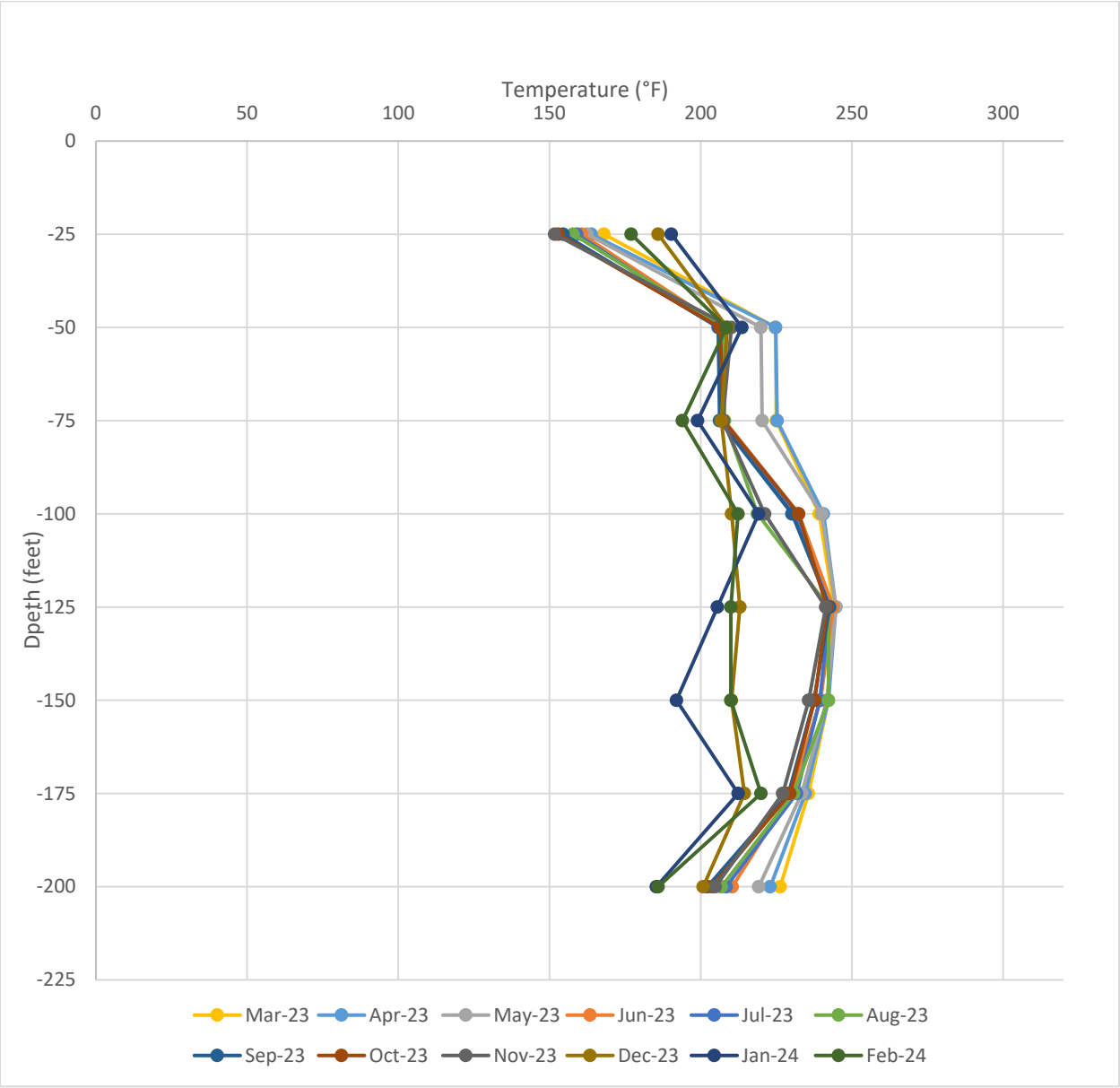


Figure 13 shows daily average temperatures in Temperature Probe 8 (TP-8) during the months of March 2023 through February 2024. Based on the data, temperatures increased throughout 2023. The rate of increase appears to have slowed between September 2023 and February 2024. At some depths average temperatures decreased in January 2024 and February 2024.

TP-8 Did not read from November 8 to November 27 due to faulty battery which was replaced on November 28.

Figure 13. TP-8 Average Temperatures for the Months of March 2023 through February 2024

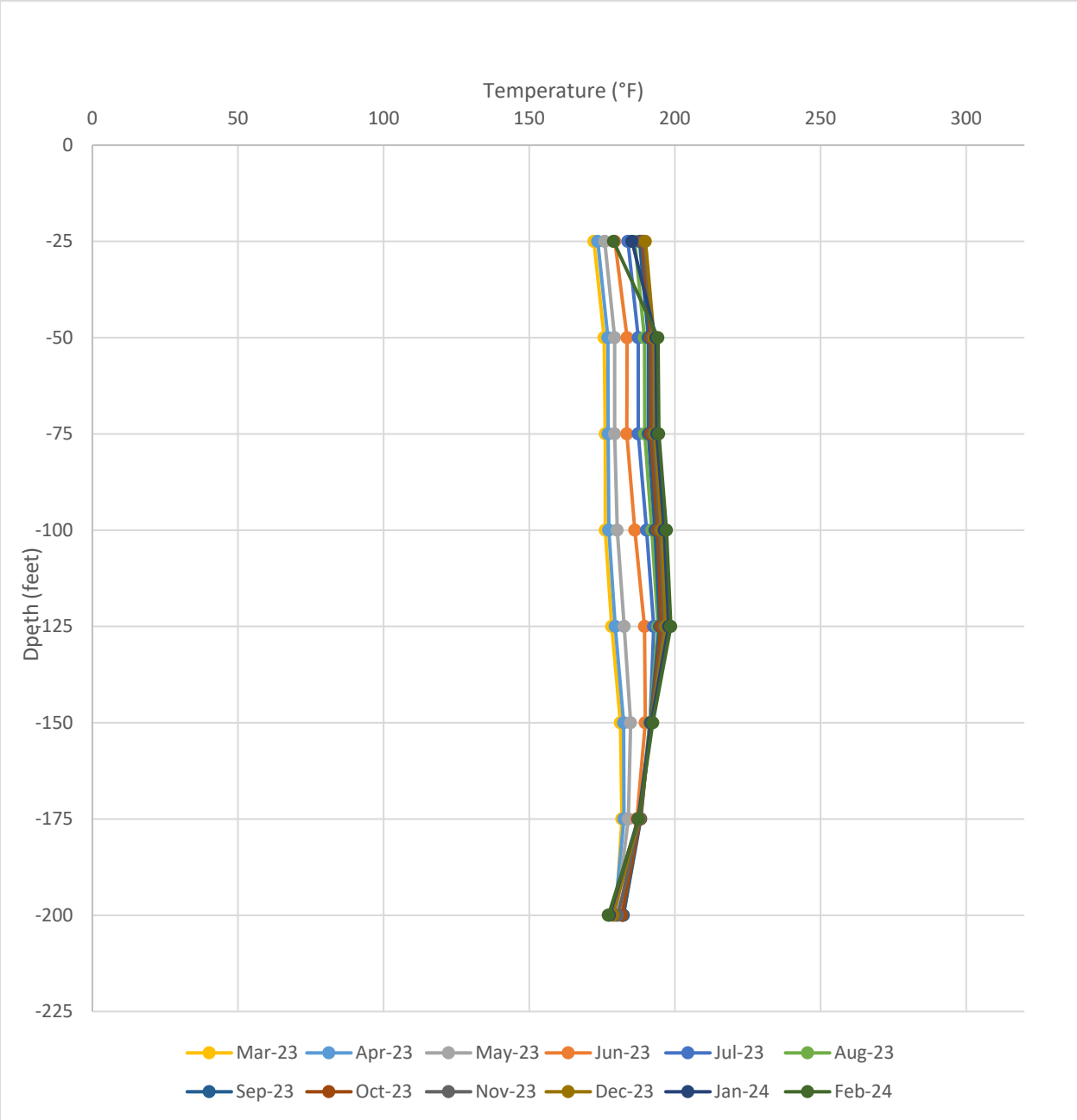
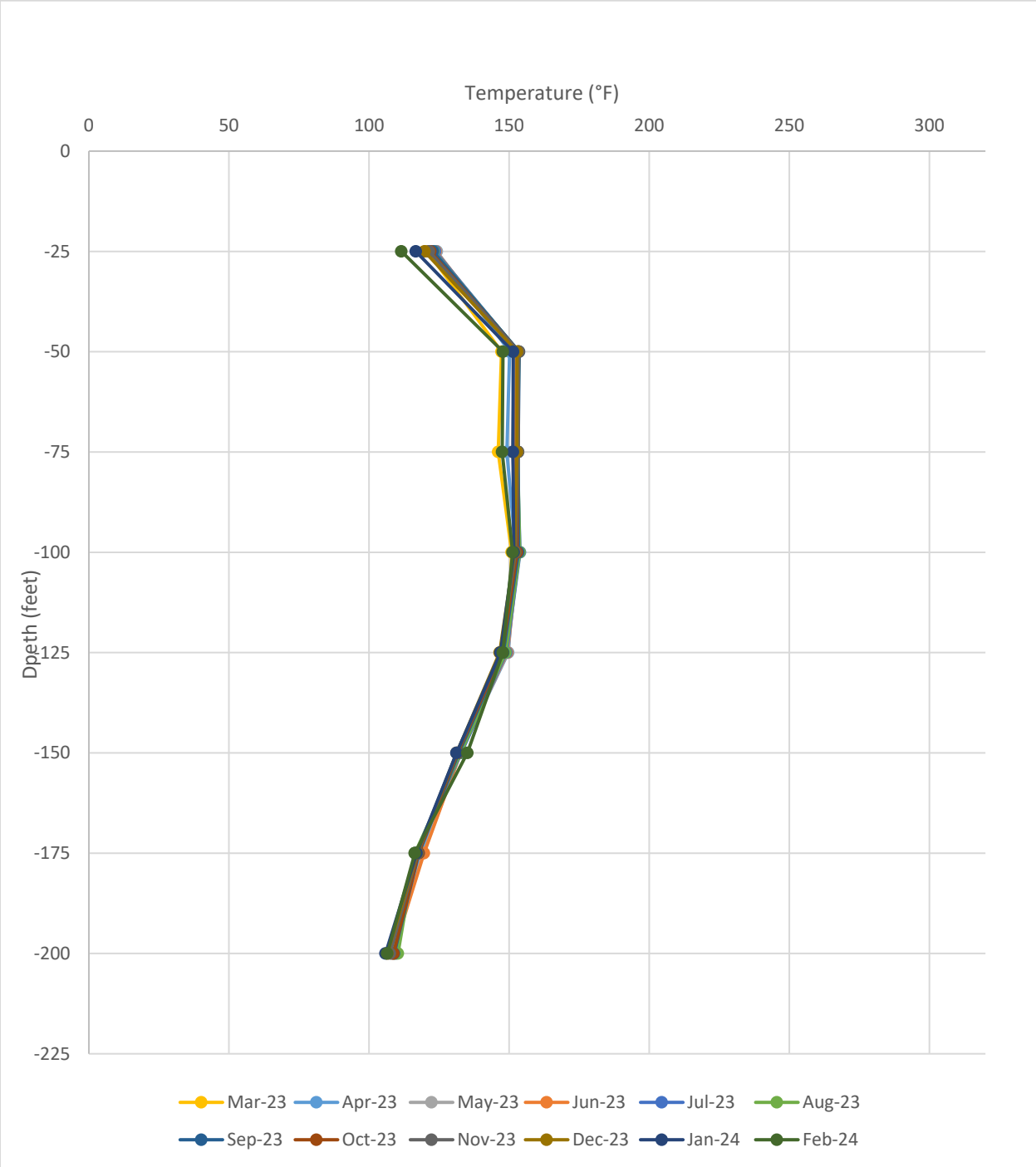


Figure 14 shows daily average temperatures in Temperature Probe 9 (TP-9) during the months of March 2023 through February 2024. Based on the data, temperatures have been consistent during the last year.

Figure 14. TP-9 Average Temperatures for the Months of March 2023 through February 2024



The data indicates that temperatures within the landfill are generally stable and are typical of those observed at elevated temperature landfills (ETLFs). During the months of May 2023 through September 2023, substantial construction occurred at the landfill including deep dual extraction wells that may have impacted temperatures within the waste mass adjacent to the probes. While quantifying the effect of the construction of addition wells is difficult, changes in wellhead temperature have been observed in existing wells adjacent to newly installed wells. The temperatures recorded are substantially lower than those associated with landfill fires or other combustion processes, which can exceed 1000°F. This further indicates that the elevated temperatures are due to sources other than combustion.

4.0 LEACHATE EXTRACTION AND MONITORING

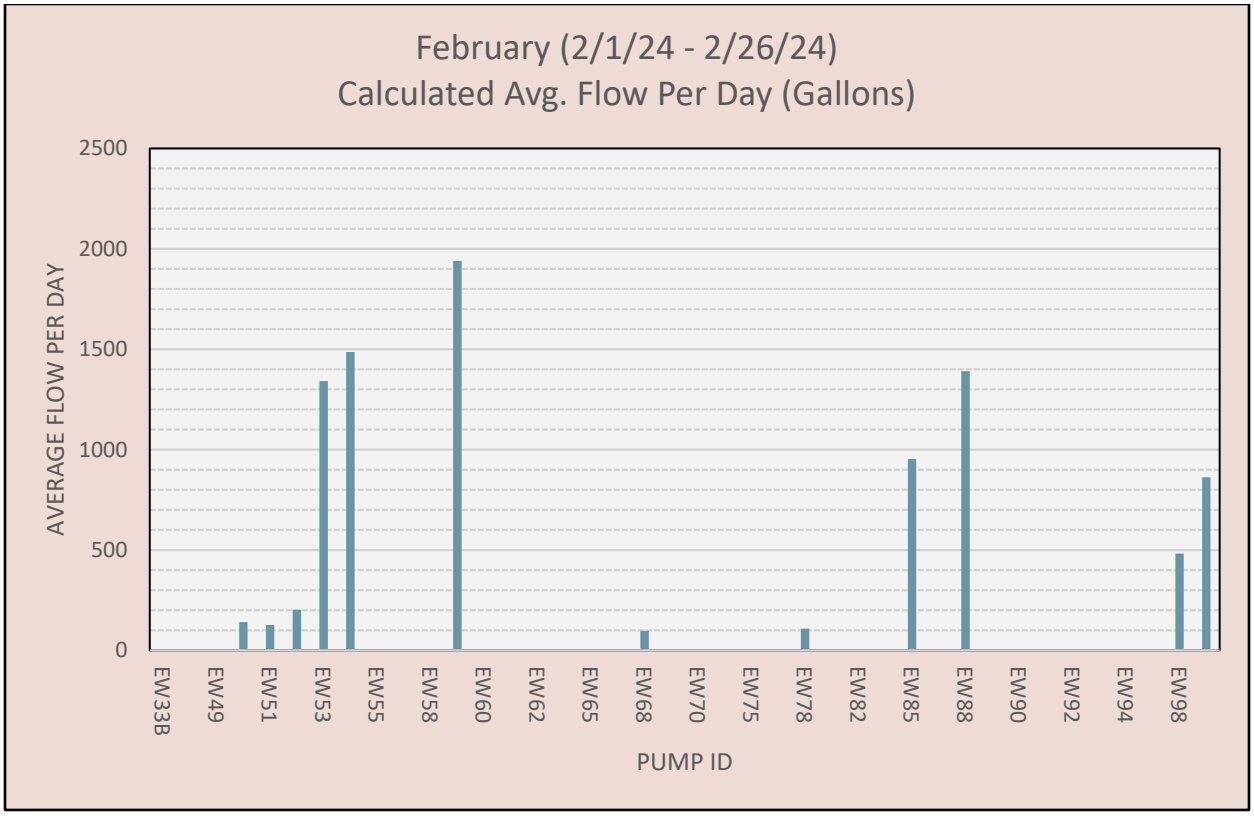
The City is taking steps to improve the extraction of leachate from the waste mass and collect analytical data on leachate characteristics. The following sections detail steps taken to achieve these goals.

4.1 EXISTING SYSTEM OPTIMIZATION

During bimonthly gas extraction well monitoring, SCS also collected stroke counter data from the pumps installed in the GCCS extraction wells. Stroke count measurements are also collected weekly as part of routine pump maintenance. These stroke counts were collected from 40 wells from February 1 – February 26.

Based on this data, SCS can estimate the number of gallons of liquid pumped from each well. SCS assumed that each stroke from a float-style pneumatic pump correlates to approximately 0.3 gallons of liquid removed from the well. Additionally, Blackhawk piston-style pumps remove approximately 0.11 gallons per stroke recorded. Estimates of the quantities of liquids removed from each well during February are shown in Figure 15.

Figure 15. Estimated Dewatering Liquid Removal by Well



SCS-FS continues to implement an aggressive maintenance schedule for landfill gas liquids removal pumps. The pumps at wells EW-53, 54, 59, and 88 removed the most liquid in February, according to the stroke counter data. Several pumps recorded few or no strokes during February. These were sent to the manufacturer for repair had experienced significant wear and tear due to ETLF conditions and repairs were no longer feasible. The City has ordered additional pumps to replace these units, but due to supply chain delays, the pumps have not arrived on site yet.

In some cases, low volumes of landfill liquids removed correlate to low measured liquid levels within the gas wells. During the landfill gas well liquids monitoring event, the following wells were noted to be dry or have low liquid levels: EW-56, EW-63, EW-69, and EW-72. When this condition is identified, pumps may be relocated to wells with consistently higher liquid levels.

The City and SCS understand that operations of dewatering pumps are critical to address issues related to heat, odors, and the efficient operation of the GCCS. The landfill conditions present a challenging environment for pump operations. Pumps require servicing after relatively short intervals. During the month of February 2024 pump maintenance occurred on 2/1/24, 2/8/24, 2/12/24, and 2/26/24. The SWP No. 588 Landfill's float-style pumps are bump-checked daily, and Blackhawk piston drive rods are cleaned routinely each week.

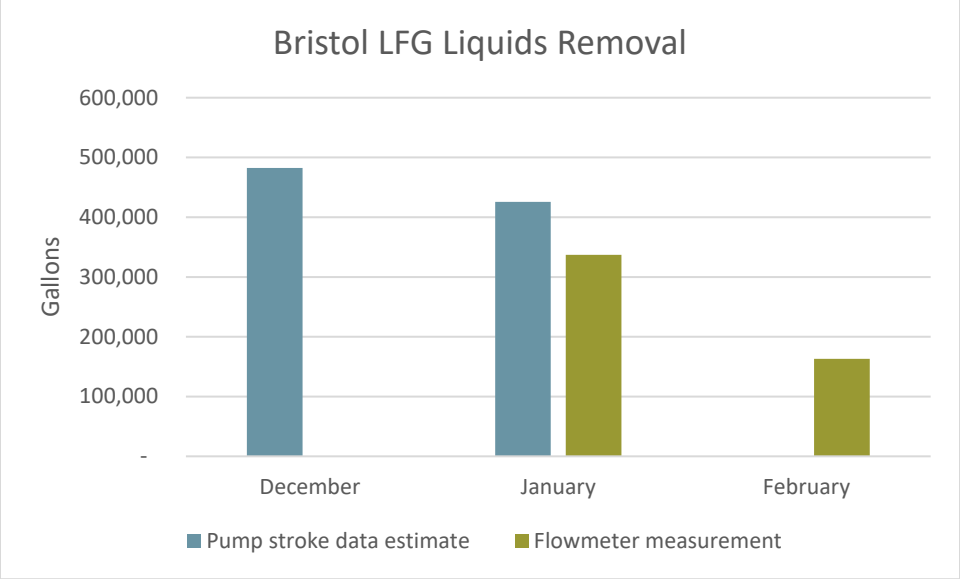
During the construction of the LFGCCS expansion outlined in Sections 1.4 and 2.1, multiple types of leachate extraction pumps were installed. The City and SCS will continue to evaluate the performance of those pumps in the coming months. Based on that evaluation, the City may replace pumps identified in particularly challenging well with a pump type that has been determined to be more effective.

4.1.1 Total LFG Liquids Removal

To improve the accuracy of the total landfill gas liquids flow rate, two flow meters were installed on the landfill gas liquid forcemains in December 2023. One flow meter was installed on the SWP No. 588 primary landfill gas liquid forcemain. The other was installed on the SWP No. 588 alternate landfill gas liquids forcemain, which also serves as the conduit for condensate from the temporary perennial flare and the SWP No. 588 stormwater pump. The SWP No. 588 alternate landfill gas liquids forcemain will also serve as the SWP No. 498 landfill gas liquids forcemain in the future. In February, the total liquids flow recorded by the SWP No. 588 primary landfill gas liquids flowmeter was 163,000 gallons.

The progress in landfill gas liquids removal over the last three months is depicted in Figure 21. Given the improved accuracy of a flowmeter compared to flow estimates based on collected stroke counter data, SCS and the City will only use calculated flow rates to track individual pump performance going forward, not the total liquids removal from the system.

Figure 16. Estimated Volume of Liquids Removed from Landfill Gas Wells



4.2 SAMPLING AND ANALYSIS PLAN

On November 1, 2022, SCS submitted to VDEQ the Dual Phase Landfill Gas Extraction Well Leachate Monitoring Plan for the Bristol Integrated Solid Waste Management Facility Solid Waste Permit No. 588 Landfill and the plan was subsequently revised on December 1, 2022. Refer to the November 2022 and December 2022 Compliance Reports for the SWP No. 588 Landfill for additional information.

4.2.1 Sample Collection

On February 6 and 7, 2024, SCS collected leachate samples from four Dual Phase LFG extraction wells (EW-51, EW-53, EW-85, and EW-88). At the time of sample collection dissolved oxygen,

oxidation-reduction potential, pH, specific conductance, temperature, and turbidity were measured and recorded. The sample collection log is included in **Appendix F**.

SCS' field staff were not able to collect samples from the following wells for the following reasons:

- Pump was not running at the time of monitoring for the following wells: EW-33B, EW-36A, EW-49, EW-50, EW-52, EW-54, EW-55, EW-57, EW-59, EW-60, EW-62, EW-68, EW-74, EW-75, EW-76, EW-78, EW-81, EW-87, EW-89, EW-91, EW-92, EW-94, EW-96, EW-98, and EW-100.

- Pump was disconnected at the time of monitoring for the following wells: EW-61, EW-64, EW-65, EW-82, EW-83, and EW-90.

- There was no sample port at the time of monitoring for the following well: EW-67. The City and SCS-FS are coordinating to get sample port installed on this well.

- There is no pump at the time of the monitoring for the following wells: EW-58, EW-63, EW-69, EW-71, EW-72, EW-73, EW-77, EW-79, EW-80, EW-84, EW-86, EW-93, EW-95, EW-97, and EW-99.

- There is no pump and the well appeared dry at the time of monitoring for the following well: EW-56.

- Well EW-70 was not accessible during the monitoring event.

The samples were delivered to Enthalpy Analytical (Enthalpy) in Richmond, Virginia and Pace Analytical Services, LLC (Pace) in Baton Rouge, Louisiana for analysis. The Enthalpy's and Pace's Virginia Division of Consolidated Laboratory Services (VELAP) certifications are provided on the certificate of analysis (COA) included in **Appendix F**. The samples were analyzed for the parameters utilizing the analytical methods described in the Dual Phase Landfill Gas Extraction Well Leachate Monitoring Plan.

4.2.2 Quality Assurance and Quality Control

Field quality control (QC) involved the collection and analysis of trip blanks to verify that the sample collection and handling processes did not impair the quality of the samples. Trip blanks were prepared for VOC analysis via Solid Waste (SW)-846 Method 8260D. In conjunction with the preparation of the groundwater sample collection bottle set, laboratory personnel filled each trip blank sample bottle with distilled/deionized water and transported them with the empty bottle kits to SCS. Field personnel handled the trip blanks like a sample; they remained un-opened, were transported in the sample cooler, and were returned to the laboratory for analyses. A trip blank is used to indicate potential contamination due to the potential migration of VOCs from the air at the site or in the sample shipping containers, through the septum or around the lid of the sampling vials and into the sample.

Laboratory quality assurance/quality control (QA/QC) involves the routine collection and analysis of method reagent blanks, matrix spike (MS) and matrix spike duplicate (MSD) samples, and laboratory control samples (LCS). A summary of each of these is presented below:

- **Method Blank** – The method blank is deionized water subjected to the same reagents and manipulations to which site samples are subjected. Positive results in the method

blanks may indicate either contamination of the chemical reagents or the glassware and implements used to store or prepare the sample and resulting solutions.

- **MS/MSD** – A MS is an aliquot of a field sample with a known concentration of target parameter added to it. An MSD is an intra-laboratory split sample spiked with a known concentration of target parameter. Spiking for each occurs prior to sample analysis. MS/MSD samples are collected for every batch of twenty or fewer samples. Matrix spike recoveries are used to indicate what effect the sample matrix may have on the reported concentration and/or the performance of the sample preparation and analysis.

- **LCS** – These samples consist of distilled/deionized water injected with the parameters of interest for single parameter methods and selected parameters for multi-parameter methods according to the appropriate analytical method. LCS samples are prepared and analyzed for each batch containing twenty or fewer samples. LCS recoveries are used to monitor analytical accuracy.

Surrogate recoveries are also measured as a part of laboratory QA/QC. Surrogates are organic compounds that are like the parameters of interest in chemical composition, extraction, and chromatography, but are not normally found in environmental samples. These compounds are inserted into blank, standards, samples, and spiked samples prior to analysis for organic parameters only. Percent recoveries are calculated for each surrogate. Spike recoveries at or below acceptance criteria indicate whether analytical results can be considered biased high or biased low.

No trip or method blank detects were identified for the February 2024 monitoring event. The laboratory analysis reports for the February 2024 monitoring event trip blanks are included in **Appendix F**. The February 2024 monitoring event laboratory QA/QC reports, including the method blank results, are included in the COA in **Appendix F**.

4.2.3 Data Validation

To identify analytical data that may not represent valid results, data from the monitoring events were validated by the Laboratory and SCS in accordance with United States Environmental Protection Agency (EPA) guidance[4]. Data flagged with a "J" qualifier indicates the quantitation of the parameter is less than the laboratory's limit of quantitation but greater than the laboratory's limit of detection (LOD); thus, the concentration is considered estimated. Samples with parameter detections less than five times that of the trip blank, field blank, and/or method blank detection but greater than the laboratory's LOD are flagged with a "B" qualifier. Samples with common laboratory contaminant parameter detections less than 10 times that of the trip blank, field blank, and/or method/laboratory blank detection but greater than the laboratory's LOD are flagged with a "B" qualifier. Data with a "B" qualifier are considered not validated as the detection may be anomalous due to cross-contamination during sampling, transportation of samples, or laboratory analysis.

[4] United States Environmental Protection Agency. Guidance for Data Usability in Risk Assessment (Part A-14). April 1992.
United States Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. National Functional Guidelines for Inorganic Superfund Methods Data Review. November 2020.
United States Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. National Functional Guidelines for Organic Superfund Methods Data Review. November 2020.

No leachate results were flagged with a "B" qualifier for the February 2024 monitoring event as no detections were identified in the trip or method blanks. The February 2024 detections flagged with a "J" qualifier are shown on **Table 6**.

4.2.4 Laboratory Analytical Results

The analytical results for the February 2024 leachate samples collected from extraction wells EW-51, EW-53, EW-85, and EW-88 are summarized in **Table 6**. The associated COAs are included in **Appendix F**. Parameter results from February 2024 and previous monitoring events (November 2022 – January 2024) are presented on a table in **Appendix F**. Time-series plots of each VOC for the wells that have historically been sampled are also included in **Appendix F**.

Table 6. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-51	EW-53	EW-85	EW-88	LOD	LOQ
Parameter	February 2024 Concentration					
Ammonia as N (mg/L)	**1900**	**2600**	**1780**	**2380**	146	200
Biological Oxygen Demand (mg/L)	**23200**	**26200**	**21400**	**34300**	0.2	2
Chemical Oxygen Demand (mg/L)	**42700**	**51200**	**48900**	---	5000	5000
	---	---	---	**68400**	10000	10000
Nitrate as N (mg/L)	**9.1**	---	ND	ND	1.5	5.5
	---	ND	---	---	3.5	7.5
Nitrite as N (mg/L)	ND	ND	ND	ND	1	5
Total Kjeldahl Nitrogen (mg/L)	**2540**	**2890**	**2470**	**2970**	100	250
Total Recoverable Phenolics (mg/L)	**37.3**	**42.9**	**50.2**	**43.1**	1.5	2.5
SEMI-VOLATILE ORGANIC COMPOUND (ug/L)						
Anthracene	---	ND	---	---	200	400
	ND	---	---	---	250	500
	---	---	ND	ND	400000	800000
TOTAL METALS (mg/L)						
Arsenic	**0.68**	**0.42**	**0.33**	**0.23**	0.002	0.002
Barium	**3.03**	**4.41**	**2.65**	**0.925**	0.005	0.025
Cadmium	ND	ND	**0.0175**	ND	0.0005	0.005
Chromium	**0.23**	**0.272**	**0.203**	**0.336**	0.002	0.005
Copper	ND	**0.00201**	ND	ND	0.0015	0.002
Lead	**0.0065**	**0.01**	**0.051**	**0.012**	0.001	0.002
Mercury	**0.00376**	**0.0115**	**0.00238**	**0.00284**	0.001	0.001
Nickel	**0.07945**	**0.07013**	**0.09174**	**0.06183**	0.005	0.005
Selenium	ND	ND	**0.00571**	**0.00651**	0.00425	0.005
Silver	ND	ND	ND	ND	0.0003	0.005
Zinc	**0.0879**	**0.0554**	**0.475**	**0.809**	0.0125	0.025

Table 6. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-51	EW-53	EW-85	EW-88	LOD	LOQ
Parameter	February 2024 Concentration					
VOLATILE FATTY ACIDS (mg/L)						
Acetic Acid	**3130**	**3530**	---	---	---	250
	---	---	**3530**	**6770**	---	500
Butyric Acid	**583**	**1170**	---	---	---	250
	---	---	**1180**	**2980**	---	500
Lactic Acid	**334**	**180**	---	---	---	250
	---	---	**756**	**1650**	---	500
VOLATILE FATTY ACIDS (mg/L)						
Propionic Acid	**1210**	**1510**	---	---	---	250
	---	---	**1980**	**2900**	---	500
Pyruvic Acid	ND	ND	---	---	---	250
	---	---	ND	ND	---	500
VOLATILE ORGANIC COMPOUNDS (ug/L)						
2-Butanone (MEK)	---	---	**12700**	---	150	500
	30500	**28900**	---	**17400**	1500	5000
Acetone	**81600**	**70200**	**45600**	**63100**	3500	5000
Benzene	**906**	**884**	**346**	**484**	20	50
Ethylbenzene	**51**	**43 J**	**31 J**	**41 J**	20	50
Tetrahydrofuran	**3500**	**4580**	**3520**	**4910**	500	500
Toluene	**49 J**	**37 J**	ND	**30.5 J**	25	50
Xylenes, Total	**63 J**	**59 J**	ND	ND	50	150

--- = not available
J = Constituent was detected at a concentration above the laboratory's LOD but below the laboratory's LOQ. Concentration is estimated and not validated.
LOD = laboratory's Limit of Detection
LOQ = laboratory's Limit of Quantitation
mg/L = milligrams per liter
ND = Not Detected
ug/L = micrograms per liter

5.0 SETTLEMENT MONITORING AND MANAGEMENT

The City is taking steps to track and manage settlement occurring in the landfill. A summary of actions taken to quantify and manage settlement is included in the sections below.

5.1 SETTLEMENT MONITORING AND MANAGEMENT PLAN

On behalf of the City, SCS submitted a settlement monitoring and management plan to VDEQ on November 15, 2022. Refer to the 2022 November Monthly Compliance Report for the SWP No. 588 Landfill for additional information.

5.2 MONTHLY SURVEYS

5.2.1 Topographic Data Collection

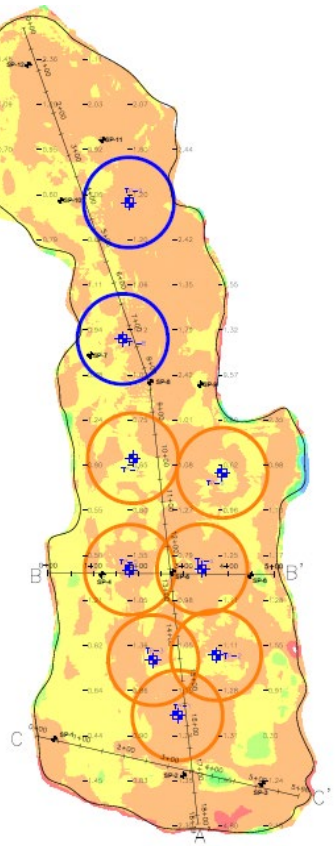
The City, through SCS, collected topographic data of the Solid Waste Permit No. 588 Landfill using photogrammetric methods via an unmanned aerial vehicle (UAV or drone). On February 15, 2024, the flight was completed and the topographic data collected. The topographic data collected is shown on Sheet 4 in Appendix E.

The topography within the landfill footprint was compared to topographic data collected by SCS using photogrammetric methods on January 23, 2024. A drawing depicting the January 23, 2024 topography is included as Sheet 3 in Appendix E.

Based on a comparison of the topographic data collected on those two dates, settlement occurred that reduced the volume of waste in the landfill by approximately 39,300 cubic yards. During that same time period, calculations indicate approximately 1,400 cubic yards of fill was placed during this time on the landfill. This resulted in a net volume decrease of approximately 37,900 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 17. Areas in yellow, orange, and red indicate where elevations decreased and areas in green indicate areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 5 in Appendix E.

Figure 17. 1-Month Elevation Change Map



The locations of in-waste temperature monitoring probes are also shown on Figure 17, Figure 18, and Figure 19. The circles around the probes are indicative of the average borehole temperature. The circles shown are offset from the probes for clarity only and do not necessarily indicate temperatures measured at locations away from the probe. Probes with a blue circle around them typically have an average temperature less than 200°F across the full depth of the probe. Probes with an orange circle around them typically have an average temperature greater than 200°F and less than 250°F across the full depth of the probe. Probes with a red circle around them typically have an average temperature greater than 250 °F and less than 300°F across the full depth of the probe. There were no probes measuring average temperatures greater than 250°F and less than 300°F during the month of February 2024.

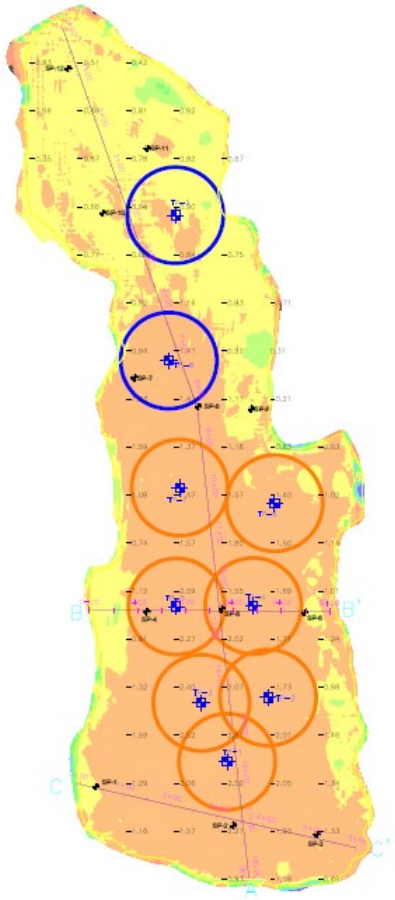
Settlement change in the last month was relatively consistent at the northern end of the landfill at approximately 1 foot. In the south-central area of the landfill, there is an ongoing correlation between settlement and the probes recording higher temperatures.

SCS calculated the waste footprint for purposes of analysis to be 752,610 square feet. Based on that area and the net volume change, the average elevation decrease was approximately 0.45 feet.

SCS also compared the topographic data collected in February to the topographic data collected on November 16, 2023. Based on a comparison of the topographic data collected on those two dates, settlement occurred that reduced the volume of waste in the landfill by approximately 38,000 cubic yards. During that same time period calculations indicate approximately 1,200 cubic yards of fill were placed on the landfill. This fill may have been soil placed as part of regular maintenance.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 18. Areas in orange/yellow indicate where elevations decreased and areas in green indicate areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 6 in Appendix E.

Figure 18. 3-Month Elevation Change Map



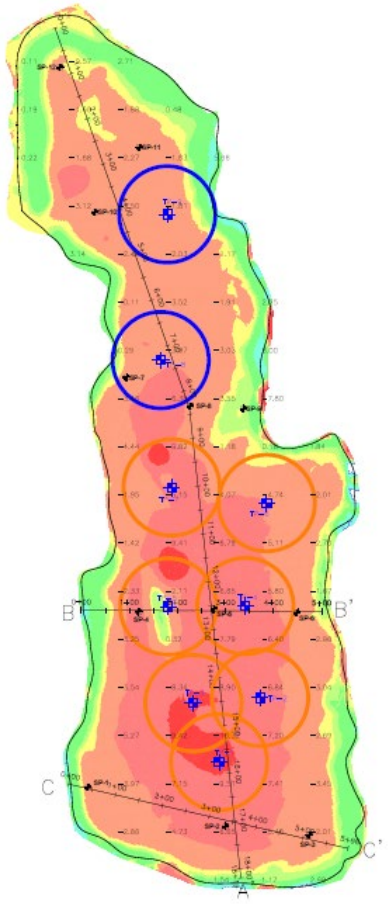
Based on the area of the landfill and the net volume change, the average elevation decrease was approximately 0.2 feet.

The largest settlement during this 3-month period occurred primarily in the southern end of the landfill where the waste settled by approximately 2 feet or more in some areas. The southern end of the landfill is the location of the gas wells and temperature probes exhibiting higher temperatures, and where the waste is deepest. Higher settlements are typical of elevated temperature landfill conditions. Settlement in the northern portion of the landfill was generally less substantial or was offset by soil placement associated with construction activities. Changes in elevation in these areas are more representative of typical settlement at municipal landfills. Some portions of the landfill perimeter exhibited an increase in elevation, likely due to sediment deposition during storm events, and soil placement associated with maintenance of the sidewall odor mitigation system. There were some large variations in elevation associated with soil stockpiling operations.

SCS also compared the topographic data collected in February to the drone topographic data collected on February 7, 2023 by SCS. Based on a comparison of the topographic data collected on those two dates, settlement occurred that reduced the volume of waste in the landfill by approximately 99,990 cubic yards. During that same time period approximately 12,400 cubic yards of construction-related fill were placed on the landfill. This fill was primarily soil placed as part of the sidewall odor mitigation system construction. This resulted in a net volume decrease of approximately 87,500 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 19. Areas in red indicate where elevations decreased and areas in green indicate areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 7 in Appendix E.

Figure 19. 1-Year Elevation Change Map



The largest settlement occurred primarily in the southern end of the landfill where the waste settled by approximately 10 feet or more in some areas. These significant settlement values are typical of elevated temperature landfill conditions. The landfill perimeter exhibited an increase in elevation, likely due to soil placement associated with construction of the Sidewall Odor Mitigation System. There were variations in elevation associated with soil stockpiling operations.

Based on the landfill area and the net volume change, the average elevation decrease was approximately 1.0 feet.

SCS will collect topographic data covering the landfill surface again in March using photogrammetric methods via UAV. This data will be compared to the data collected in March 2023, December 2023, and February 2024.

5.2.2 Settlement Plate Surveys

On November 7, 2022 SCS field services installed 12 settlement plates on the Solid Waste Permit No. 588 landfill. The construction and installation of the settlement plates generally conforms to the design outline in the Settlement Monitoring and Management Plan. The tops of the PVC pipes were spray painted orange to improve visibility. The settlement plate locations are depicted in Figure 20 and on Sheet 1 in Appendix E.

Figure 20. Settlement Plate Locations

The locations of the settlement plates were surveyed by the City's surveyor on November 14, 2022. The settlement plates were surveyed again on December 13, 2022; January 3, 2023; February 6, 2023; March 8, 2023; April 3, 2023; May 11, 2023; June 5, 2023; July 10, 2023; August 17, 2023; September 11, 2023; October 11, 2023; November 6, 2023; December 12, 2023; January 11, 2024; and February 6, 2024. The surveyed coordinates[5] and elevation changes of the settlement plates are shown in Table 7.

[5] Settlement plate locations and coordinates are based on a local coordinate system.

Table 7. Elevation and Strain Data at Settlement Plate Locations

Settlement Plate	Northing	Easting	Elevation on February 6, 2024	Elevation Change Since January 11, 2024	Strain[6] Since January 11, 2024	Elevation Change Since Installation	Strain/Year
SP-1	3,397,887.0	10,412,079.7	1,830.4	-0.2	-0.3%	-4.0	-4.1%
SP-2	3,397,810.0	10,412,365.9	1,801.8	-0.3	-0.2%	-8.8	-2.9%
SP-3[7]	3,397,787.5	10,412,537.9	N/A	N/A	N/A	N/A	N/A
SP-4[8]	3,398,250.3	10,412,187.9	1,808.0	-0.3	-0.2%	-9.5	-2.9%
SP-5	3,398,255.7	10,412,339.0	1,792.7	-0.4	-0.2%	-8.0	-2.2%
SP-6	3,398,248.7	10,412,510.5	1,774.6	-0.3	-0.2%	-3.0	-2.7%
SP-7[9]	3,398,734.8	10,412,158.4	1,825.4	-0.1	-0.1%	-3.3	-1.5%
SP-8	3,398,678.6	10,412,290.9	1,802.1	-0.1	0.0%	-5.2	-0.6%
SP-9[10]	3,398,673.4	10,412,400.9	N/A	N/A	N/A	N/A	N/A
SP-10	3,399,080.1	10,412,093.2	1,838.1	-0.2	-0.1%	-2.1	-0.9%
SP-11	3,399,216.3	10,412,183.7	1,815.3	0.0	0.0%	-1.1	-0.3%
SP-12	3,399,381.9	10,412,019.6	1,810.0	-0.1	-0.1%	-0.6	-1.5%

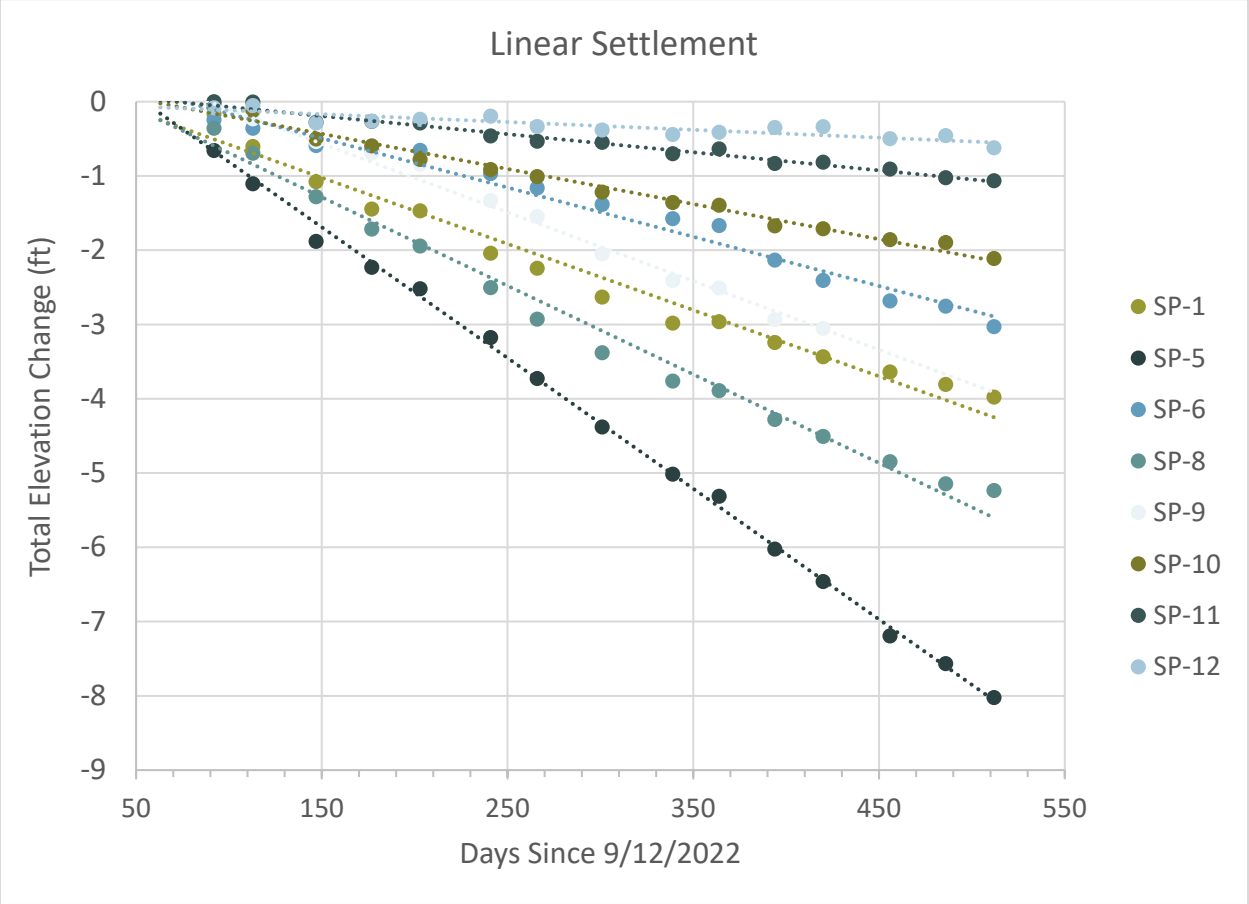
Settlement Plates 1, 2, 4, 5, and 6 demonstrated larger settlements than at other locations. Settlement Plates 4 and 7 were damaged during construction operations. Settlement Plates 1, 2, and 5 are located in the southern end of the landfill. This area is the location of the gas wells and temperature probes exhibiting higher temperatures. These higher settlement values are typical of elevated temperature landfill conditions.

The change in elevation at Settlement Plates 8, 10, 11, and 12 was lower and more representative of typical settlement at municipal landfills with waste of similar depth. Settlement Plate 3 was damaged and unable to be measured during September 2023, October 2023, November 2023, December 2023, January 2024, and February 2024. Settlement Plate 9 was located in standing water and was unable to be read for the months of December 2023, January 2024, and February 2024.

Figure 23 shows the changes in elevation of select settlement plates over time. Best-fit lines for these changes in elevation are also shown on the graph. Currently settlement rates are represented better by best-fit lines generated using linear equations that logarithmic equations. For the purposes of recording data in this figure, times are measured in days since the landfill was required to stop accepting waste.

[6] Strain is defined as the change in elevation divided by the estimated waste depth.
[7] SCS suspects that SP-3 was damaged as a result of construction activities.
[8] Based on field observations SP-4 appears to have been disturbed during grading on an adjacent roadway.
[9] Based on field observations SP-7 appears to have been disturbed during grading on an adjacent stockpile.
[10] SCS suspects that SP-9 was damaged as a result of construction activities.

Figure 21. Linear Settlement



The settlement plates will be surveyed again during the month of March 2024. The elevations surveyed will be compared to the elevations surveyed the previous months.

6.0 INTERMEDIATE COVER AND EVOH COVER SYSTEM

The City is taking steps to provide intermediate and temporary cover of the wastes in the landfill. The sections below outline the steps taken by the City.

6.1 INTERMEDIATE COVER INSTALLATION

The City completed hauling and placement of a 12-inch-thick intermediate cover across the entire landfill prior to October 10, 2022. The cover was placed in accordance with 9VAC20-81-140(B)(1)(d). SCS coordinated with the City to dig a series of test holes to verify cover thickness in select locations. Details of these verifications were discussed in the October 2022 Monthly Compliance Report for the SWP No. 588 Landfill.

6.2 EVOH COVER SYSTEM DESIGN

On December 4, 2023, SCS submitted a revised stormwater management plan to submit to VDEQ, including revised drawings and calculations. The revised SWMP includes the three quarry basins, additional stormwater pumps, new stormwater force mains, and the preliminary layout of the new electrical infrastructure along the quarry rim.

On December 18, 2023 SCS and VDEQ met to discuss concerns about the impact of settlement on the proposed EVOH Cover System. The City is discussing the appropriate schedule for EVOH deployment with VDEQ considering the significant settlement the site is experiencing.

6.3 EVOH COVER SYSTEM PROCUREMENT

Drawings used for the purposes of bidding, procurement and construction of the EVOH cover system will generally conform to the layout and details in the drawings described in section 6.2. SCS also prepared and submitted to VDEQ a specification for the EVOH geomembrane on January 30, 2023 based upon industry standards and discussions with material manufacturers. This specification and drawing set represent the first steps in the procurement process. SCS and the City have coordinated with potential suppliers to specify a product that is not currently anticipated to have long lead times. SCS has received a pro-forma data sheet from one manufacturer which is preparing a customized EVOH product for the No. 588 landfill.

6.4 EVOH COVER SYSTEM INSTALLATION

Timeline discussions are ongoing for the EVOH Cover System installation. Settlement concerns and other work at the site are being considered.

7.0 STORMWATER MANAGEMENT

The City is taking steps to implement a stormwater management plan at the landfill. The sections below outline the steps taken by the City.

7.1 STORMWATER MANAGEMENT PLAN DEVELOPMENT

The initial stormwater management plan (SWMP) was submitted to VDEQ on April 28, 2023.

The revised SWMP was submitted to VDEQ on December 4, 2023. The plan proposes a stormwater pumping system to convey stormwater collected atop the EVOH cover system to an existing discharge point permitted under VPDES permit VAR050053. The proposed system includes the construction of three stormwater collection basins in the quarry and the installation of pairs of skid-mounted stormwater pumps. The stormwater will be conveyed by force main pipes to the existing stormwater basins located west of the quarry.

The plan proposes modifications to the existing stormwater basins west of the quarry to achieve discharge quantity targets. Modifications include increasing the basin depths and installing new outlet riser structures.

7.2 STORMWATER MANAGEMENT BASIN DESIGN AND CONSTRUCTION

The landfill surface will be regraded to form the SWM basins proposed in the stormwater management plan. The earthwork will be completed as the first stage of the interim EVOH cover system installation project. A revised landfill gas management plan is being prepared to facilitate the regrading of the landfill, which will affect existing landfill gas infrastructure. The landfill gas system will be modified to accommodate the earthwork.

Attention is being given to settlement concerns in the vicinity of the stormwater basin or basins. Calculations provided to VDEQ on June 23, 2023 demonstrate the weight of the ponded water should not cause excessive settlement relative to ongoing settlement observed within the quarry. Including additional stormwater basins within the quarry will distribute the weight of ponded water over a wider area relative to the single stormwater basin design.

7.3 STORMWATER MANAGEMENT PLAN IMPLEMENTATION

The stormwater management plan design drawings are being incorporated into the overall construction drawings for the interim EVOH cover system. The interim EVOH cover system installation and stormwater management features will be bid and constructed as one project to facilitate simultaneous progress and completion.

As an interim measure, the City is currently operating a temporary stormwater pump to remove stormwater from the landfill surface. During the month of February approximately 427,000 gallons of stormwater were pumped from the surface of the landfill.

7.4 LONG-TERM STORMWATER CONTROL AND REMOVAL

The stormwater management plan is designed with resiliency and redundancy to promote long-term operation. Refer to previously submitted compliance reports for details of long-term stormwater control and removal.

7.5 STORMWATER MONITORING

Stormwater monitoring will commence upon initial discharge of stormwater from the quarry stormwater pumping system. As stated in the stormwater management plan drawings, the stormwater shall be monitored in accordance with the facility's VPDES general permit for discharge of stormwater associated with industrial activity. Additional requirements include collecting additional stormwater samples at the discharge pipes for the quarry stormwater pumping system. The stormwater from the quarry basins will be sampled on a monthly basis prior to discharge to the upper stormwater ponds. The Operations Manual will be revised to include these additional requirements.

If the stormwater becomes contaminated or sampling indicates contamination above discharge limits, the stormwater will be diverted to the sanitary sewer system. The diversion to the sanitary sewer system will continue until the source of contamination is identified and resolved. The stormwater discharge pipe alignment will pass adjacent to the existing sanitary sewer manhole. A tee with isolation valves will be used to direct the stormwater to the upper basins or the sanitary sewer manhole.

Stormwater currently pumped from the surface of the landfill is discharged to the sanitary sewer and is sampled with other wastewater discharges in accordance with the facility's industrial wastewater discharge permit.

8.0 MISCELLANEOUS

8.1 CEASE WASTE ACCEPTANCE

The City ceased acceptance of offsite waste at the Solid Waste Permit No. 588 landfill prior to September 12, 2022.

8.2 LONG-TERM PLAN

SCS submitted the Monitoring, Maintenance, and Repair Plan to VDEQ for the SWP No. 588 landfill on December 30, 2022. Refer to the December 2022 Monthly Compliance Report for the SWP No. 588 Landfill for additional information. The City has taken steps to implement the plan that were detailed in the March 2023 Monthly Compliance Report for the SWP No. 588 Landfill.

8.3 MONTHLY COMPLIANCE REPORTS

As described in the introduction this report is intended to provide comprehensive updates regarding progress towards completion of each item described in Appendix A of the Consent Decree between the City and VDEQ,

8.4 COMMUNITY OUTREACH PROGRAM

The City's consultant leading community outreach, McGuireWoods Consulting, described the actions taken as part of their community outreach efforts. For the month of February, those actions include:

- Ongoing basis: Six posts on the BristolVALandfill.org site and the existing City of Bristol Landfill Notifications and Information page covering important updates including:
    - Progress updates related to remediation efforts at the quarry landfill
    - Included updates as well as related to steps towards closing landfill 498 in order to make sure residents are aware activities are occurring on another site in addition to ongoing work at the 588 landfill
    - Shared news articles about potential funding from the Virginia General Assembly related to remediation work at the 588 Quarry Landfill

- Weekly updates on landing page on Bristolvalandfill.org titled "Air Sampling and Air Monitoring" that includes a summary of the air sampling and monitoring being conducted by Bristol, VA around the quarry landfill.
    - Website now includes weekly air monitoring reports starting with May 15th, 2023 and running through February 18th of 2024.

- E-mail communication sent to the list of members of the public signed up through the Bristol, VA website, the BristolVALandfill.org website, or at subsequent Open Houses to receive information via e-mail.

- Website now includes weekly air monitoring reports starting with May 15th, 2023 and running through February 18th of 2024.

- **E-mail communication sent to the list of members of the public signed up through the Bristol, VA website, the BristolVALandfill.org website, or at subsequent Open Houses to receive information via e-mail**
    - E-mails sent included weekly remediation progress update and links to website updates and latest news articles.

- **Mail piece sent to all residents of Bristol, VA and Bristol, TN to inform the public of progress made at the Quarry Landfill in 2023 to remediate issues at the landfill. Mail piece also included an introduction to the new Solid Waste Director for Bristol, VA**

Appendix A

Surface Emissions Monitoring Summary Letters

February 14, 2024
File No. 02218208.04

Mr. Jonathan Chapman
Enforcement Specialist
Virginia Department of Environmental Quality
SW Regional Office
355-A Deadmore Street
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 8, 2024
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Facility located in Bristol, Virginia on February 8, 2024. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes and the newly installed and connected gas extraction wells. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory time schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.

Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	171
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	71
Number of Exceedances	2
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	2

REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive re-tests.

A summary of ongoing exceedance points is provided in Table 2.

Table 2. Ongoing Weekly SEM Exceedances

Point ID	Initial Exceedance Date	2/8/24 Event	2/8/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-67	1/12/24	1-Month Retest	Passed	Exceedance Resolved
EW-99	1/12/24	1-Month Retest	Passed	Exceedance Resolved
EW-55	1/17/24	N/A	Passed	Requires 1-Month Retest
EW-58	1/17/24	N/A	Passed	Requires 1-Month Retest
EW-98	1/17/24	N/A	Passed	Requires 1-Month Retest
EW-94	1/17/24	N/A	Passed	Requires 1-Month Retest
EW-90	1/17/24	N/A	Passed	Requires 1-Month Retest
EW-95	1/31/24	10-Day Retest	Passed	Requires 1-Month Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,

William J. Fabrie

Lucas S. Nachman

William J. Fabrie
Staff Professional
SCS Engineers

Lucas S. Nachman
Senior Project Professional
SCS Engineers

LSN/WJF/cjw

cc: Randall Eads, City of Bristol
Jonathan Hayes, City of Bristol
Jake Chandler, City of Bristol
Laura Socia, City of Bristol
Susan “Tracey” Blalock, VDEQ

Encl. Surface Emissions Monitoring Results
Bristol SEM Route Drawing

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 8, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	1.6 PPM	OK			Start Serpentine Route
2	10.2 PPM	OK			
3	2.0 PPM	OK			
4	2.1 PPM	OK			
5	1.8 PPM	OK			
6	1.8 PPM	OK			
7	3.1 PPM	OK			
8	3.2 PPM	OK			
9	3.6 PPM	OK			
10	11.7 PPM	OK			
11	2.6 PPM	OK			
12	2.0 PPM	OK			
13	19.3 PPM	OK			
14	54.1 PPM	OK			
15	18.0 PPM	OK			
16	3.8 PPM	OK			
17	3.0 PPM	OK			
18	3.4 PPM	OK			
19	4.2 PPM	OK			
20	4.0 PPM	OK			
21	3.2 PPM	OK			
22	3.8 PPM	OK			
23	5.0 PPM	OK			
24	5.7 PPM	OK			
25	15.7 PPM	OK			
26	21.7 PPM	OK			
27	4.1 PPM	OK			
28	5.2 PPM	OK			
29	56.1 PPM	OK			
30	220.0 PPM	OK			
31	2.1 PPM	OK			
32	24.8 PPM	OK			
33	38.9 PPM	OK			
34	26.9 PPM	OK			
35	4.7 PPM	OK			
36	12.7 PPM	OK			
37	20.7 PPM	OK			
38	83.9 PPM	OK			
39	17.0 PPM	OK			
40	5.4 PPM	OK			
41	3.5 PPM	OK			
42	2.3 PPM	OK			
43	2.0 PPM	OK			
44	1.5 PPM	OK			
45	1.5 PPM	OK			
46	1.5 PPM	OK			
47	1.5 PPM	OK			
48	1.4 PPM	OK			
49	1.4 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 8, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
50	1.4 PPM	OK			
51	1.6 PPM	OK			
52	1.6 PPM	OK			
53	1.4 PPM	OK			
54	1.4 PPM	OK			
55	1.5 PPM	OK			
56	1.3 PPM	OK			
57	1.2 PPM	OK			
58	1.5 PPM	OK			
59	1.2 PPM	OK			
60	3.7 PPM	OK			
61	1.4 PPM	OK			
62	1.7 PPM	OK			
63	11.5 PPM	OK			
64	27.3 PPM	OK			
65	1.8 PPM	OK			
66	1.5 PPM	OK			
67	4.9 PPM	OK			
68	21.1 PPM	OK			
69	10.0 PPM	OK			
70	49.7 PPM	OK			
71	8.4 PPM	OK			
72	11.9 PPM	OK			
73	33.3 PPM	OK			
74	8.0 PPM	OK			
75	37.1 PPM	OK			
76	17.2 PPM	OK			
77	1.8 PPM	OK			
78	3.2 PPM	OK			
79	1.1 PPM	OK			
80	2.4 PPM	OK			
81	1.4 PPM	OK			
82	1.5 PPM	OK			
83	1.0 PPM	OK			
84	1.0 PPM	OK			
85	1.0 PPM	OK			
86	0.9 PPM	OK			
87	0.9 PPM	OK			
88	3.2 PPM	OK			
89	2.6 PPM	OK			
90	2.0 PPM	OK			
91	1.0 PPM	OK			
92	78.7 PPM	OK			
93	12.5 PPM	OK			
94	3.3 PPM	OK			
95	1.7 PPM	OK			
96	1.9 PPM	OK			
97	2.7 PPM	OK			
98	1.4 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 8, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
99	7.1 PPM	OK			
100	2.3 PPM	OK			End Serpentine Route
101	373.0 PPM	OK			EW-35
102	1114.0 PPM	HIGH_ALRM	36.59900	-82.14749	EW-52
103	4.2 PPM	OK			TP-4
104	15.4 PPM	OK			EW-60
105	20.2 PPM	OK			EW-48
106	1.4 PPM	OK			TP-6
107	1.0 PPM	OK			EW-61
108	1.7 PPM	OK			EW-50
109	2.3 PPM	OK			EW-67
110	1.3 PPM	OK			EW-47
111	5.2 PPM	OK			EW-54
112	2.5 PPM	OK			EW-55
113	44.3 PPM	OK			EW-92
114	52.1 PPM	OK			EW-91
115	3.8 PPM	OK			EW-96
116	0.9 PPM	OK			TP-2
117	9.0 PPM	OK			EW-66
118	0.9 PPM	OK			EW-58
119	57.1 PPM	OK			EW-57
120	20.3 PPM	OK			TP-1
121	14.0 PPM	OK			EW-59
122	55.6 PPM	OK			EW-100
123	393.0 PPM	OK			EW-56
124	4.3 PPM	OK			EW-97
125	3.7 PPM	OK			EW-41
126	29.7 PPM	OK			EW-53
127	3.1 PPM	OK			TP-3
128	290.0 PPM	OK			EW-51
129	47.6 PPM	OK			EW-39
130	10.2 PPM	OK			TP-5
131	11.0 PPM	OK			EW-68
132	1095.0 PPM	HIGH_ALRM	36.59935	-82.14782	EW-87
133	19.6 PPM	OK			EW-38
134	387.0 PPM	OK			TP-7
135	1.3 PPM	OK			EW-49
136	1.3 PPM	OK			EW-83
137	1.8 PPM	OK			EW-65
138	1.7 PPM	OK			EW-81
139	1.0 PPM	OK			TP-8
140	4.2 PPM	OK			EW-64
141	2.5 PPM	OK			EW-63
142	1.1 PPM	OK			EW-42
143	33.0 PPM	OK			EW-76
144	116.0 PPM	OK			TP-9
145	0.9 PPM	OK			EW-62
146	160.0 PPM	OK			EW-29R

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 8, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
147	172.0 PPM	OK			EW-74
148	1.1 PPM	OK			EW-32R
149	0.4 PPM	OK			EW-69
150	0.4 PPM	OK			EW-71
151	0.2 PPM	OK			EW-72
152	103.0 PPM	OK			EW-73
153	9.9 PPM	OK			EW-78
154	20.1 PPM	OK			EW-82
155	0.3 PPM	OK			EW-36A
156	0.2 PPM	OK			EW-85
157	1.5 PPM	OK			EW-88
158	196.0 PPM	OK			EW-89
159	8.6 PPM	OK			EW-93
160	0.8 PPM	OK			EW-94
161	0.6 PPM	OK			EW-98
162	3.1 PPM	OK			EW-99
163	434.0 PPM	OK			EW-95
164	169.0 PPM	OK			EW-90
165	0.8 PPM	OK			EW-86
166	0.3 PPM	OK			EW-84
167	0.8 PPM	OK			EW-80
168	0.3 PPM	OK			EW-79
169	0.1 PPM	OK			EW-77
170	0.4 PPM	OK			EW-33B
171	0.2 PPM	OK			EW-75

Number of locations sampled:	171
Number of exceedance locations:	2

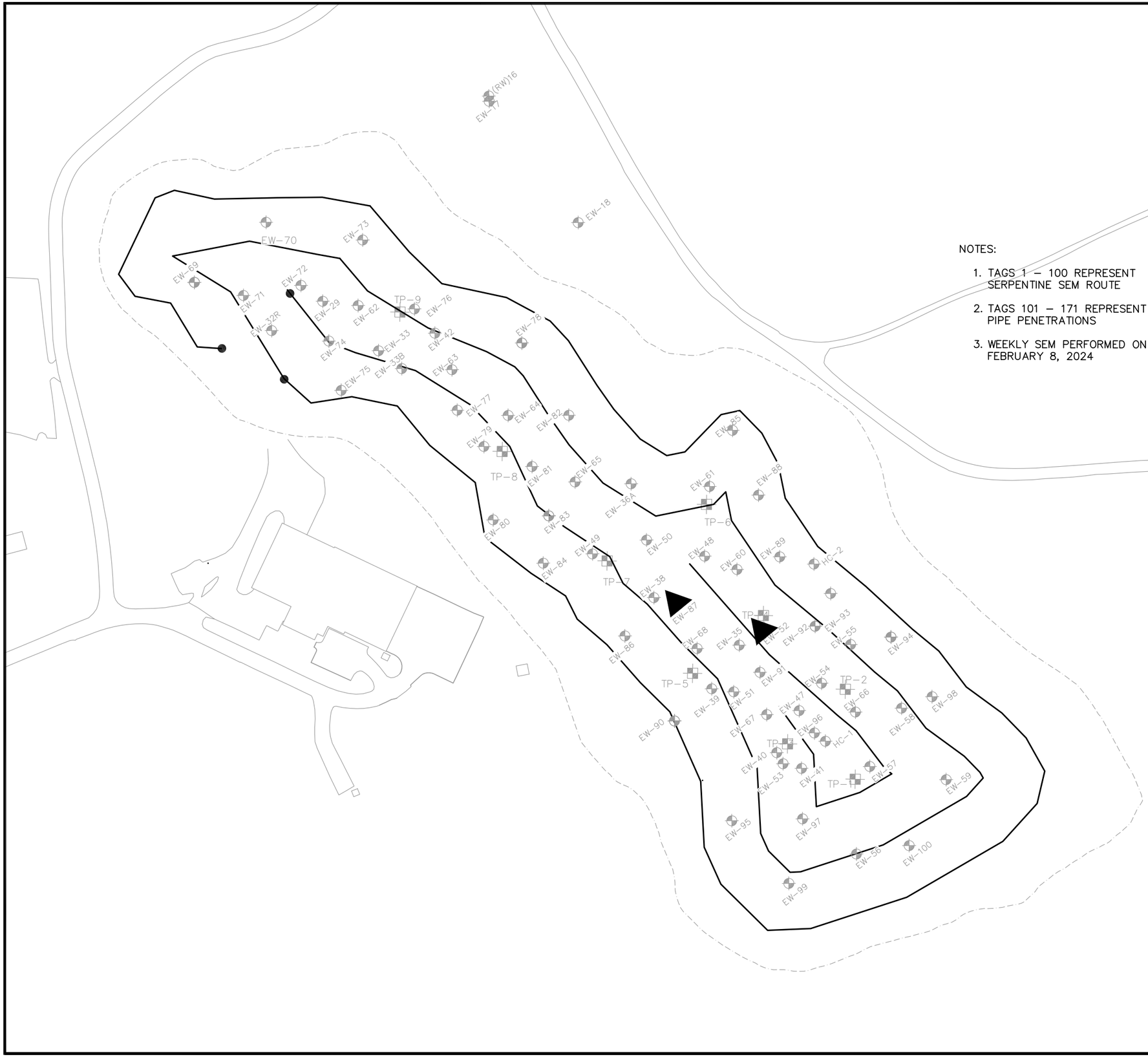
NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 171 represent SEM at Pipe Penetrations
Weather Conditions: Overcast 61°F Wind: 9 MPH SW

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

2/8/2024	11:25	ZERO	0.1	PPM
2/8/2024	11:27	SPAN	500.0	PPM

Background Reading:

2/8/2024	11:34	Upwind	2.4	PPM
2/8/2024	11:39	Downwind	1.9	PPM



1

NO.	REVISION	DATE

SHEET TITLE
WEEKLY SEM ROUTE

PROJECT TITLE
SURFACE EMISSIONS MONITORING
SOLID WASTE PERMIT #588

CLIENT
CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15321 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

PROJ. NO.	DWN. BY:	C/A R/W BY:
02218208.04	LSN	
DSN. BY:	CHK. BY:	APP. BY:
LSN	DBK	

FILE: 02218208.04
DATE: 2/8/24
SCALE: AS SHOWN
DRAWING NO.

of 1

February 21, 2024
File No. 02218208.04

Mr. Jonathan Chapman
Enforcement Specialist
Virginia Department of Environmental Quality
SW Regional Office
355-A Deadmore Street
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 14, 2024
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Facility located in Bristol, Virginia on February 14, 2024. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes and the newly installed and connected gas extraction wells. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory time schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.

Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	170
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	70
Number of Exceedances	2
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	2

REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive re-tests.

A summary of ongoing exceedance points is provided in Table 2.

Table 2. Ongoing Weekly SEM Exceedances

Point ID	Initial Exceedance Date	2/14/24 Event	2/14/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-55	1/17/24	1-Month Retest	Failed	Requires 10-Day Retest
EW-58	1/17/24	1-Month Retest	Passed	Exceedance Resolved
EW-98	1/17/24	1-Month Retest	Passed	Exceedance Resolved
EW-94	1/17/24	1-Month Retest	Passed	Exceedance Resolved
EW-90	1/17/24	1-Month Retest	Passed	Exceedance Resolved
EW-95	1/31/24	N/A	Passed	Requires 1-Month Retest
EW-52	2/8/24	10-Day Retest	Passed	Requires 1-Month Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,

William J. Fabrie

Lucas S. Nachman

William J. Fabrie
Staff Professional
SCS Engineers

Lucas S. Nachman
Senior Project Professional
SCS Engineers

LSN/WJF/cjw

cc: Randall Eads, City of Bristol
Jonathan Hayes, City of Bristol
Jake Chandler, City of Bristol
Laura Socia, City of Bristol
Susan “Tracey” Blalock, VDEQ

Encl. Surface Emissions Monitoring Results
Bristol SEM Route Drawing

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 14, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	3.0 PPM	OK			Start Serpentine Route
2	1.9 PPM	OK			
3	1.9 PPM	OK			
4	1.4 PPM	OK			
5	1.4 PPM	OK			
6	1.5 PPM	OK			
7	1.3 PPM	OK			
8	1.3 PPM	OK			
9	1.3 PPM	OK			
10	1.2 PPM	OK			
11	1.4 PPM	OK			
12	1.2 PPM	OK			
13	1.3 PPM	OK			
14	1.2 PPM	OK			
15	1.8 PPM	OK			
16	1.3 PPM	OK			
17	1.3 PPM	OK			
18	1.4 PPM	OK			
19	2.6 PPM	OK			
20	1.1 PPM	OK			
21	1.4 PPM	OK			
22	1.6 PPM	OK			
23	5.5 PPM	OK			
24	1.1 PPM	OK			
25	1.4 PPM	OK			
26	1.2 PPM	OK			
27	1.5 PPM	OK			
28	1.6 PPM	OK			
29	8.5 PPM	OK			
30	18.2 PPM	OK			
31	7.5 PPM	OK			
32	57.2 PPM	OK			
33	37.9 PPM	OK			
34	50.2 PPM	OK			
35	166.0 PPM	OK			
36	2.1 PPM	OK			
37	2.9 PPM	OK			
38	6.9 PPM	OK			
39	1.2 PPM	OK			
40	1.1 PPM	OK			
41	1.1 PPM	OK			
42	1.1 PPM	OK			
43	2.8 PPM	OK			
44	0.9 PPM	OK			
45	0.9 PPM	OK			
46	0.9 PPM	OK			
47	0.9 PPM	OK			
48	0.9 PPM	OK			
49	0.9 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 14, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
50	0.8 PPM	OK			
51	0.8 PPM	OK			
52	1.0 PPM	OK			
53	4.5 PPM	OK			
54	0.8 PPM	OK			
55	0.7 PPM	OK			
56	0.8 PPM	OK			
57	1.8 PPM	OK			
58	2.6 PPM	OK			
59	2.2 PPM	OK			
60	1.2 PPM	OK			
61	0.7 PPM	OK			
62	31.8 PPM	OK			
63	1.7 PPM	OK			
64	1.6 PPM	OK			
65	1.6 PPM	OK			
66	1.3 PPM	OK			
67	1.0 PPM	OK			
68	1.2 PPM	OK			
69	23.2 PPM	OK			
70	8.2 PPM	OK			
71	16.7 PPM	OK			
72	7.0 PPM	OK			
73	3.6 PPM	OK			
74	16.0 PPM	OK			
75	3.8 PPM	OK			
76	12.6 PPM	OK			
77	11.3 PPM	OK			
78	10.4 PPM	OK			
79	1.4 PPM	OK			
80	3.7 PPM	OK			
81	1.1 PPM	OK			
82	1.1 PPM	OK			
83	2.5 PPM	OK			
84	1.3 PPM	OK			
85	1.4 PPM	OK			
86	2.5 PPM	OK			
87	1.3 PPM	OK			
88	0.9 PPM	OK			
89	1.3 PPM	OK			
90	0.8 PPM	OK			
91	41.9 PPM	OK			
92	7.9 PPM	OK			
93	40.7 PPM	OK			
94	3.3 PPM	OK			
95	6.9 PPM	OK			
96	0.9 PPM	OK			
97	0.6 PPM	OK			
98	0.7 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 14, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
99	0.8 PPM	OK			
100	2.2 PPM	OK			End Serpentine Route
101	435.0 PPM	OK			EW-35
102	309.0 PPM	OK			EW-52
103	2.9 PPM	OK			TP-4
104	20.7 PPM	OK			EW-60
105	28.2 PPM	OK			EW-48
106	4.6 PPM	OK			TP-6
107	0.6 PPM	OK			EW-61
108	1.1 PPM	OK			EW-50
109	173.0 PPM	OK			EW-67
110	9.9 PPM	OK			EW-47
111	13.0 PPM	OK			EW-54
112	2251.0 PPM	HIGH_ALRM	36.59869	-82.14716	EW-55
113	2.2 PPM	OK			EW-92
114	21.6 PPM	OK			EW-91
115	4.0 PPM	OK			EW-96
116	1.8 PPM	OK			TP-2
117	1.2 PPM	OK			EW-66
118	0.9 PPM	OK			EW-58
119	5.4 PPM	OK			EW-57
120	25.0 PPM	OK			TP-1
121	7.4 PPM	OK			EW-59
122	15.6 PPM	OK			EW-100
123	59.8 PPM	OK			EW-56
124	2.3 PPM	OK			EW-97
125	1.8 PPM	OK			EW-41
126	28.7 PPM	OK			EW-53
127	4.5 PPM	OK			TP-3
128	1.6 PPM	OK			EW-51
129	3.0 PPM	OK			EW-39
130	1.2 PPM	OK			TP-5
131	6.1 PPM	OK			EW-68
132	816.0 PPM	HIGH_ALRM	36.59935	-82.14782	EW-87
133	488.0 PPM	OK			EW-38
134	101.0 PPM	OK			TP-7
135	0.8 PPM	OK			EW-49
136	0.5 PPM	OK			EW-83
137	0.3 PPM	OK			EW-65
138	2.7 PPM	OK			EW-81
139	0.4 PPM	OK			TP-8
140	0.7 PPM	OK			EW-64
141	0.2 PPM	OK			EW-63
142	0.1 PPM	OK			EW-42
143	358.0 PPM	OK			EW-76
144	2.7 PPM	OK			TP-9
145	0.3 PPM	OK			EW-62
146	0.3 PPM	OK			EW-29R

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 14, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
147	0.9 PPM	OK			EW-74
148	0.2 PPM	OK			EW-32R
149	0.1 PPM	OK			EW-69
150	0.1 PPM	OK			EW-71
151	0.3 PPM	OK			EW-72
152	1.2 PPM	OK			EW-73
153	0.2 PPM	OK			EW-78
154	3.9 PPM	OK			EW-36A
155	0.6 PPM	OK			EW-85
156	0.4 PPM	OK			EW-88
157	1.3 PPM	OK			EW-89
158	3.0 PPM	OK			EW-93
159	0.4 PPM	OK			EW-94
160	0.3 PPM	OK			EW-98
161	34.9 PPM	OK			EW-99
162	6.3 PPM	OK			EW-95
163	98.6 PPM	OK			EW-90
164	8.0 PPM	OK			EW-86
165	0.3 PPM	OK			EW-84
166	0.6 PPM	OK			EW-80
167	0.4 PPM	OK			EW-79
168	0.3 PPM	OK			EW-77
169	16.4 PPM	OK			EW-33B
170	0.4 PPM	OK			EW-75

Number of locations sampled:	170
Number of exceedance locations:	2

NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 170 represent SEM at Pipe Penetrations
Weather Conditions: Partly Cloudy 54°F Wind: 11 MPH NW

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

2/14/2024	12:36	ZERO	0.1	PPM
2/14/2024	12:37	SPAN	501.0	PPM

Background Reading:

2/14/2024	12:40	Upwind	2.0	PPM
2/14/2024	12:47	Downwind	1.6	PPM

NOTES:

1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
2. TAGS 101 – 170 REPRESENT SEM AT PIPE PENETRATIONS
3. WEEKLY SEM PERFORMED ON FEBRUARY 14, 2024

0 80 160 240
SCALE IN FEET

LEGEND

- SEM ROUTE
- GAS WELL
- TEMPERATURE PROBE
- 79 EXCEEDANCE LOCATION
- 75 MONITORING ROUTE ENDPOINT

NO.	REVISION	DATE

SHEET TITLE
WEEKLY SEM ROUTE

PROJECT TITLE
SURFACE EMISSIONS MONITORING
SOLID WASTE PERMIT #588

CLIENT
CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
1521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH: (804) 378-7440 FAX: (804) 378-7433

PROJ. NO.	DWN. BY:	CHK. BY:	QA/A RVW BY:	APP. BY:
02218208.04	LSN	DBK		
DSN. BY: LSN				

FILE: 02218208.04

DATE: 2/14/24

SCALE: AS SHOWN

DRAWING NO.

February 28, 2024
File No. 02218208.04

Mr. Jonathan Chapman
Enforcement Specialist
Virginia Department of Environmental Quality
SW Regional Office
355-A Deadmore Street
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 20, 2024
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Facility located in Bristol, Virginia on February 20, 2024. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes and the newly installed and connected gas extraction wells. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory time schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.

Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	171
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	71
Number of Exceedances	3
Number of Serpentine Exceedances	1
Number of Pipe Penetration Exceedances	2

REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive re-tests.

A summary of ongoing exceedance points is provided in Table 2.

Table 2. Ongoing Weekly SEM Exceedances

Point ID	Initial Exceedance Date	2/20/24 Event	2/20/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-55	1/17/24	1-Month Retest Follow-Up	Passed	Exceedance Resolved
EW-95	1/31/24	N/A	Passed	Requires 1-Month Retest
EW-52	2/8/24	N/A	Passed	Requires 1-Month Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,

Wylie Hicklin

Lucas S. Nachman

Wylie R Hicklin
Associate Professional
SCS Engineers

Lucas S. Nachman
Senior Project Professional
SCS Engineers

LSN/WRH/cjw

cc: Randall Eads, City of Bristol
Jonathan Hayes, City of Bristol
Jake Chandler, City of Bristol
Laura Socia, City of Bristol
Susan “Tracey” Blalock, VDEQ

Encl. Surface Emissions Monitoring Results
Bristol SEM Route Drawing

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 20, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	0.2 PPM	OK			Start Serpentine Route
2	0.0 PPM	OK			
3	0.0 PPM	OK			
4	0.0 PPM	OK			
5	0.1 PPM	OK			
6	0.3 PPM	OK			
7	0.5 PPM	OK			
8	0.7 PPM	OK			
9	0.6 PPM	OK			
10	0.3 PPM	OK			
11	4.0 PPM	OK			
12	0.0 PPM	OK			
13	15.7 PPM	OK			
14	0.7 PPM	OK			
15	0.6 PPM	OK			
16	1.9 PPM	OK			
17	10.2 PPM	OK			
18	1.0 PPM	OK			
19	0.3 PPM	OK			
20	0.3 PPM	OK			
21	15.3 PPM	OK			
22	6.5 PPM	OK			
23	2.2 PPM	OK			
24	15.3 PPM	OK			
25	26.0 PPM	OK			
26	16.5 PPM	OK			
27	49.8 PPM	OK			
28	40.4 PPM	OK			
29	678.0 PPM	HIGH_ALRM	36.59773	-82.14817	
30	6.8 PPM	OK			
31	5.3 PPM	OK			
32	4.6 PPM	OK			
33	0.5 PPM	OK			
34	4.7 PPM	OK			
35	0.6 PPM	OK			
36	0.6 PPM	OK			
37	0.7 PPM	OK			
38	0.6 PPM	OK			
39	0.5 PPM	OK			
40	0.0 PPM	OK			
41	0.1 PPM	OK			
42	0.3 PPM	OK			
43	0.9 PPM	OK			
44	0.3 PPM	OK			
45	1.6 PPM	OK			
46	0.4 PPM	OK			
47	3.6 PPM	OK			
48	0.0 PPM	OK			
49	0.9 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 20, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
50	1.4 PPM	OK			
51	1.0 PPM	OK			
52	0.0 PPM	OK			
53	0.5 PPM	OK			
54	0.6 PPM	OK			
55	1.8 PPM	OK			
56	1.0 PPM	OK			
57	1.3 PPM	OK			
58	4.1 PPM	OK			
59	7.2 PPM	OK			
60	28.2 PPM	OK			
61	5.9 PPM	OK			
62	2.5 PPM	OK			
63	23.0 PPM	OK			
64	0.2 PPM	OK			
65	1.1 PPM	OK			
66	3.8 PPM	OK			
67	3.1 PPM	OK			
68	408.0 PPM	OK			
69	6.3 PPM	OK			
70	21.2 PPM	OK			
71	14.4 PPM	OK			
72	2.0 PPM	OK			
73	2.6 PPM	OK			
74	0.0 PPM	OK			
75	0.9 PPM	OK			
76	1.3 PPM	OK			
77	0.0 PPM	OK			
78	0.5 PPM	OK			
79	0.1 PPM	OK			
80	0.1 PPM	OK			
81	0.1 PPM	OK			
82	0.1 PPM	OK			
83	0.0 PPM	OK			
84	0.0 PPM	OK			
85	0.0 PPM	OK			
86	1.4 PPM	OK			
87	0.2 PPM	OK			
88	0.0 PPM	OK			
89	0.0 PPM	OK			
90	0.0 PPM	OK			
91	0.0 PPM	OK			
92	0.0 PPM	OK			
93	0.0 PPM	OK			
94	0.0 PPM	OK			
95	0.0 PPM	OK			
96	0.0 PPM	OK			
97	0.0 PPM	OK			
98	0.0 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 20, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
99	0.0 PPM	OK			
100	0.1 PPM	OK			End Serpentine Route
101	0.0 PPM	OK			EW-69
102	0.0 PPM	OK			EW-71
103	0.1 PPM	OK			EW-32R
104	0.0 PPM	OK			EW-72
105	0.2 PPM	OK			EW-29R
106	0.3 PPM	OK			EW-62
107	0.1 PPM	OK			EW-74
108	36.1 PPM	OK			EW-33B
109	0.1 PPM	OK			EW-75
110	0.2 PPM	OK			EW-63
111	0.1 PPM	OK			EW-77
112	0.9 PPM	OK			EW-79
113	0.2 PPM	OK			TP-8
114	0.0 PPM	OK			EW-64
115	1.2 PPM	OK			EW-81
116	0.9 PPM	OK			EW-80
117	0.6 PPM	OK			EW-83
118	0.2 PPM	OK			EW-65
119	0.0 PPM	OK			EW-84
120	3.4 PPM	OK			EW-49
121	365.0 PPM	OK			TP-7
122	1.6 PPM	OK			EW-50
123	50.0 PPM	OK			EW-38
124	0.9 PPM	OK			EW-86
125	665.0 PPM	HIGH_ALRM	36.59934	-82.14782	EW-87
126	20.7 PPM	OK			EW-68
127	164.0 PPM	OK			EW-90
128	1.5 PPM	OK			TP-5
129	5.8 PPM	OK			EW-39
130	13.3 PPM	OK			EW-51
131	162.0 PPM	OK			EW-91
132	325.0 PPM	OK			EW-35
133	192.0 PPM	OK			EW-52
134	14.7 PPM	OK			TP-4
135	9.6 PPM	OK			EW-92
136	23.0 PPM	OK			EW-55
137	5.2 PPM	OK			EW-54
138	10.4 PPM	OK			EW-47
139	73.3 PPM	OK			EW-67
140	8.3 PPM	OK			TP-3
141	32.0 PPM	OK			EW-53
142	8.5 PPM	OK			EW-41
143	3.0 PPM	OK			EW-97
144	5.1 PPM	OK			EW-95
145	6.8 PPM	OK			EW-99
146	18.8 PPM	OK			EW-56

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - FEBRUARY 20, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
147	41.6 PPM	OK			EW-100
148	0.2 PPM	OK			EW-59
149	29.8 PPM	OK			TP-1
150	40.7 PPM	OK			EW-57
151	0.0 PPM	OK			EW-98
152	0.0 PPM	OK			EW-58
153	2496.0 PPM	HIGH_ALRM	36.59857	-82.14760	EW-66
154	0.4 PPM	OK			TP-2
155	0.0 PPM	OK			EW-96
156	0.3 PPM	OK			EW-94
157	2.0 PPM	OK			EW-93
158	1.8 PPM	OK			EW-89
159	66.9 PPM	OK			EW-60
160	52.7 PPM	OK			EW-48
161	0.4 PPM	OK			TP-6
162	3.9 PPM	OK			EW-61
163	0.0 PPM	OK			EW-85
164	0.0 PPM	OK			EW-88
165	0.4 PPM	OK			EW-36A
166	0.5 PPM	OK			EW-82
167	11.0 PPM	OK			EW-78
168	0.8 PPM	OK			EW-42
169	19.9 PPM	OK			EW-76
170	0.4 PPM	OK			TP-9
171	0.2 PPM	OK			EW-73

Number of locations sampled:	171
Number of exceedance locations:	3

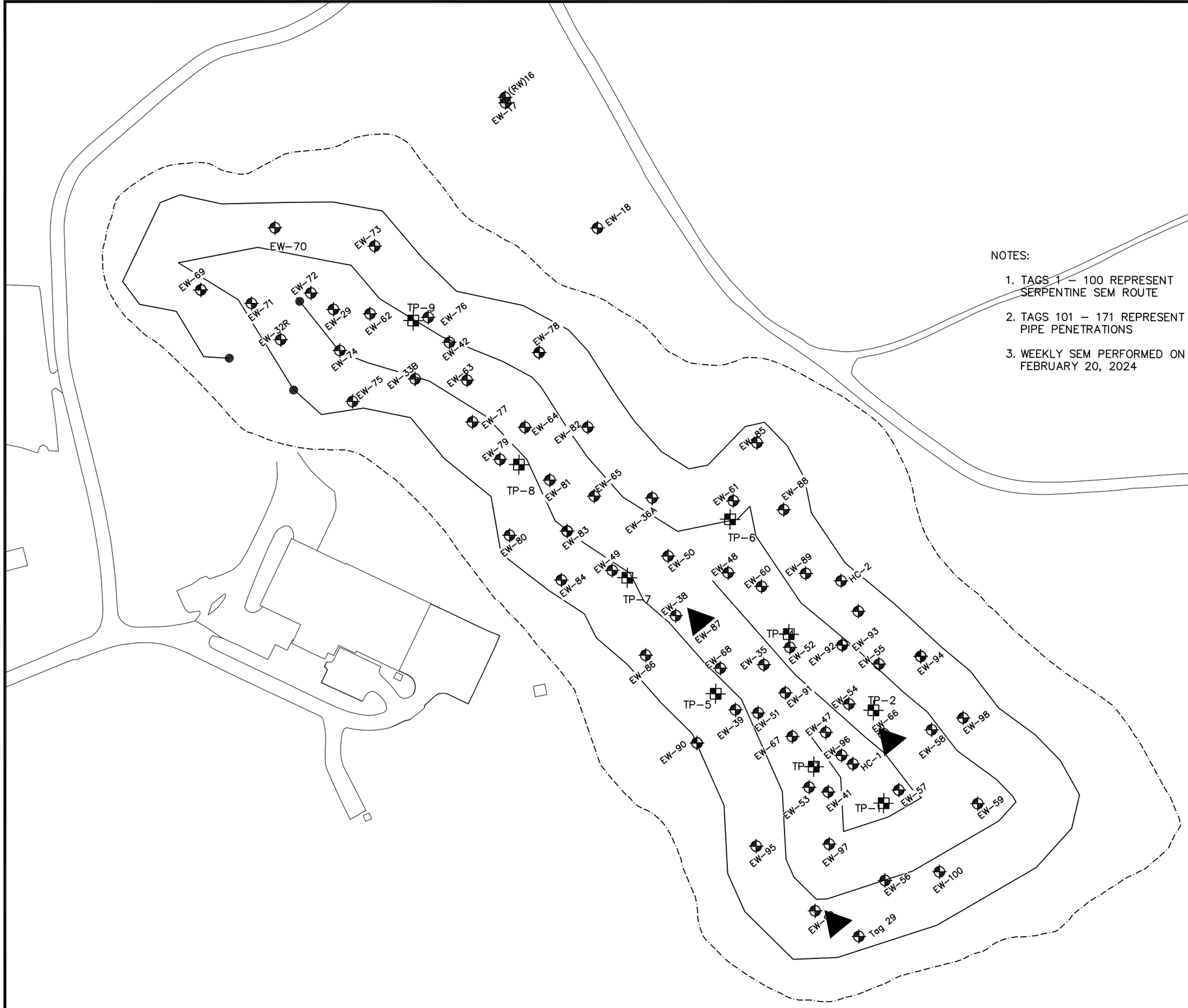
NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 171 represent SEM at Pipe Penetrations
Weather Conditions: Sunny 51°F Wind: 6 MPH E

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

2/20/2024	10:08	ZERO	0.1	PPM
2/20/2024	10:18	SPAN	496.0	PPM

Background Reading:

2/20/2024	10:28	Upwind	0.0	PPM
2/20/2024	10:36	Downwind	0.2	PPM



NOTES:

1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
2. TAGS 101 – 171 REPRESENT SEM AT PIPE PENETRATIONS
3. WEEKLY SEM PERFORMED ON FEBRUARY 20, 2024

0 80 160 240
SCALE IN FEET

LEGEND

- SEM ROUTE
- GAS WELL
- TEMPERATURE PROBE
- 79 EXCEEDANCE LOCATION
- 75 MONITORING ROUTE ENDPOINT

N

1

NO.	REVISION	DATE

SHEET TITLE
WEEKLY SEM ROUTE

PROJECT TITLE
SURFACE EMISSIONS MONITORING
SOLID WASTE PERMIT #588

CLIENT
CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH: (804) 378-7440 FAX: (804) 378-7433

PROJ. NO.	DWN. BY:	Q/A RVW BY:
02218208.04	LSN	
DSN. BY:	CHK. BY:	APP. BY:
LSN	DBK	

FILE: 02218208.04
DATE: 2/20/24
SCALE: AS SHOWN
DRAWING NO.

of 1

Appendix B

In-Waste Temperatures on Select Days in February

Appendix B Figures

Figure B - 1 Average Temperatures Recorded by TP-1 on February 7, 2024

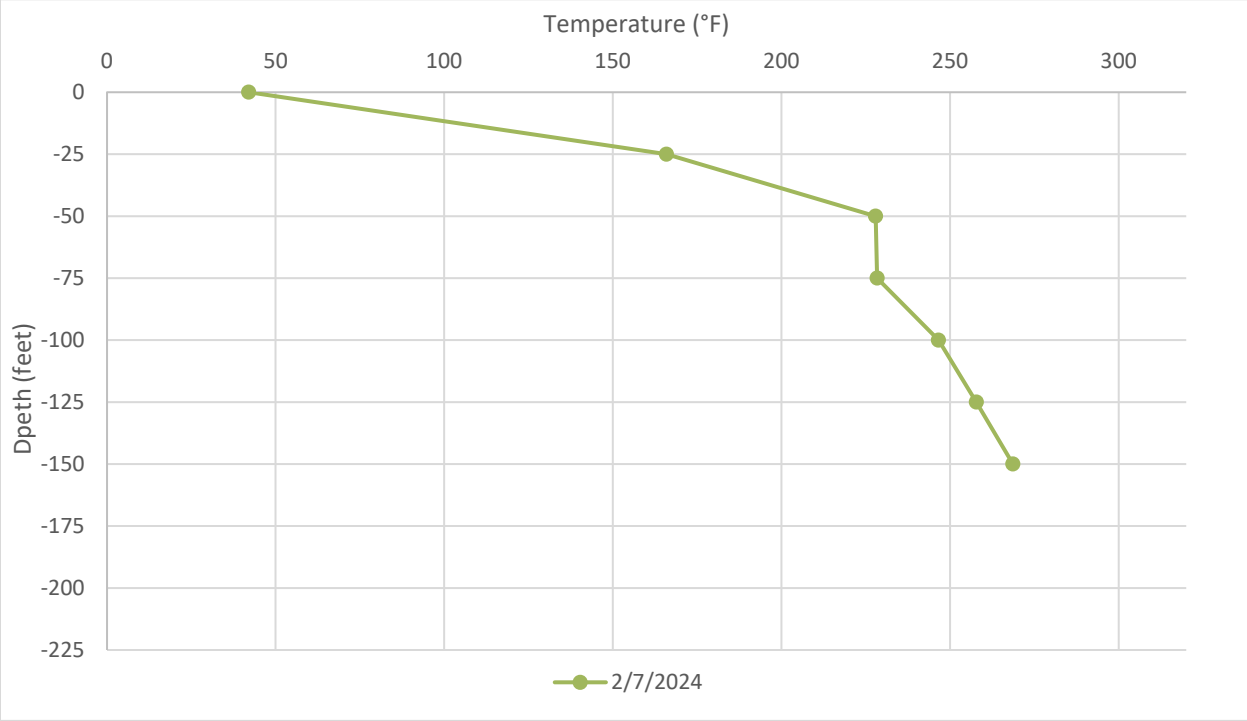


Figure B - 2 Average Temperatures Recorded by TP-1 on February 14, 2024

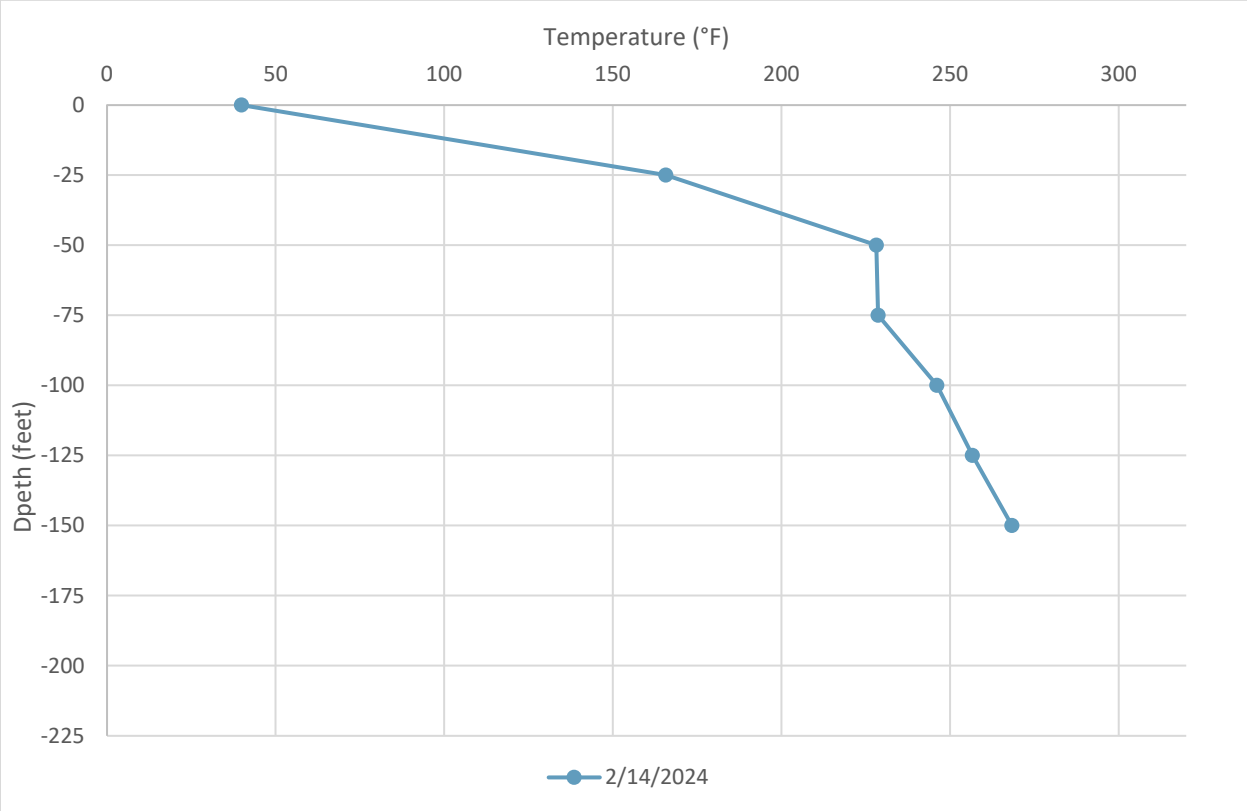


Figure B - 3 Average Temperatures Recorded by TP-1 on February 21, 2024

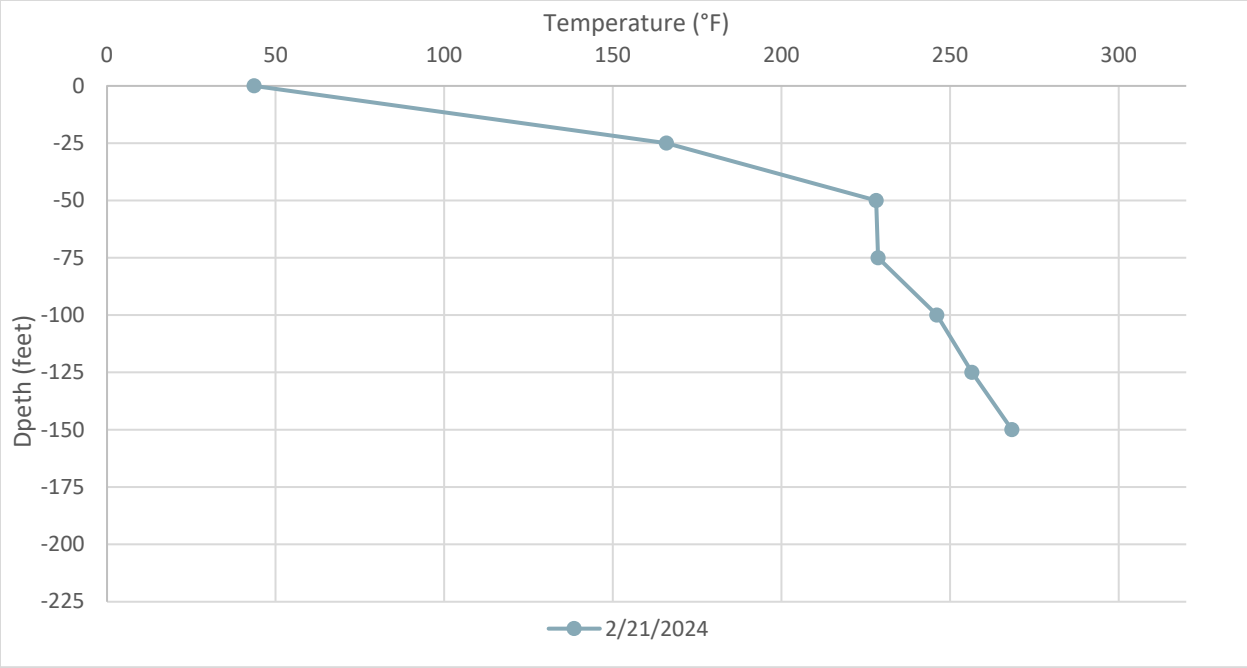


Figure B - 4 Average Temperatures Recorded by TP-1 on February 28, 2024

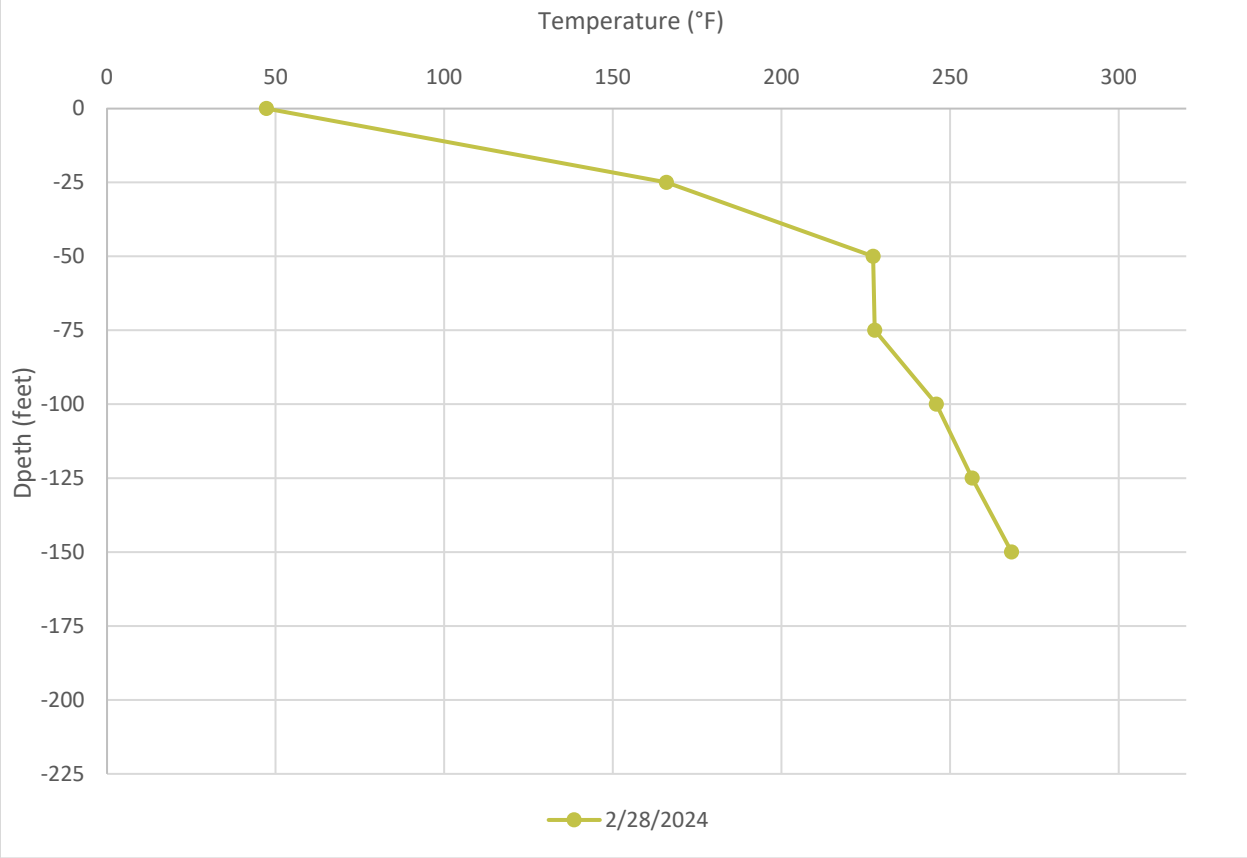


Figure B - 5 Average Temperatures Recorded by TP-2 on February 7, 2024

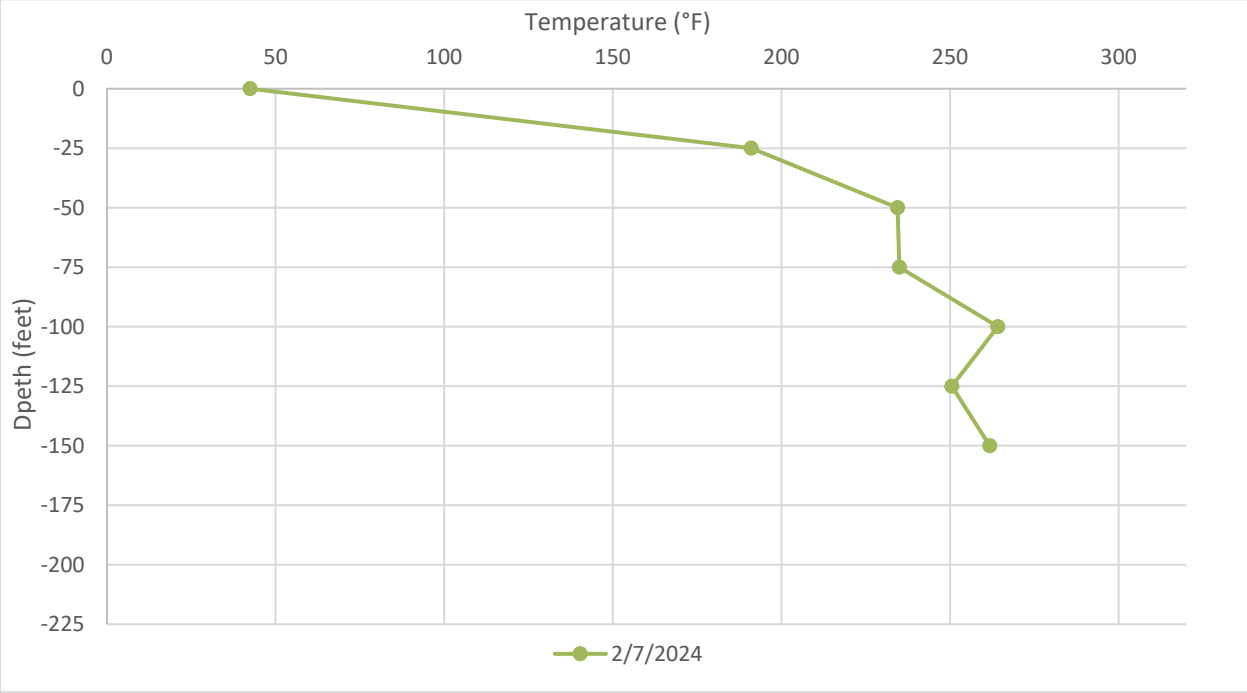


Figure B - 6 Average Temperatures Recorded by TP-2 on February 14, 2024

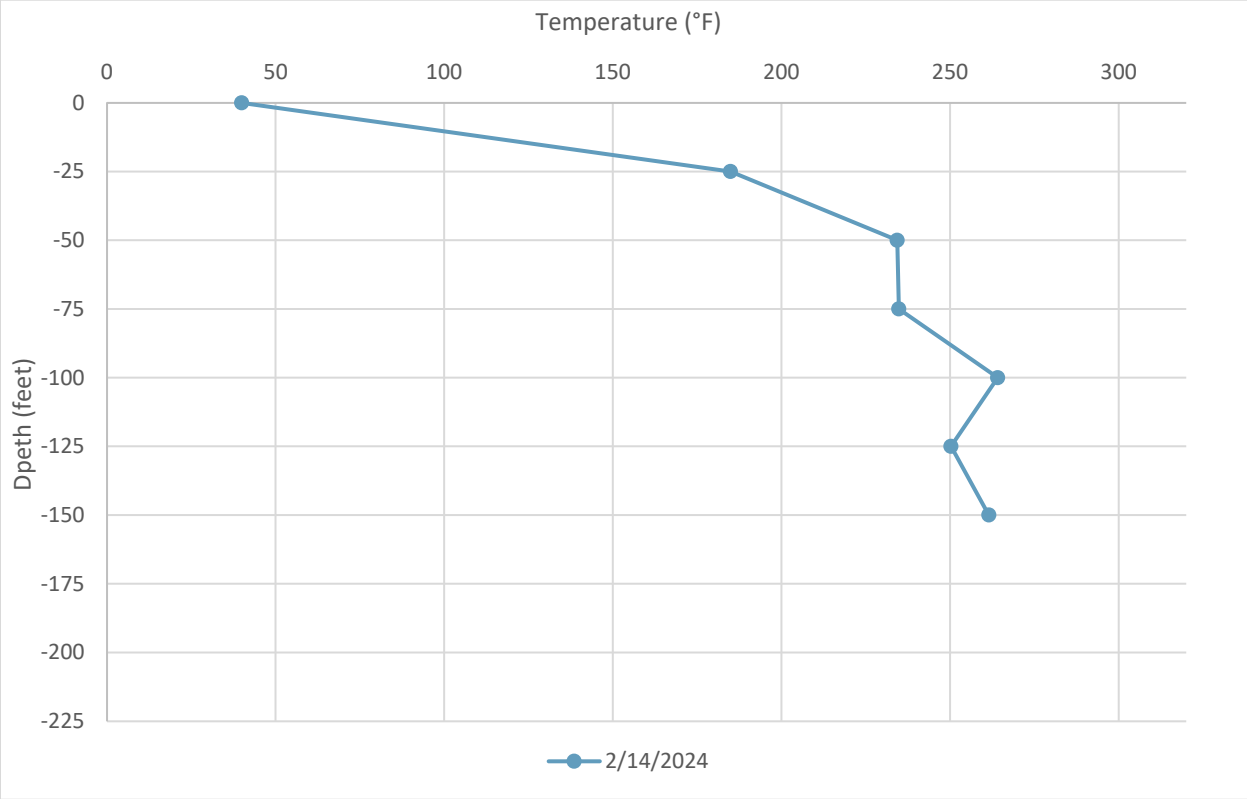


Figure B - 7 Average Temperatures Recorded by TP-2 on February 21, 2024

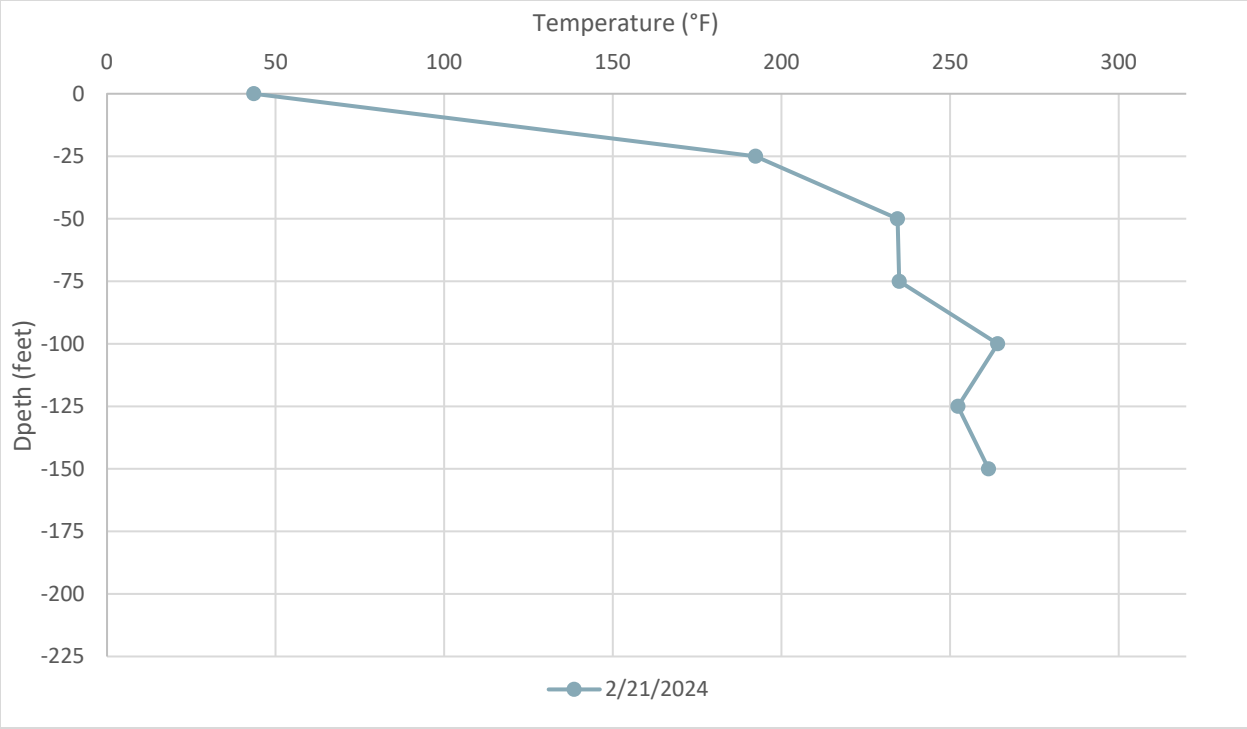


Figure B - 8 Average Temperatures Recorded by TP-2 on February 28, 2024

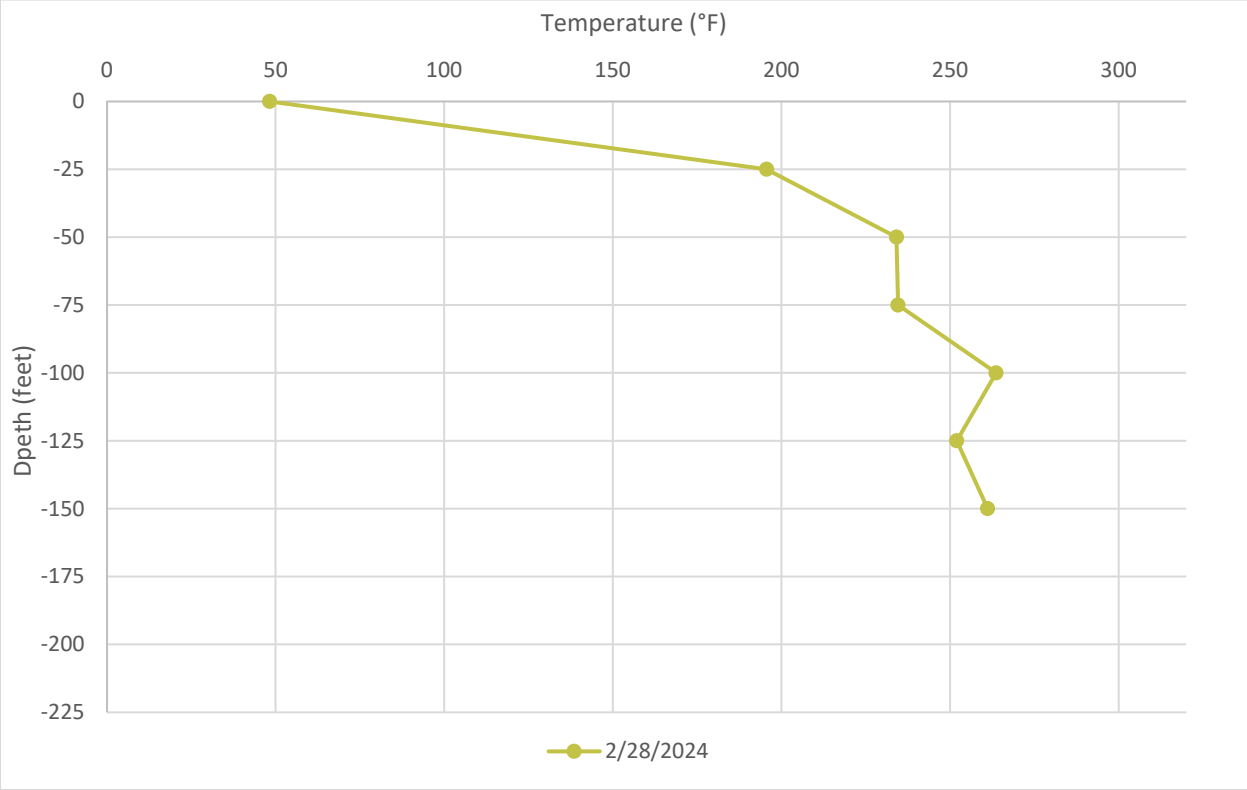


Figure B - 9 Average Temperatures Recorded by TP-3 on February 7, 2024

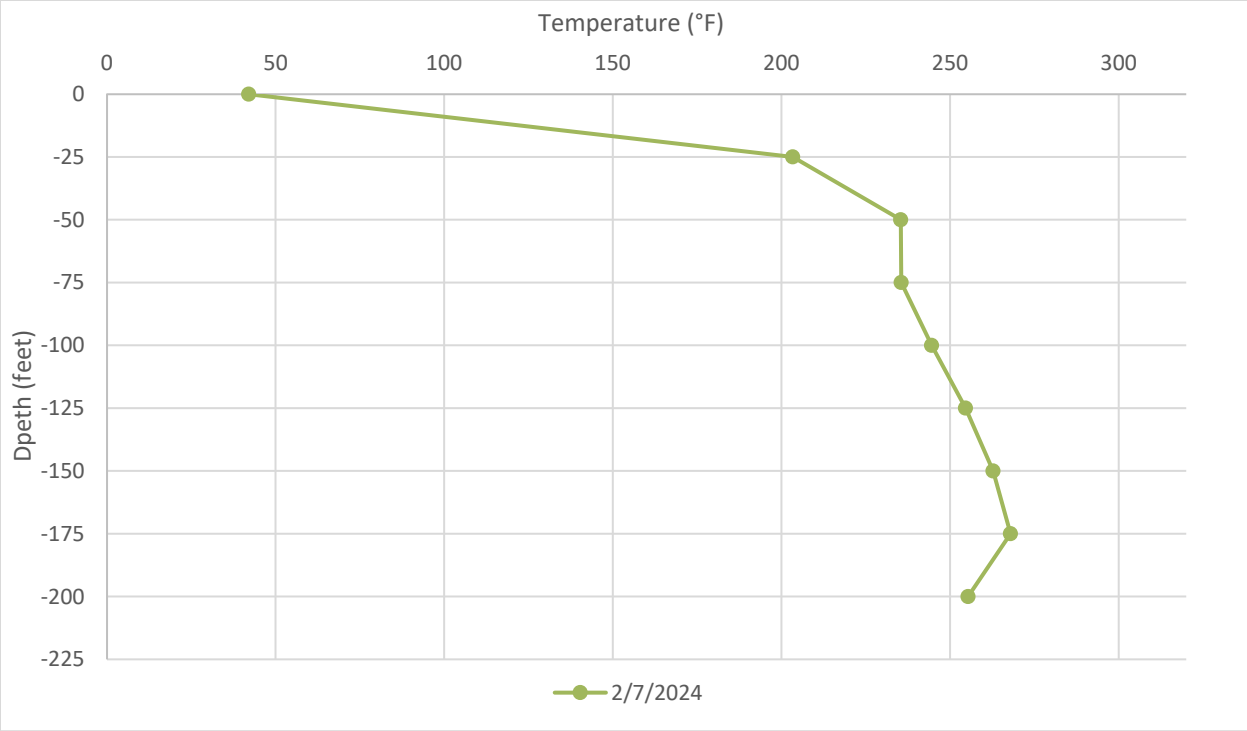


Figure B - 10 Average Temperatures Recorded by TP-3 on February 14, 2024

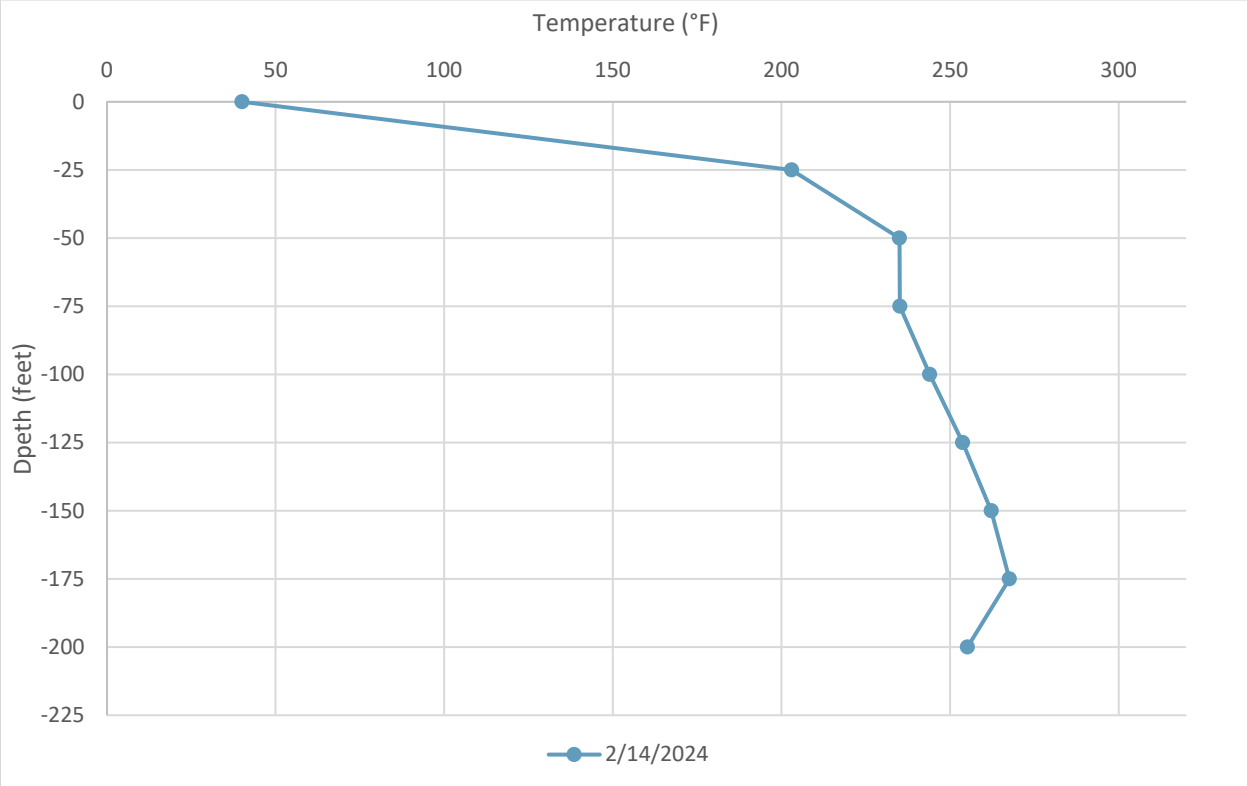


Figure B - 11 Average Temperatures Recorded by TP-3 on February 21, 2024

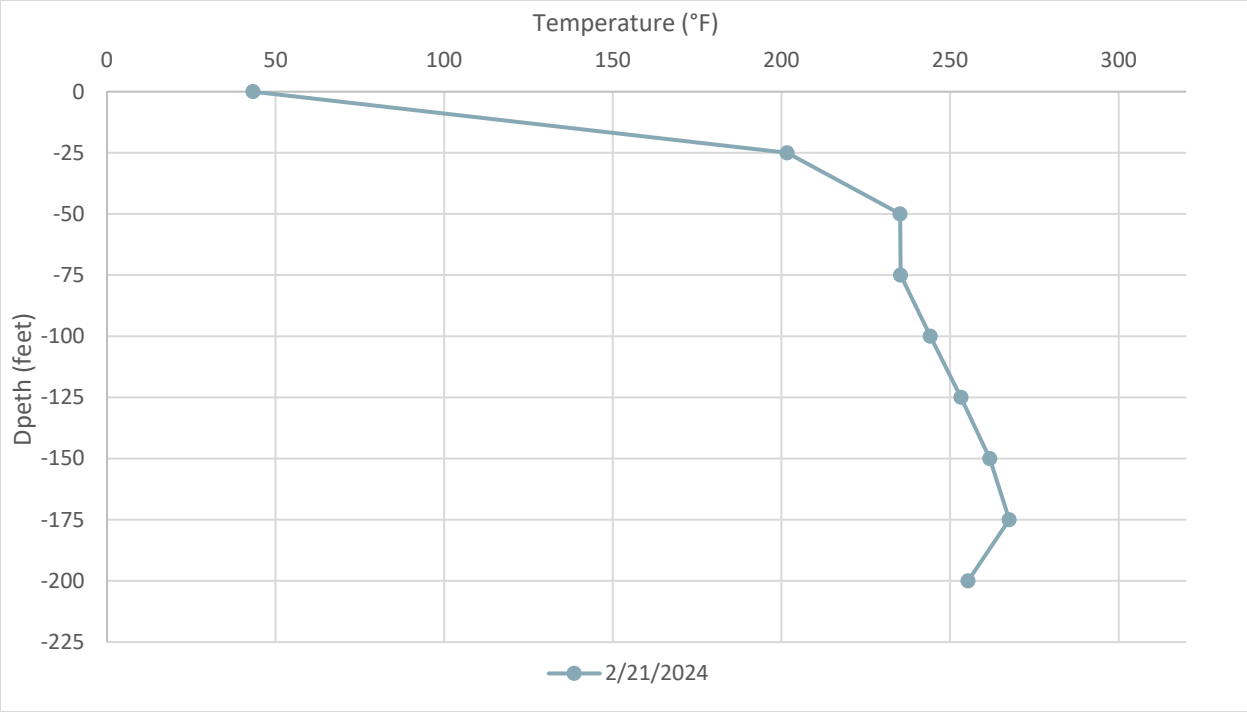


Figure B - 12 Average Temperatures Recorded by TP-3 on February 28, 2024

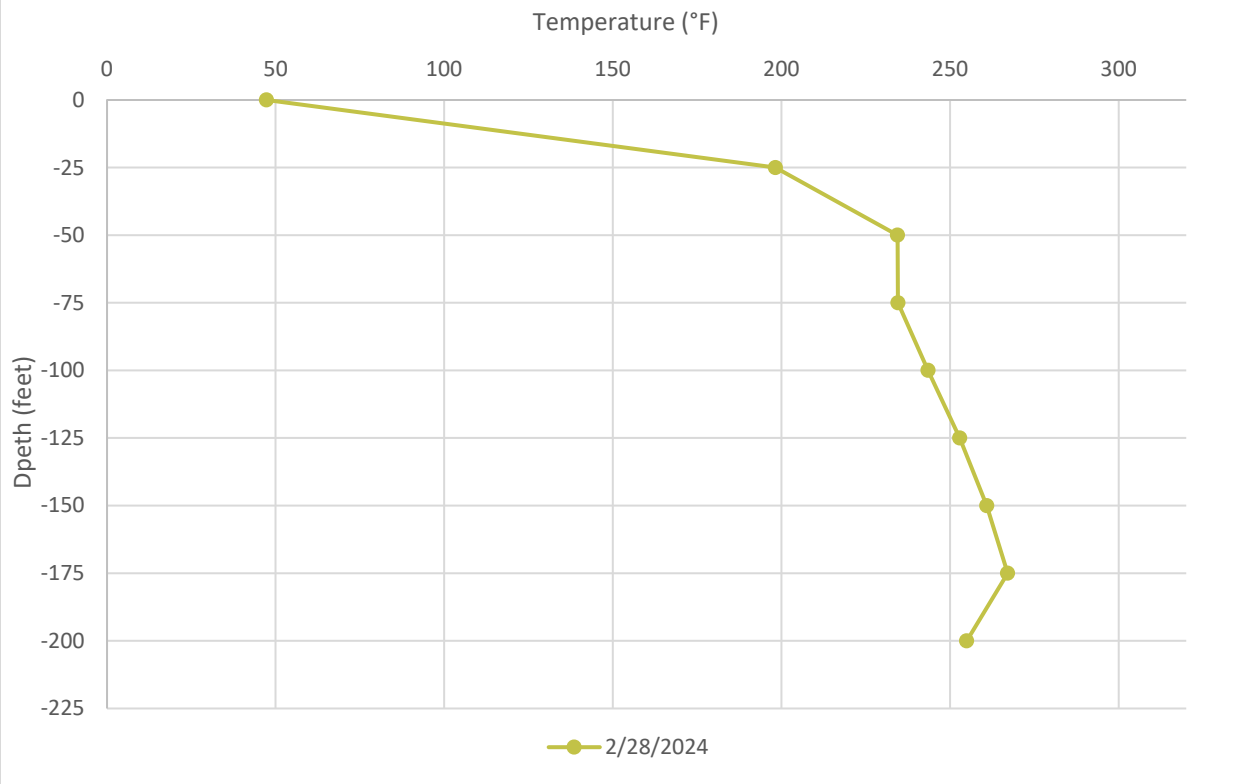


Figure B - 13 Average Temperatures Recorded by TP-4 on February 7, 2024

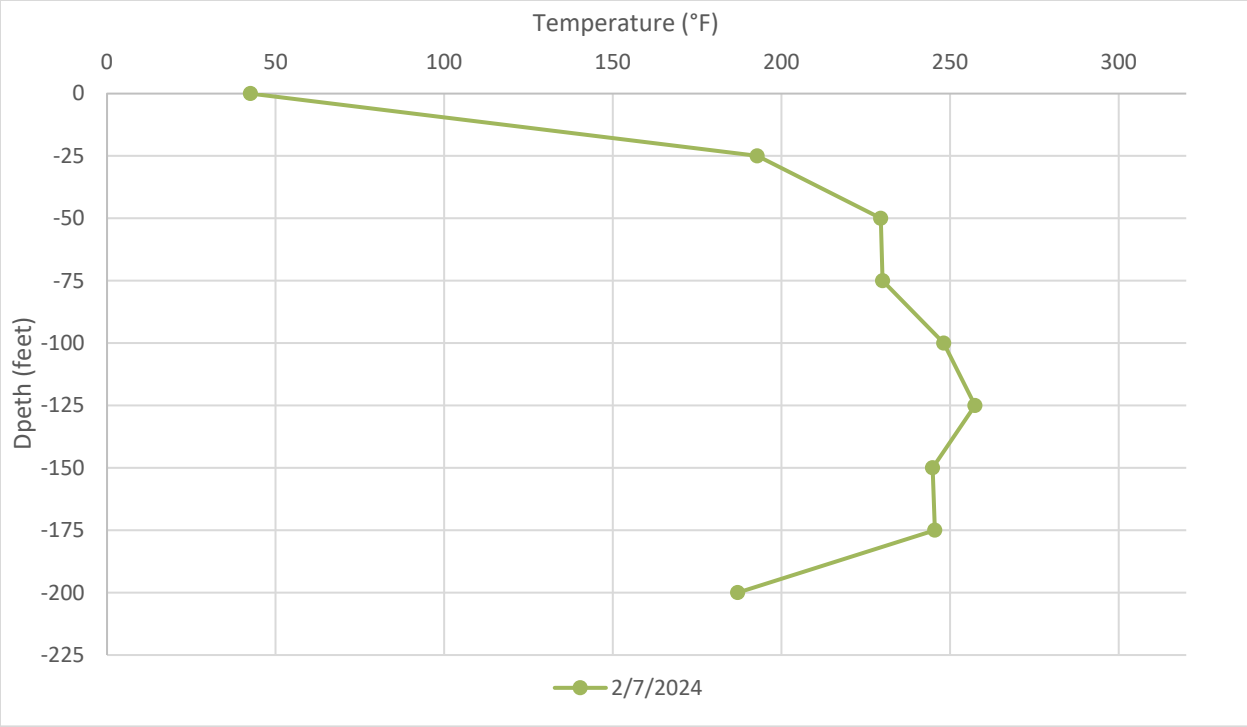


Figure B - 14 Average Temperatures Recorded by TP-4 on February 14, 2024

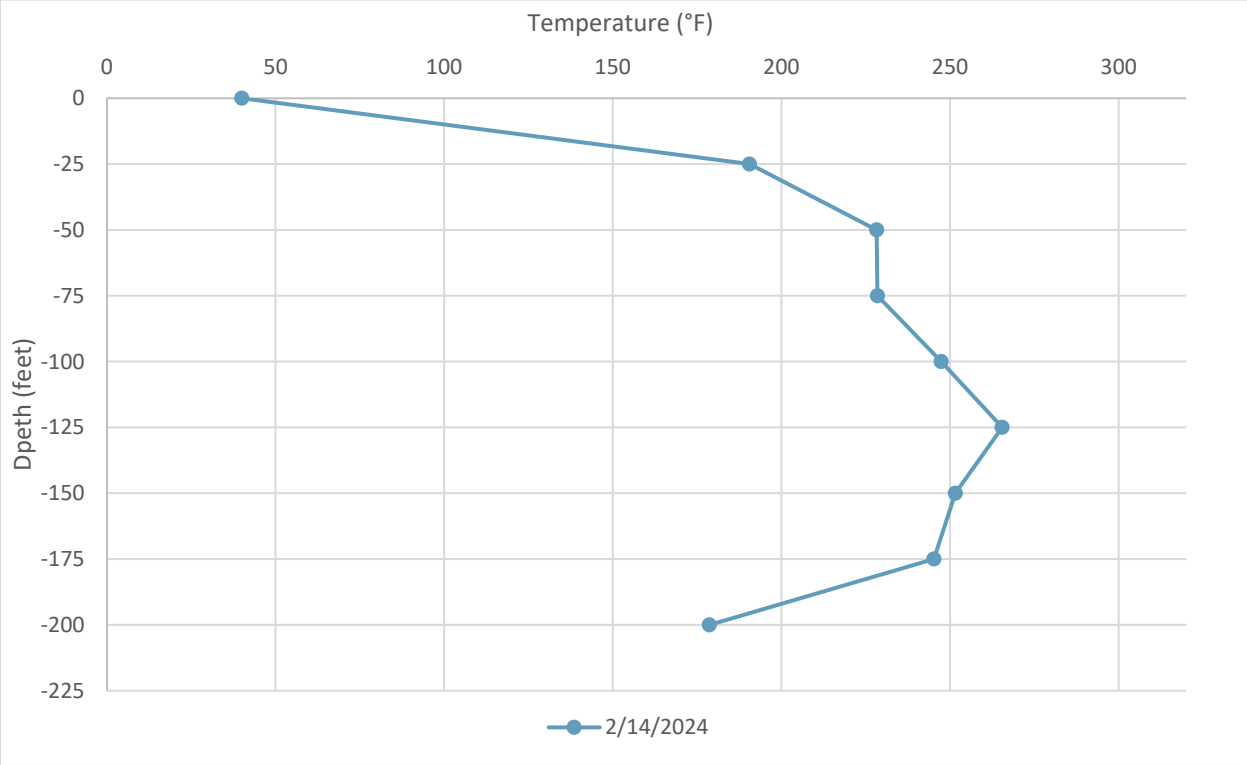


Figure B - 15 Average Temperatures Recorded by TP-4 on February 21, 2024

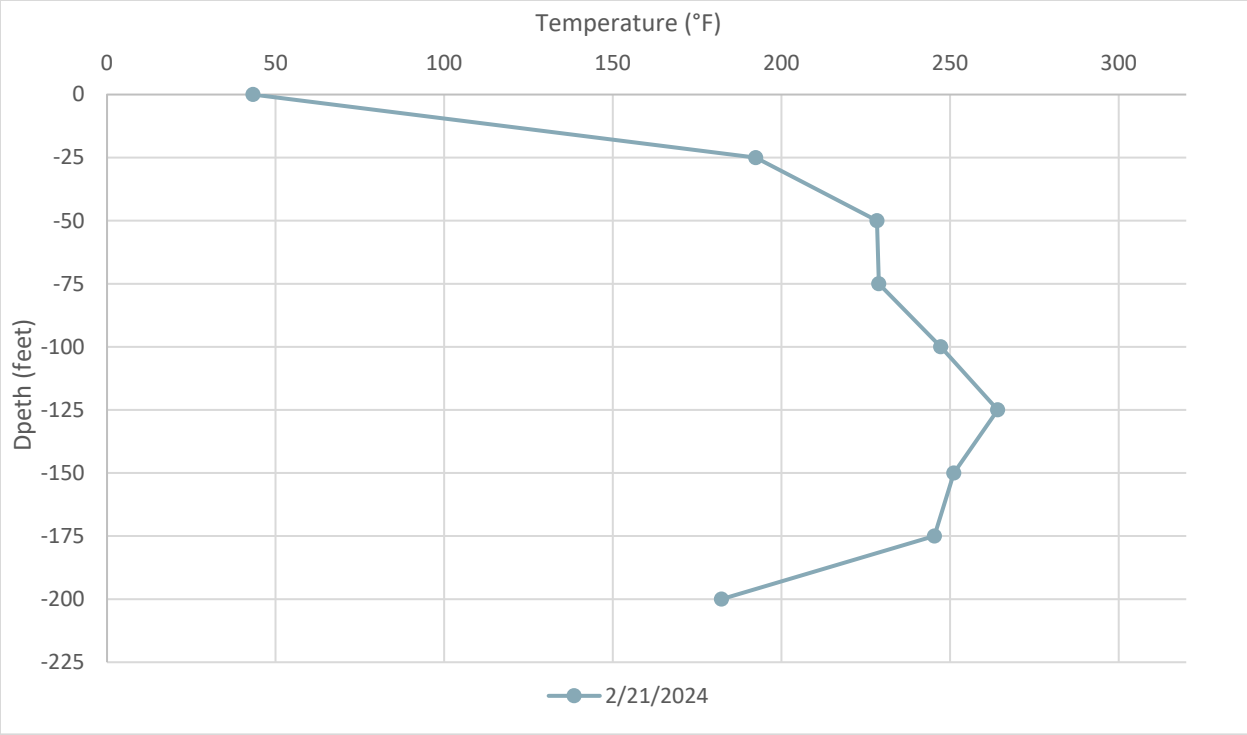


Figure B - 16 Average Temperatures Recorded by TP-4 on February 28, 2024

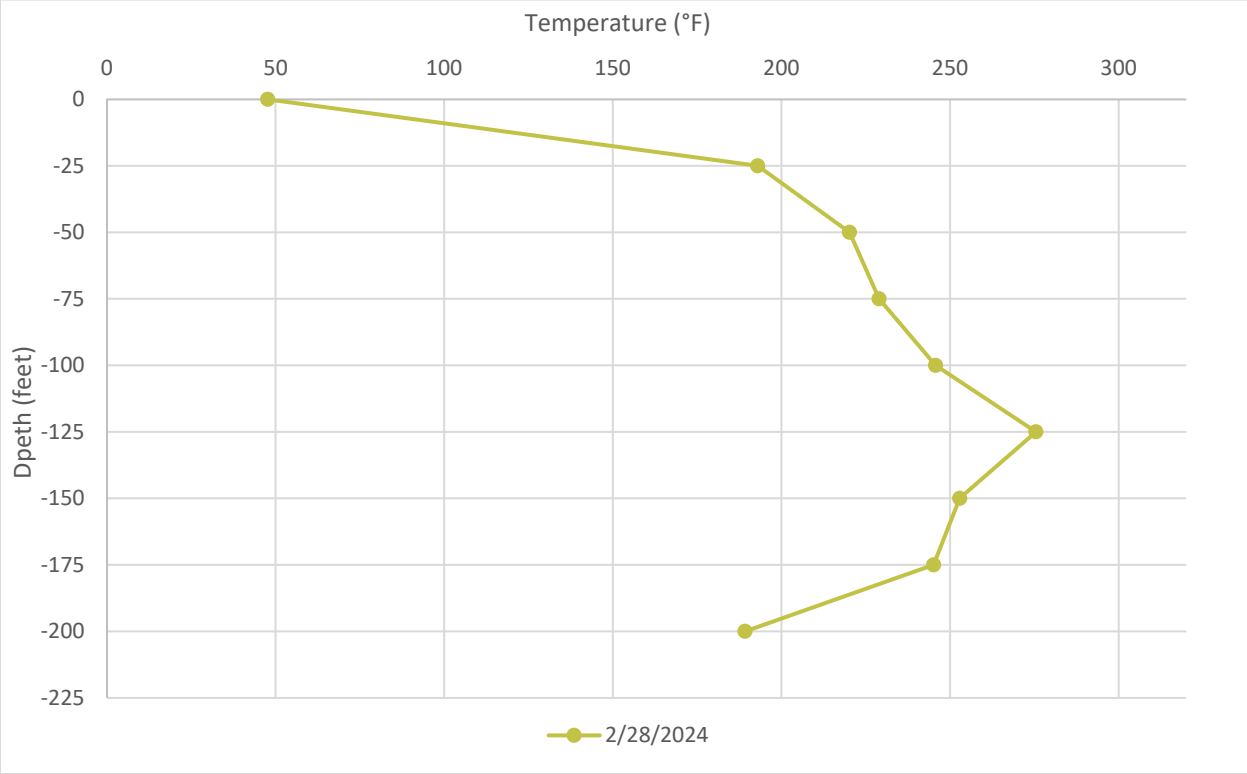


Figure B - 17 Average Temperatures Recorded by TP-5 on February 7, 2024

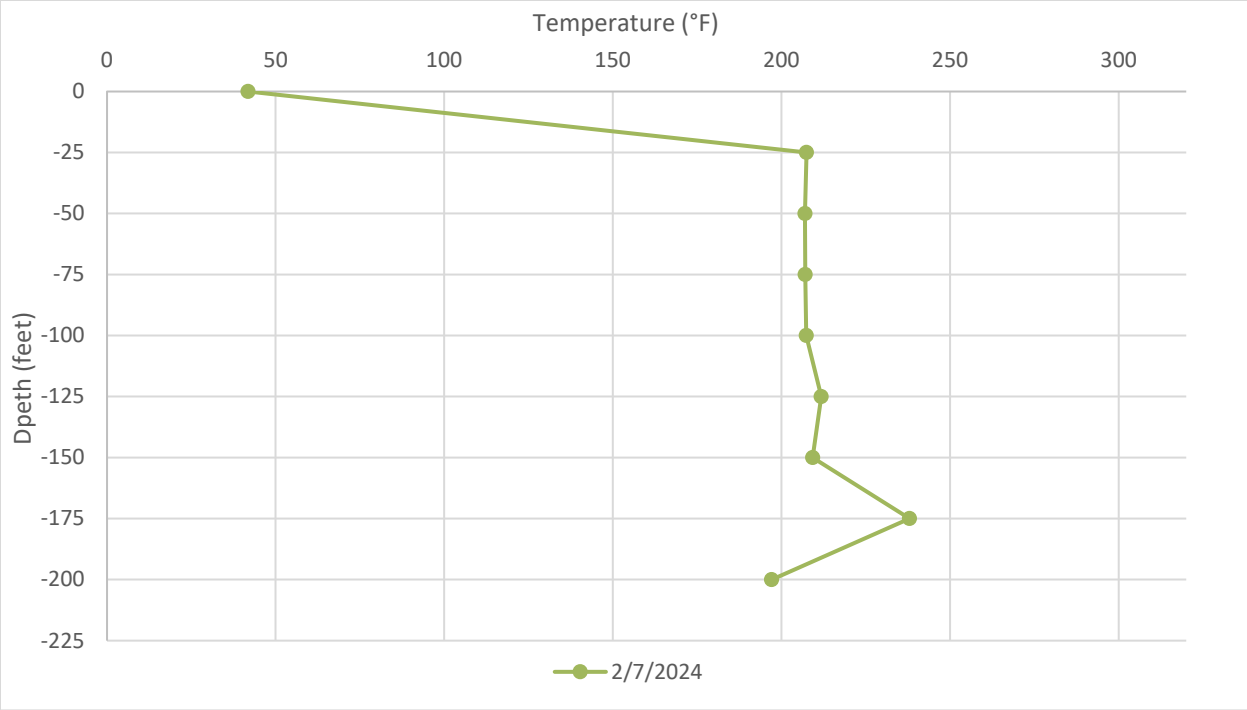


Figure B - 18 Average Temperatures Recorded by TP-5 on February 14, 2024

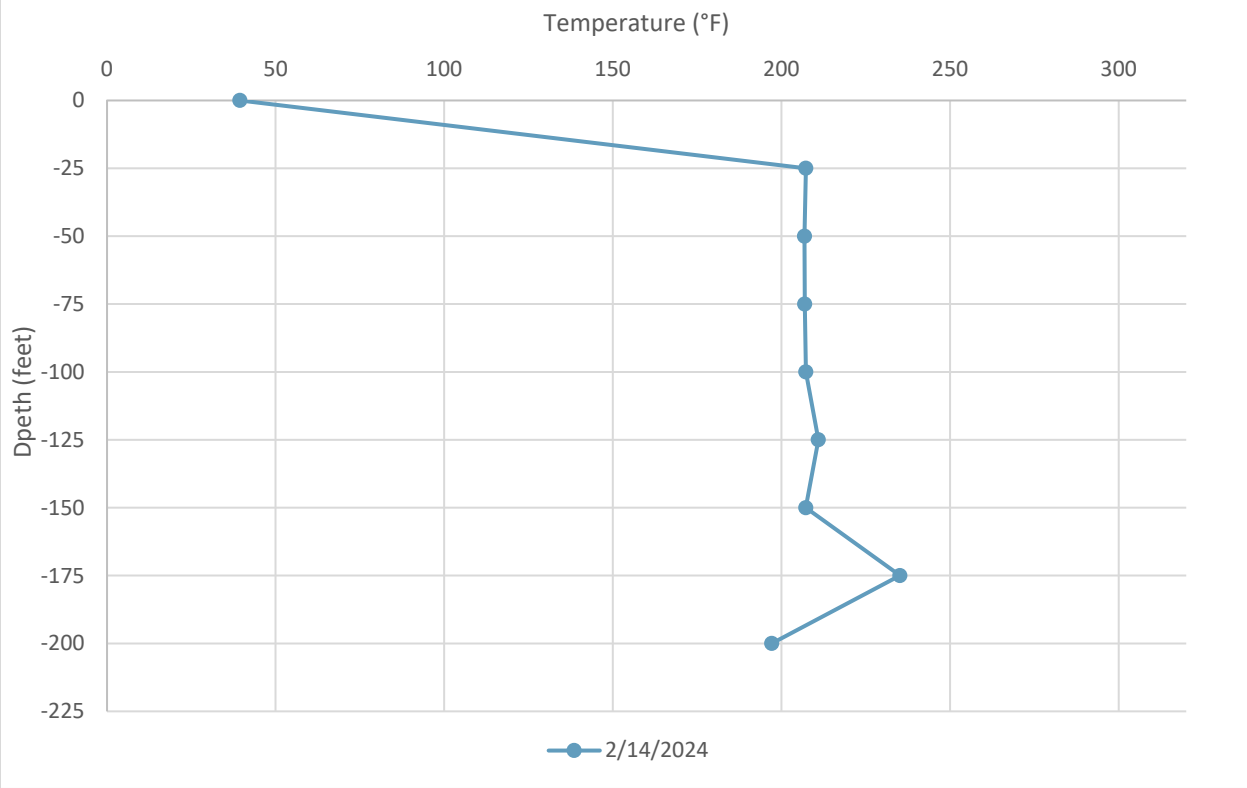


Figure B - 19 Average Temperatures Recorded by TP-6 on February 7, 2024

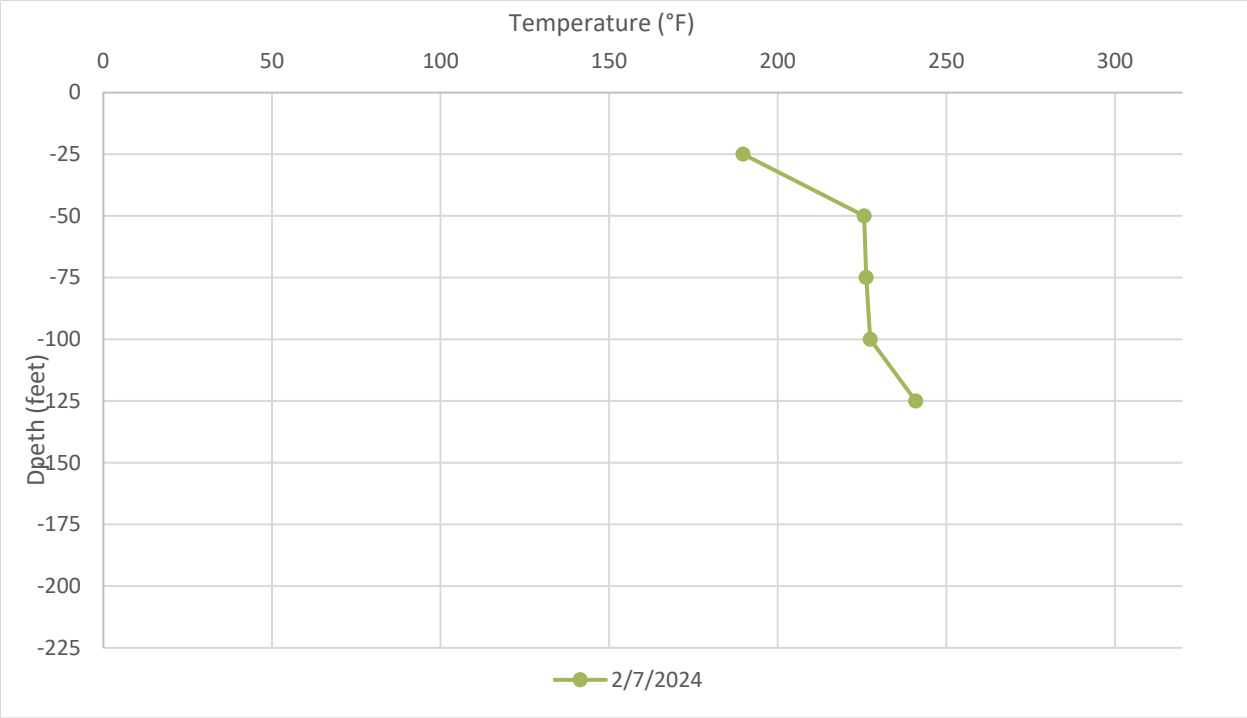


Figure B - 20 Average Temperatures Recorded by TP-6 on February 14, 2024

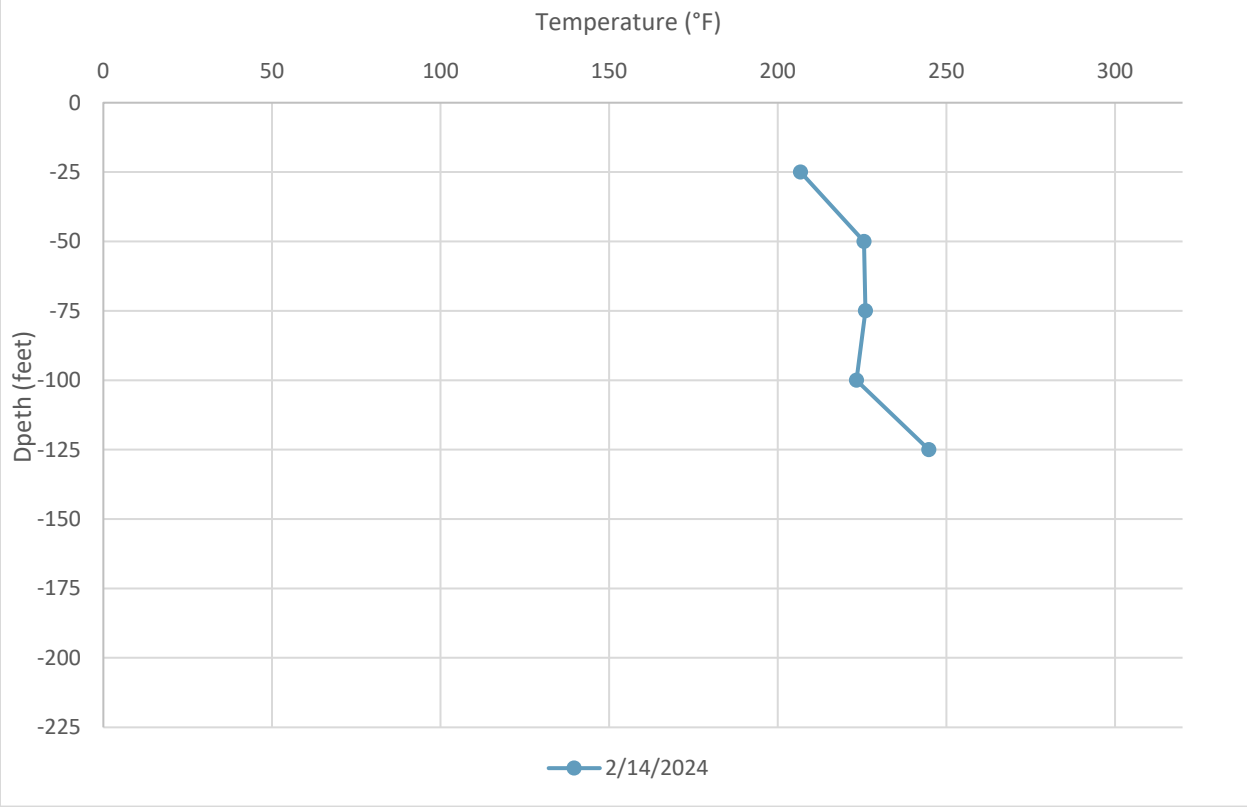


Figure B - 21 Average Temperatures Recorded by TP-6 on February 21, 2024

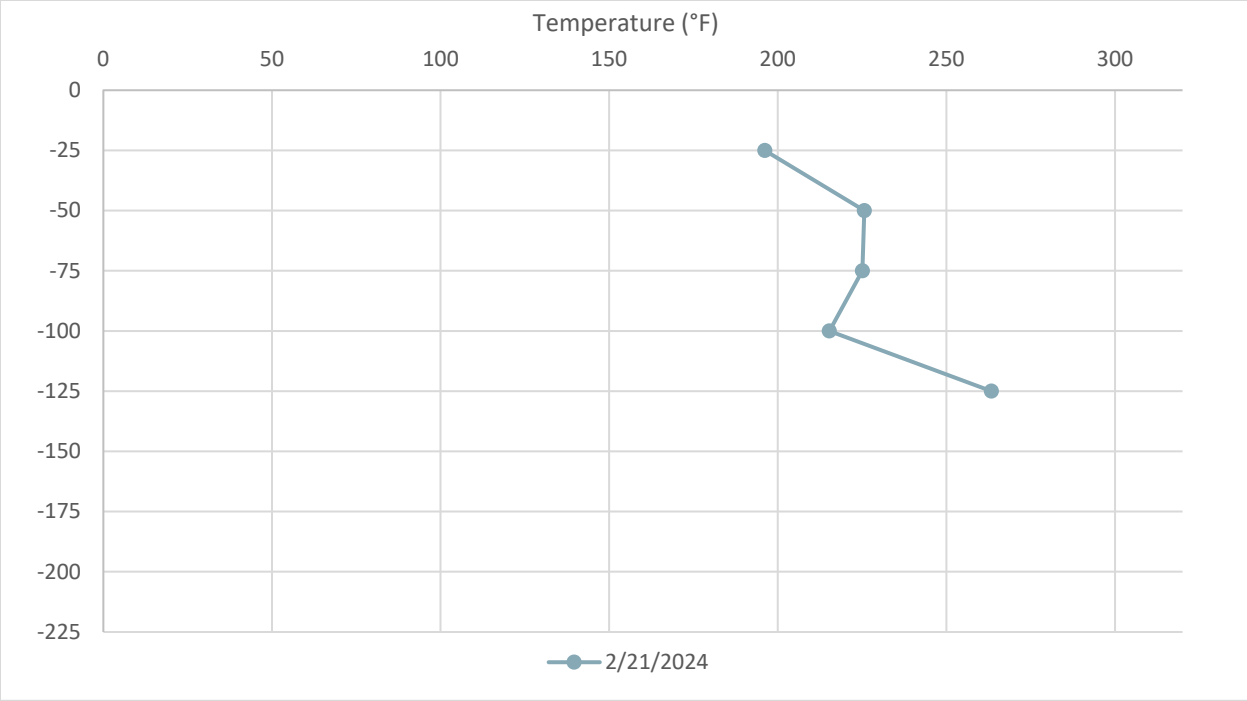


Figure B - 22 Average Temperatures Recorded by TP-6 on February 28, 2024

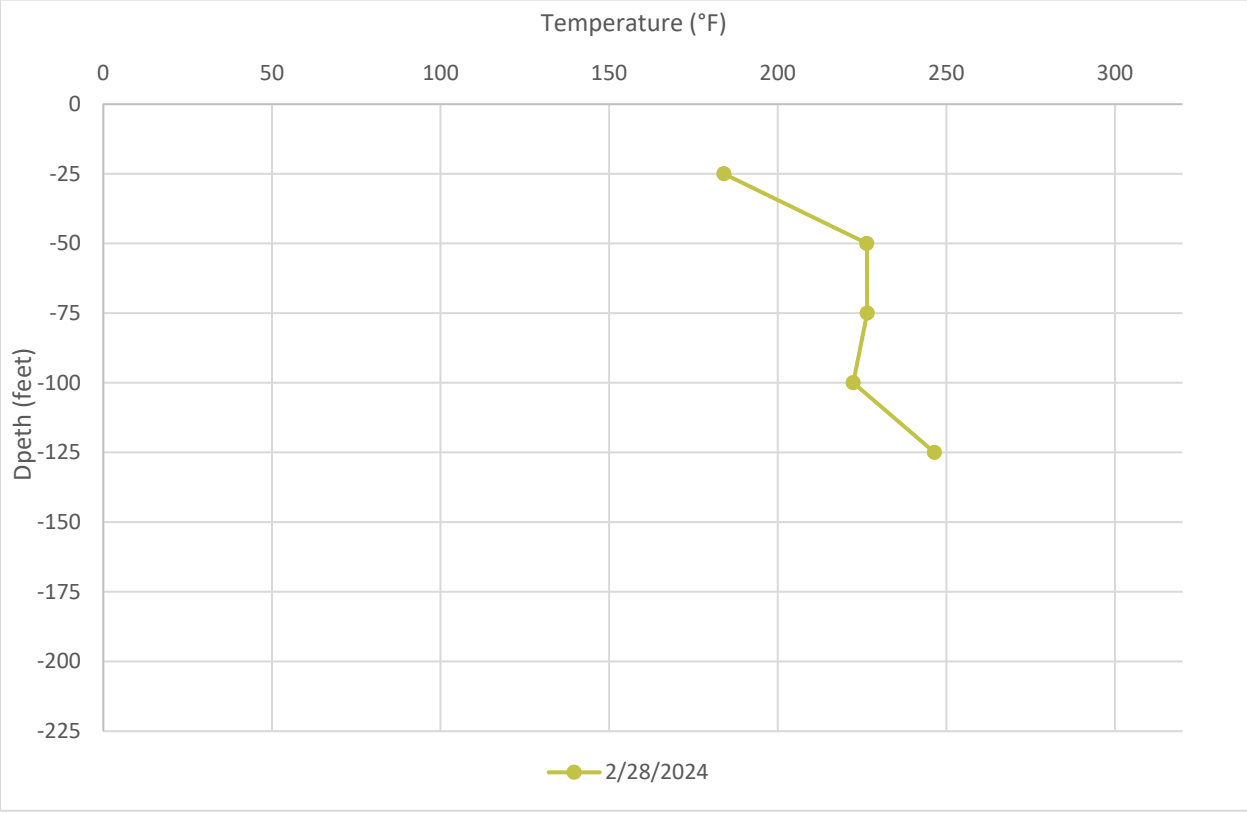


Figure B - 23 Average Temperatures Recorded by TP-7 on February 7, 2024

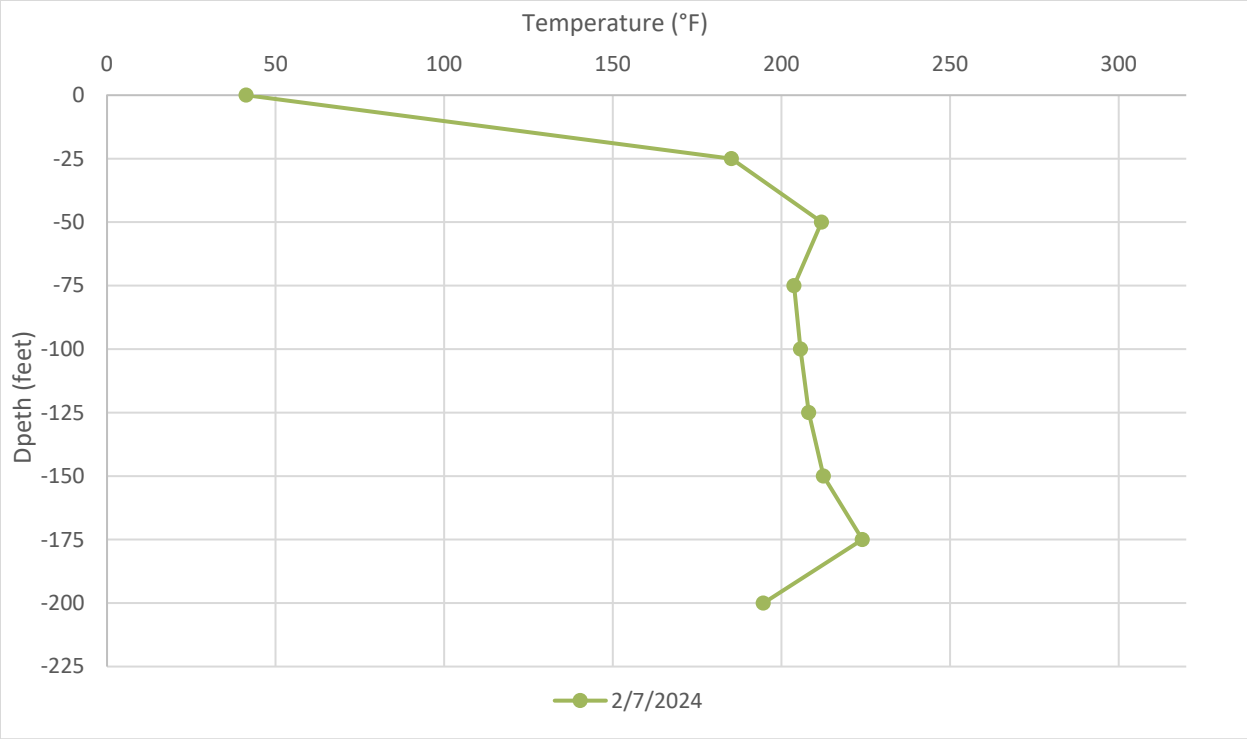


Figure B - 24 Average Temperatures Recorded by TP-7 on February 14, 2024

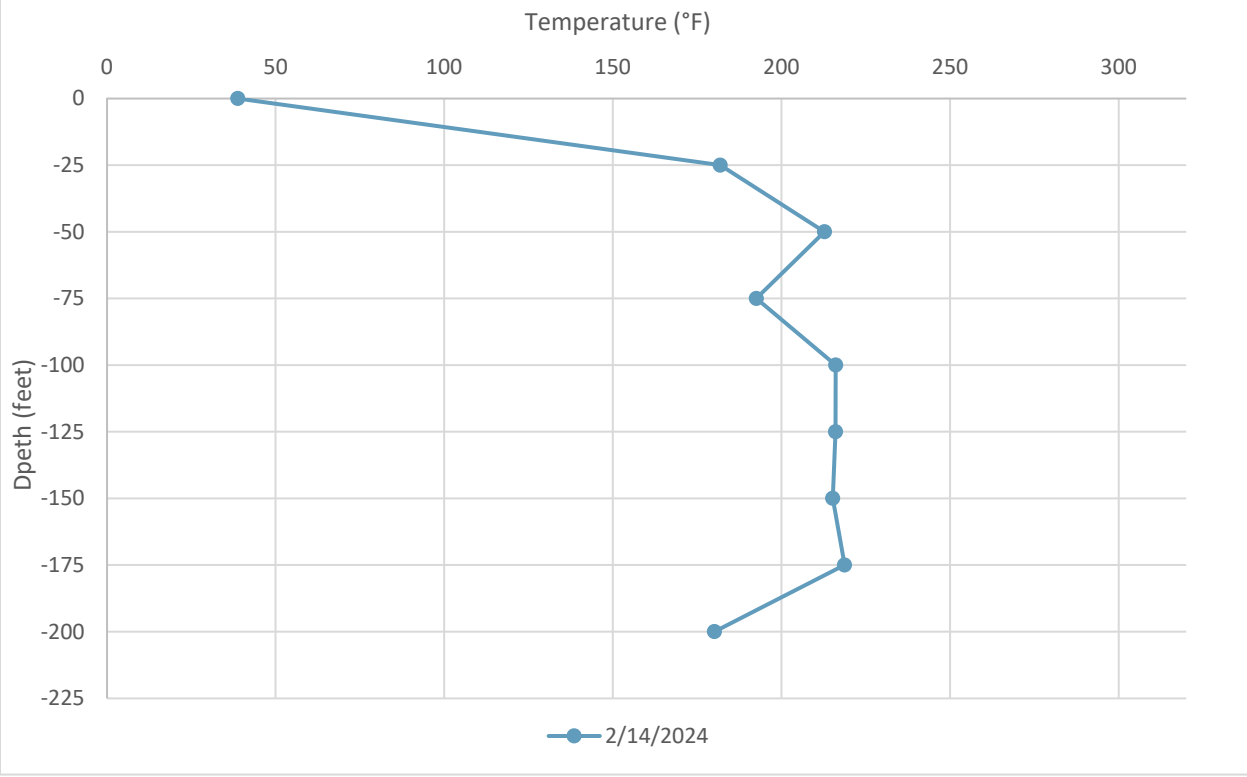


Figure B - 25 Average Temperatures Recorded by TP-7 on February 21, 2024

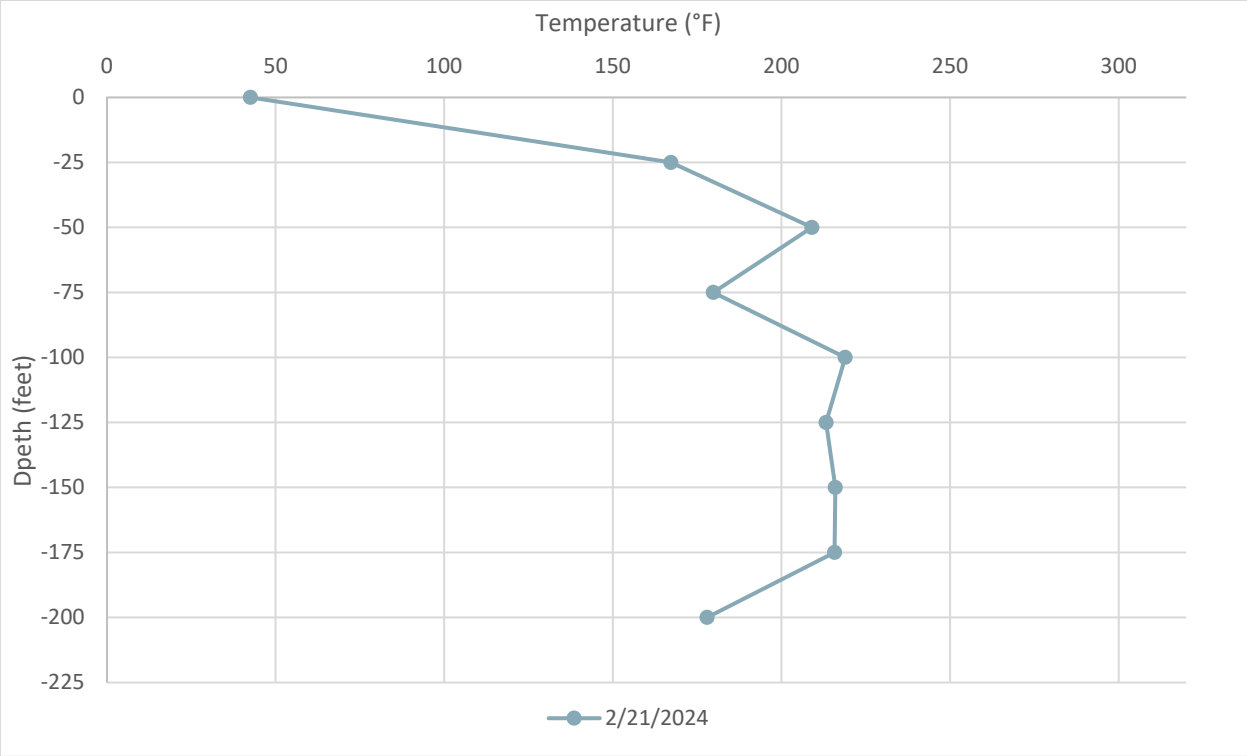


Figure B - 26 Average Temperatures Recorded by TP-7 on February 28, 2024

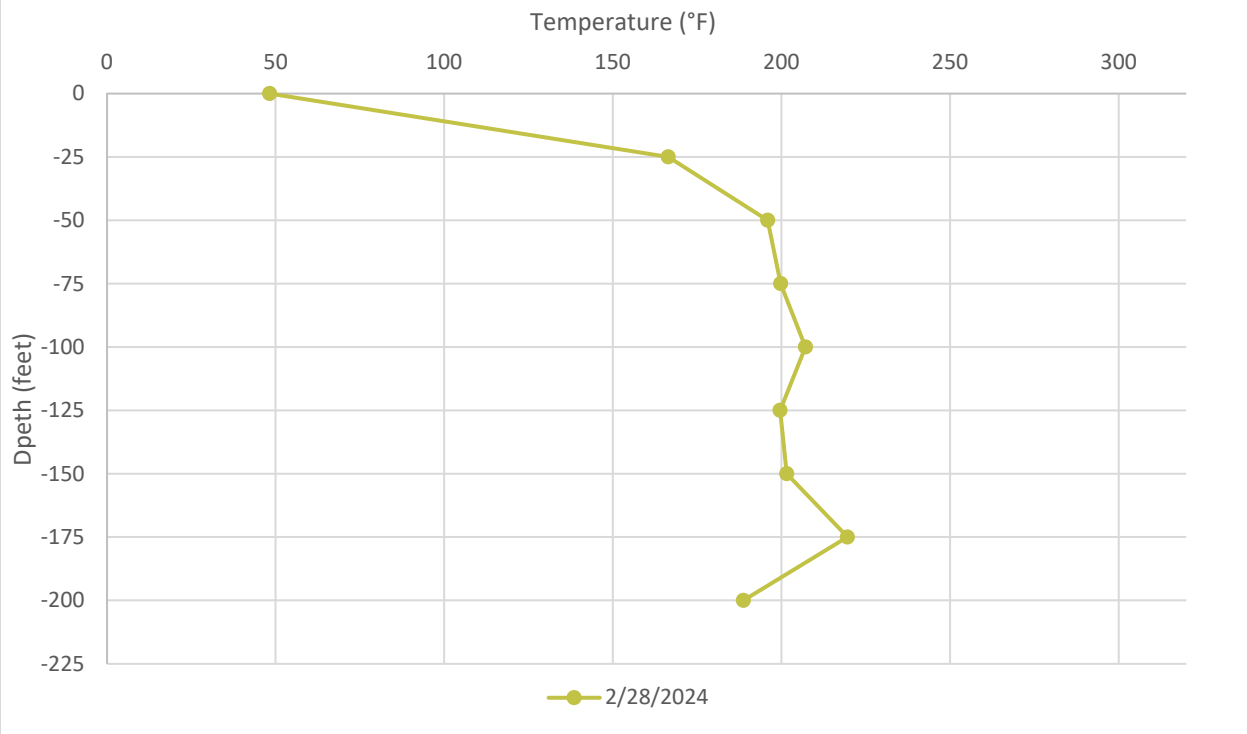


Figure B - 27 Average Temperatures Recorded by TP-8 on February 7, 2024

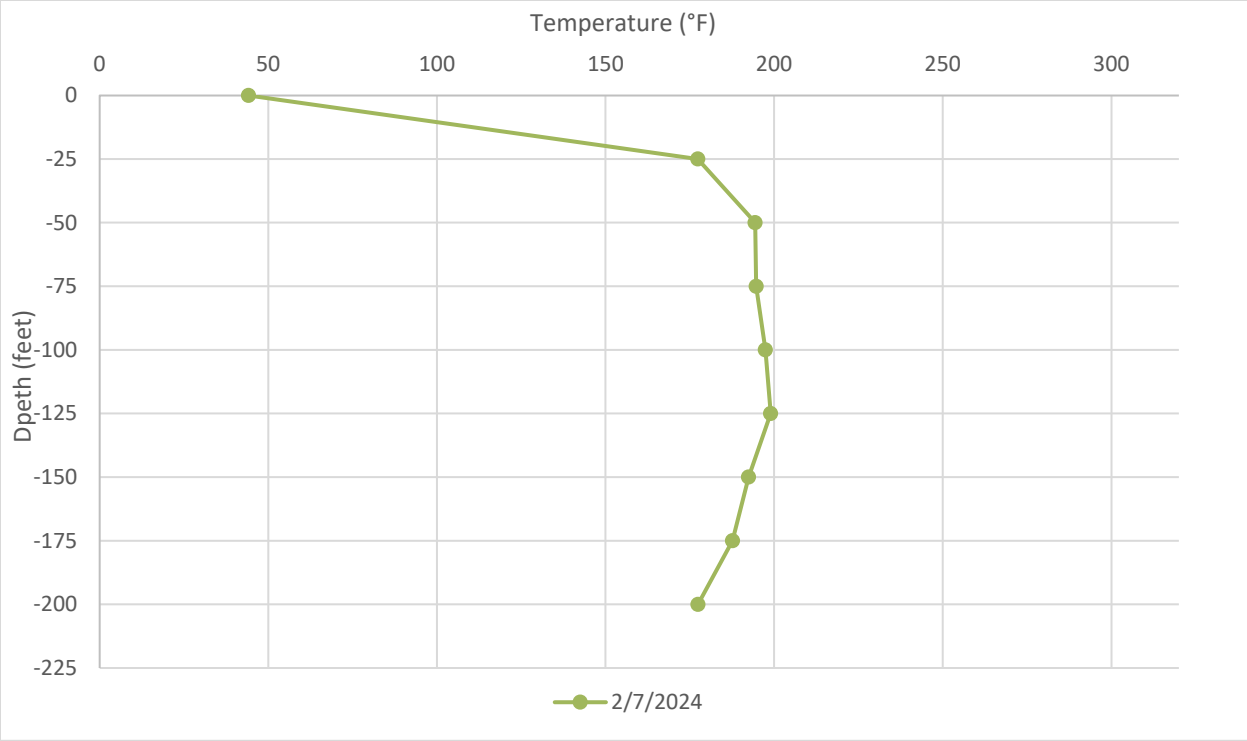


Figure B - 28 Average Temperatures Recorded by TP-8 on February 14, 2024

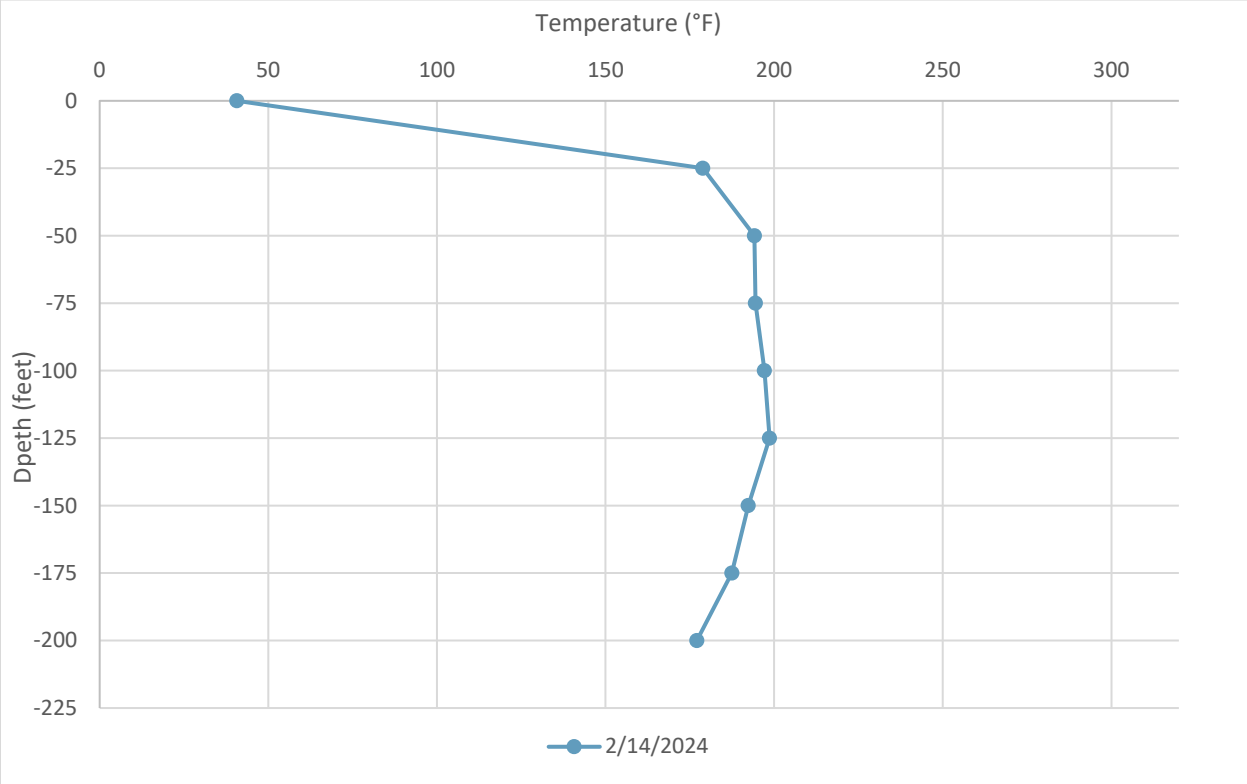


Figure B - 29 Average Temperatures Recorded by TP-8 on February 21, 2024

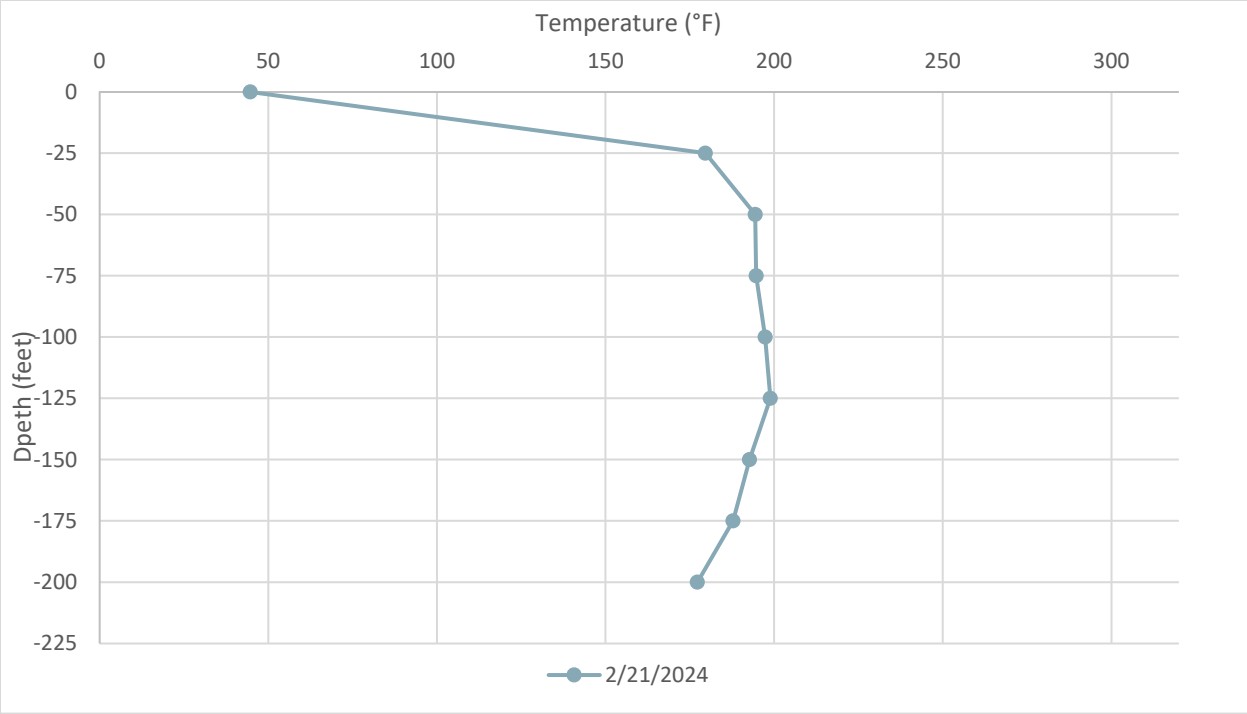


Figure B - 30 Average Temperatures Recorded by TP-8 on February 28, 2024

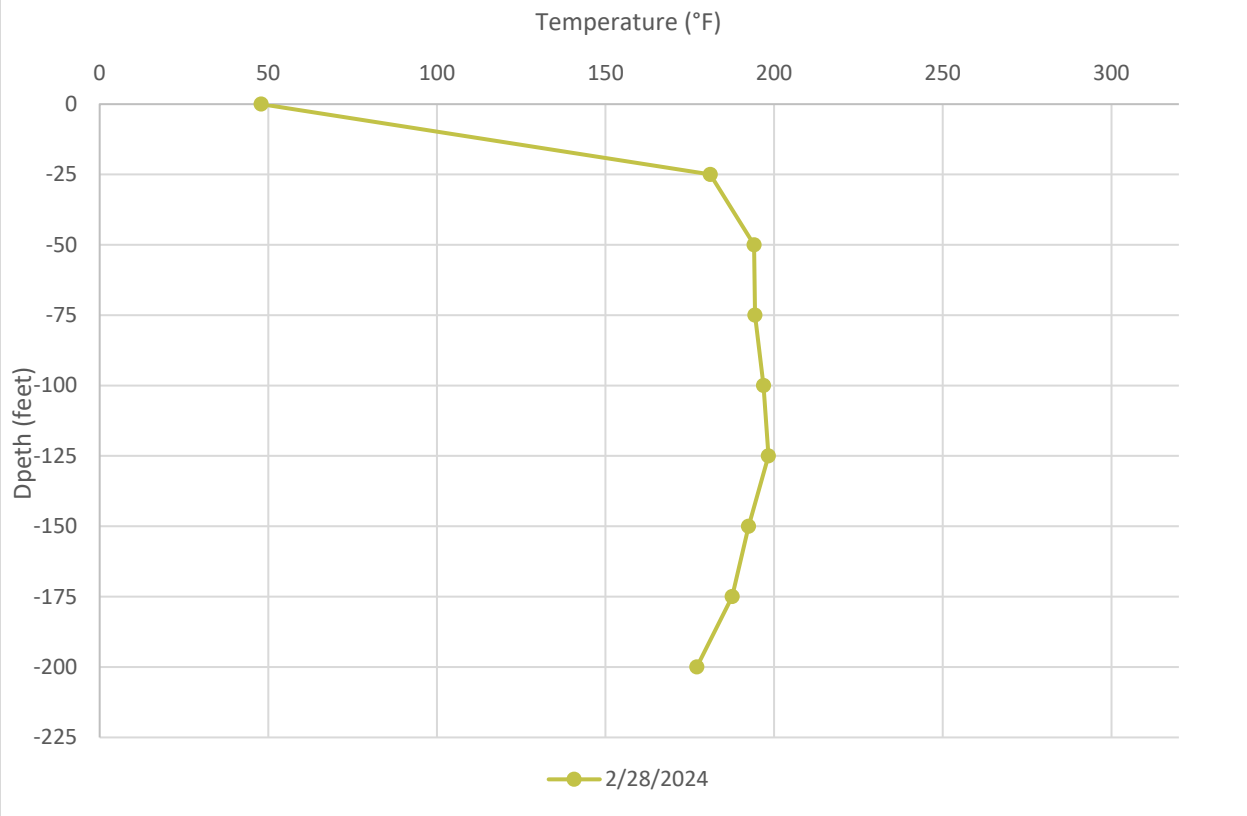


Figure B - 31 Average Temperatures Recorded by TP-9 on February 7, 2024

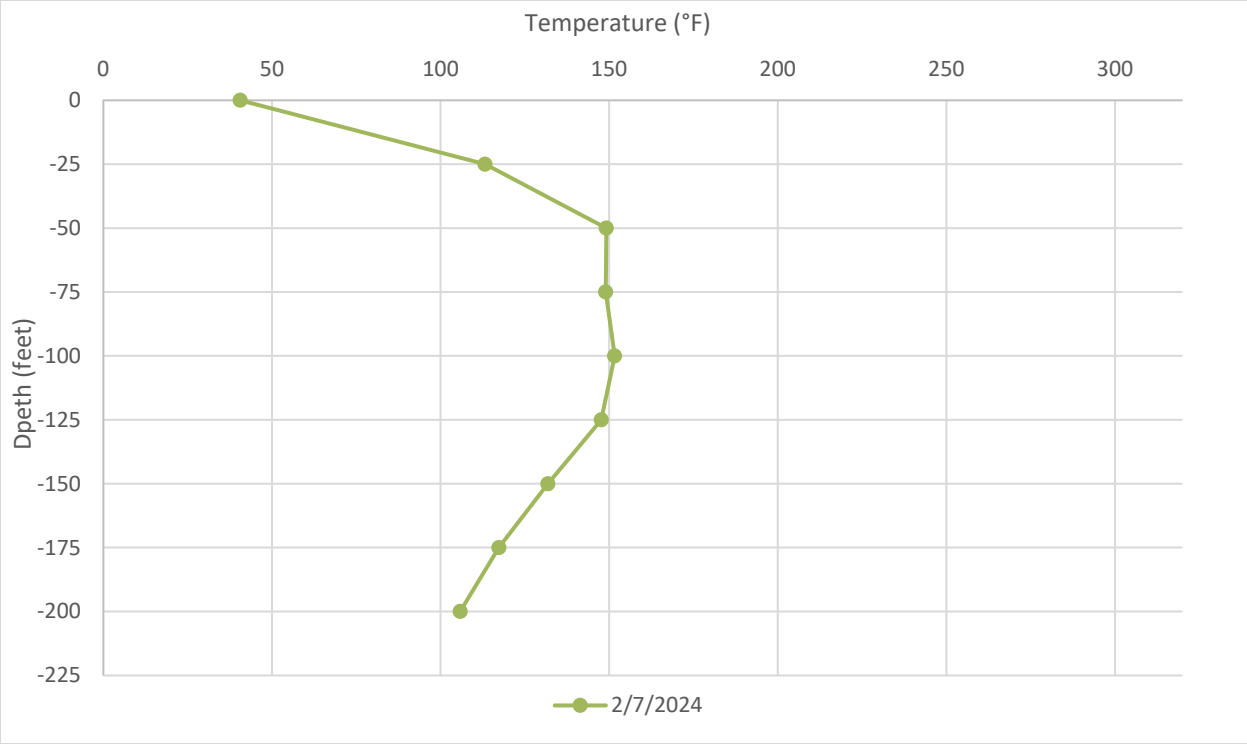


Figure B - 32 Average Temperatures Recorded by TP-9 on February 14, 2024

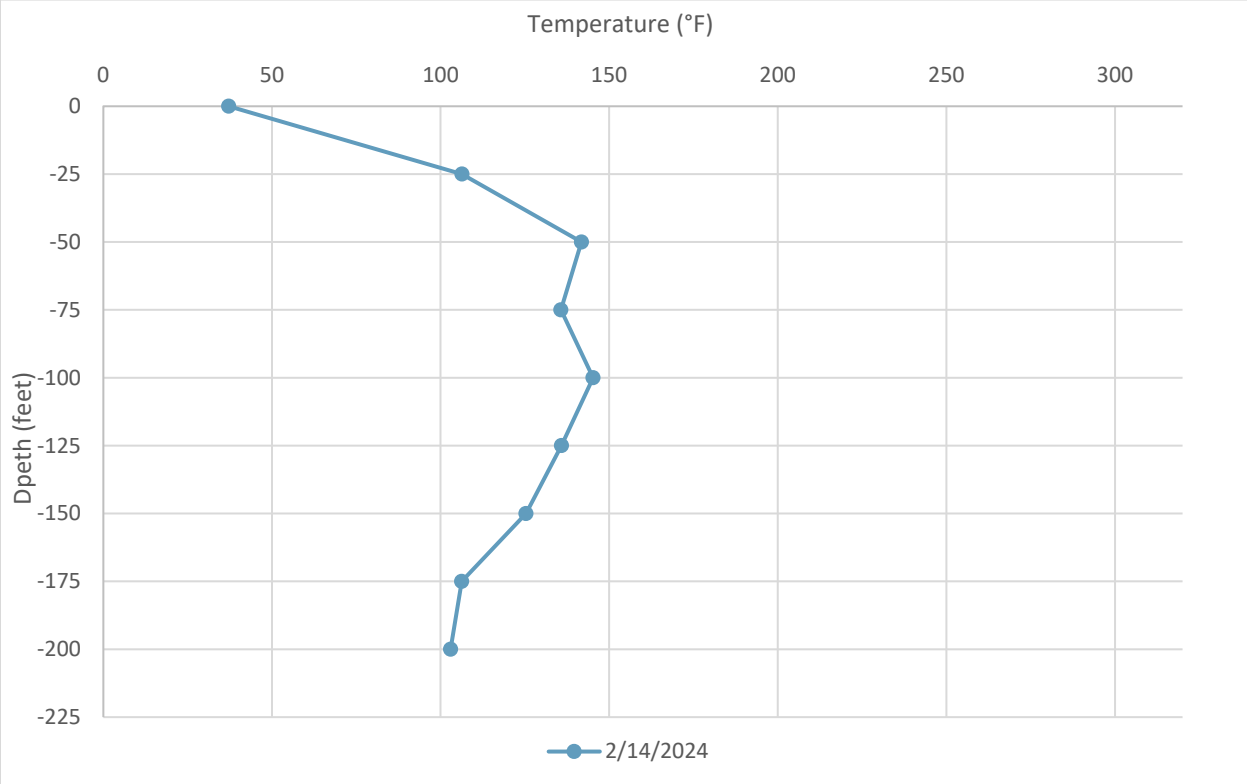


Figure B - 33 Average Temperatures Recorded by TP-9 on February 21, 2024

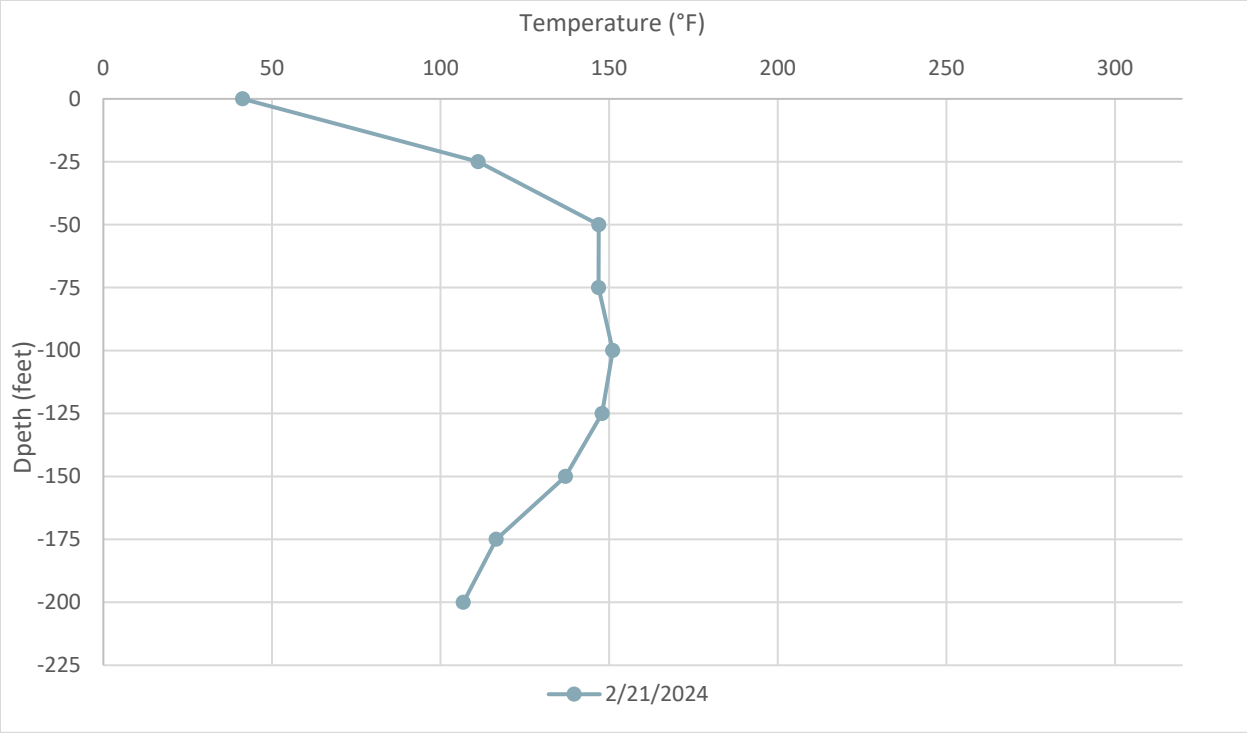
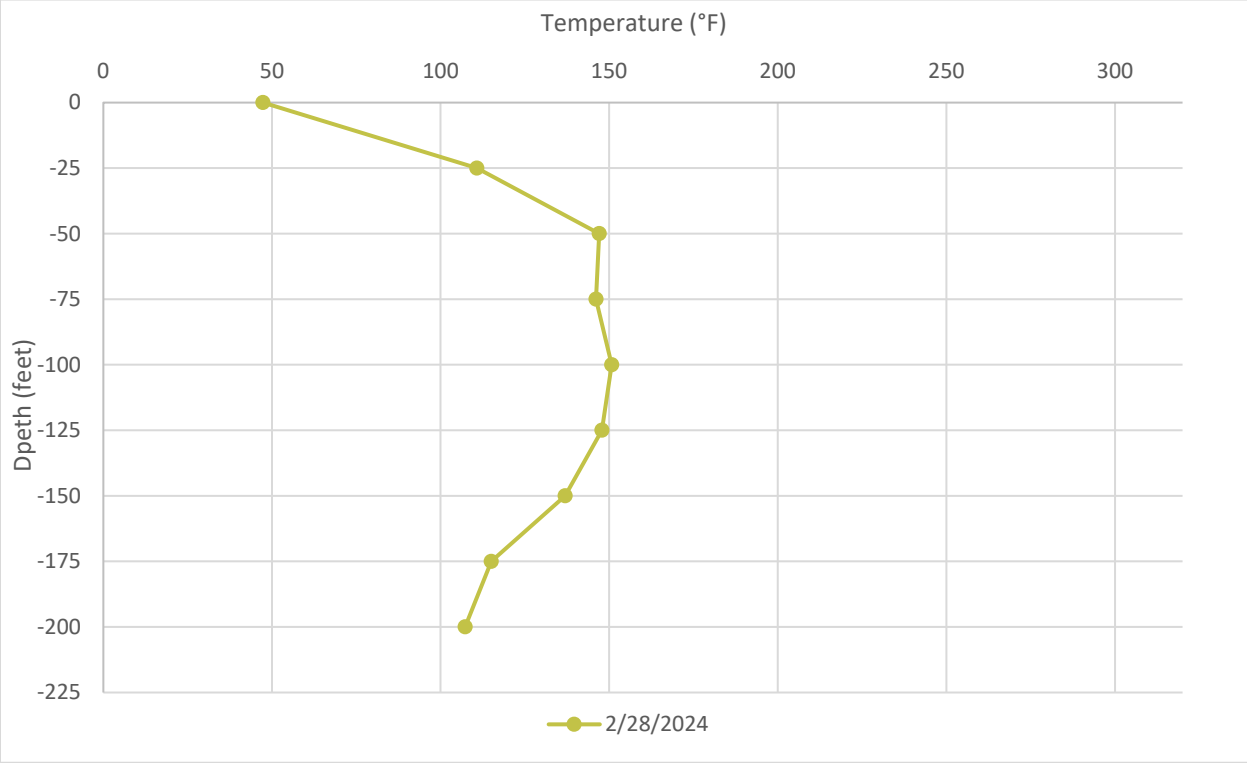


Figure B - 34 Average Temperatures Recorded by TP-9 on February 28, 2024



Appendix C

Daily Wellhead Temperature Averages

Solid Waste Permit 588 Daily Wellhead Temperature Averages

The data provided in this report represent initial readings provided by field instrumentation without Validation, analysis, quality assurance review, or context based on operating conditions. This report is subject to revision following quality assurance review and an analysis of operating conditions. SCS will continue to provide a supplemental report with additional information and further analysis on a monthly basis at a minimum.

SCS ENGINEERS

07222143.00 | March 1, 2024

274 Granite Run Drive
Lancaster, PA 17601
717-550-6330

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 32R

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	80.7	72.9	89.9
Feb 2	81.6	77.1	92.6
Feb 3	82.2	72.3	94.3
Feb 4	84.2	76.8	95.3
Feb 5	83.8	75.1	95.8
Feb 6	83.1	76.5	93.3
Feb 7	83.9	75.4	98.1
Feb 8	85.6	77.6	96.9
Feb 9	83.8	81.2	87.2
Feb 10	83.4	78.9	86.5
Feb 11	80.2	75.2	85.4
Feb 12	72.8	47.7	88.5
Feb 13	61.8	33.7	81.5
Feb 14	75.9	61.5	86.0
Feb 15	78.6	63.4	90.8
Feb 16	80.6	74.5	88.2
Feb 17	71.1	65.1	80.5
Feb 18	73.0	65.8	84.3
Feb 19	76.6	67.8	89.9
Feb 20	79.2	70.0	91.2
Feb 21	82.1	72.8	94.0
Feb 22	84.6	77.4	95.2
Feb 23	76.7	57.9	85.8
Feb 24	71.7	67.4	75.3
Feb 25	76.3	66.1	87.8
Feb 26	83.1	76.8	93.1
Feb 27	87.6	80.5	95.7
Feb 28	83.1	68.8	91.3
Summary	**79.5**	**61.8**	**87.6**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 34

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	0.0	31.4	31.4
Feb 2	0.0	0.0	0.0
Feb 3	0.0	0.0	0.0
Feb 4	0.0	0.0	0.0
Feb 5	0.0	0.0	0.0
Feb 6	0.0	0.0	0.0
Feb 7	0.0	0.0	0.0
Feb 8	0.0	0.0	0.0
Feb 9	0.0	0.0	0.0
Feb 10	0.0	0.0	0.0
Feb 11	0.0	0.0	0.0
Feb 12	0.0	0.0	0.0
Feb 13	0.0	0.0	0.0
Feb 14	0.0	0.0	0.0
Feb 15	0.0	0.0	0.0
Feb 16	0.0	0.0	0.0
Feb 17	0.0	0.0	0.0
Feb 18	0.0	0.0	0.0
Feb 19	0.0	0.0	0.0
Feb 20	0.0	0.0	0.0
Feb 21	0.0	0.0	0.0
Feb 22	0.0	0.0	0.0
Feb 23	0.0	0.0	0.0
Feb 24	0.0	0.0	0.0
Feb 25	0.0	0.0	0.0
Feb 26	0.0	0.0	0.0
Feb 27	0.0	0.0	0.0
Feb 28	0.0	0.0	0.0
Summary	**0.0**	**0.0**	**0.0**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 35

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	41.0	29.3	59.3
Feb 2	42.0	30.2	64.3
Feb 3	43.6	30.0	66.4
Feb 4	44.7	29.1	64.7
Feb 5	48.0	35.6	68.2
Feb 6	43.8	28.6	65.1
Feb 7	43.3	26.5	72.6
Feb 8	46.6	29.9	69.6
Feb 9	45.2	41.6	47.8
Feb 10	50.3	47.2	54.3
Feb 11	52.2	47.9	61.6
Feb 12	52.8	48.2	60.8
Feb 13	42.9	32.2	52.6
Feb 14	41.5	28.5	60.2
Feb 15	46.8	30.0	66.3
Feb 16	44.7	35.5	55.6
Feb 17	34.5	26.5	45.3
Feb 18	33.3	26.5	49.4
Feb 19	38.9	26.5	63.0
Feb 20	42.0	26.5	67.3
Feb 21	44.6	29.1	66.1
Feb 22	51.9	37.2	72.4
Feb 23	49.7	38.8	59.9
Feb 24	39.0	33.5	46.7
Feb 25	41.6	26.5	59.5
Feb 26	48.6	36.6	66.0
Feb 27	53.3	40.0	71.6
Feb 28	50.1	32.0	65.1
Summary	**44.9**	**33.3**	**53.3**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 36A

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	63.3	52.1	77.1
Feb 2	63.0	55.6	77.5
Feb 3	65.5	54.5	84.7
Feb 4	65.0	54.1	79.5
Feb 5	66.8	56.2	85.9
Feb 6	65.3	53.4	83.6
Feb 7	64.9	49.7	88.5
Feb 8	67.8	54.9	85.5
Feb 9	65.6	61.1	70.2
Feb 10	66.9	63.4	69.5
Feb 11	66.1	58.6	74.1
Feb 12	67.0	57.5	72.1
Feb 13	54.3	47.0	64.9
Feb 14	56.6	46.1	70.6
Feb 15	58.7	44.3	74.8
Feb 16	58.9	51.5	68.0
Feb 17	46.0	39.4	54.6
Feb 18	48.6	36.4	67.9
Feb 19	56.1	41.8	79.6
Feb 20	56.6	42.3	75.9
Feb 21	59.1	45.4	77.2
Feb 22	62.7	52.5	79.0
Feb 23	59.9	56.1	68.3
Feb 24	51.1	44.4	55.8
Feb 25	54.2	40.2	70.4
Feb 26	62.1	52.0	80.9
Feb 27	64.3	55.7	77.9
Feb 28	60.1	43.2	71.8
Summary	**60.6**	**46.0**	**67.8**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 40

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	0.0	32.1	32.1
Feb 2	0.0	0.0	0.0
Feb 3	0.0	0.0	0.0
Feb 4	0.0	0.0	0.0
Feb 5	0.0	0.0	0.0
Feb 6	0.0	0.0	0.0
Feb 7	0.0	0.0	0.0
Feb 8	0.0	0.0	0.0
Feb 9	0.0	0.0	0.0
Feb 10	0.0	0.0	0.0
Feb 11	0.0	0.0	0.0
Feb 12	0.0	0.0	0.0
Feb 13	0.0	0.0	0.0
Feb 14	0.0	0.0	0.0
Feb 15	0.0	0.0	0.0
Feb 16	0.0	0.0	0.0
Feb 17	0.0	0.0	0.0
Feb 18	0.0	0.0	0.0
Feb 19	0.0	0.0	0.0
Feb 20	0.0	0.0	0.0
Feb 21	0.0	0.0	0.0
Feb 22	0.0	0.0	0.0
Feb 23	0.0	0.0	0.0
Feb 24	0.0	0.0	0.0
Feb 25	0.0	0.0	0.0
Feb 26	0.0	0.0	0.0
Feb 27	0.0	0.0	0.0
Feb 28	0.0	0.0	0.0
Summary	**0.0**	**0.0**	**0.0**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 47

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	42.1	29.7	59.8
Feb 2	43.1	30.9	67.9
Feb 3	45.4	31.0	71.6
Feb 4	46.6	29.7	66.7
Feb 5	50.2	36.9	69.6
Feb 6	45.1	29.6	67.7
Feb 7	44.9	26.6	74.9
Feb 8	48.0	30.5	73.4
Feb 9	46.1	43.2	48.7
Feb 10	51.0	48.0	54.9
Feb 11	53.1	48.4	62.9
Feb 12	53.7	48.6	61.6
Feb 13	43.2	34.0	52.8
Feb 14	42.6	29.3	61.5
Feb 15	47.8	30.1	66.6
Feb 16	46.0	36.2	57.3
Feb 17	34.5	26.6	45.7
Feb 18	33.3	26.6	49.5
Feb 19	39.9	26.6	64.7
Feb 20	43.3	26.6	71.0
Feb 21	46.3	29.8	69.5
Feb 22	53.0	38.4	75.0
Feb 23	50.4	39.8	61.4
Feb 24	39.4	33.8	49.4
Feb 25	42.4	26.6	59.5
Feb 26	49.8	37.4	69.6
Feb 27	54.0	41.5	71.5
Feb 28	50.8	32.6	66.7
Summary	**45.9**	**33.3**	**54.0**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 49

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	139.5	138.0	140.7
Feb 2	139.4	137.2	140.9
Feb 3	140.1	137.1	142.4
Feb 4	140.0	138.7	141.4
Feb 5	139.7	137.4	142.4
Feb 6	137.3	68.3	142.6
Feb 7	140.4	137.2	142.7
Feb 8	142.2	140.9	143.7
Feb 9	142.3	141.2	143.2
Feb 10	142.4	138.9	143.4
Feb 11	142.3	136.6	143.7
Feb 12	142.4	127.6	144.5
Feb 13	136.1	117.5	142.4
Feb 14	140.7	109.1	143.3
Feb 15	142.3	140.5	144.4
Feb 16	142.9	132.0	144.9
Feb 17	133.3	125.2	142.0
Feb 18	119.5	87.7	141.9
Feb 19	106.4	43.7	149.9
Feb 20	143.3	140.5	145.5
Feb 21	143.6	142.1	145.4
Feb 22	143.2	140.6	144.6
Feb 23	142.1	137.5	144.2
Feb 24	138.1	123.4	143.8
Feb 25	143.1	142.0	144.7
Feb 26	144.4	143.2	145.3
Feb 27	144.6	143.8	146.6
Feb 28	139.4	125.7	146.0
Summary	**139.0**	**106.4**	**144.6**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 50

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	107.7	105.3	111.5
Feb 2	109.4	105.5	113.6
Feb 3	110.9	108.1	114.6
Feb 4	110.4	107.0	113.4
Feb 5	107.6	105.8	110.2
Feb 6	105.9	101.9	109.3
Feb 7	102.8	99.3	105.9
Feb 8	104.5	102.5	106.0
Feb 9	103.6	101.7	105.7
Feb 10	106.2	105.7	106.7
Feb 11	105.8	103.6	106.7
Feb 12	106.2	103.4	108.3
Feb 13	103.6	101.0	105.1
Feb 14	103.9	79.2	106.8
Feb 15	105.3	102.8	107.6
Feb 16	105.6	104.1	107.4
Feb 17	103.1	101.7	104.3
Feb 18	76.6	49.1	103.8
Feb 19	75.8	38.3	112.4
Feb 20	105.9	102.5	109.5
Feb 21	106.0	103.7	108.2
Feb 22	105.9	104.5	107.9
Feb 23	104.1	101.8	105.5
Feb 24	101.7	100.0	103.1
Feb 25	103.0	100.7	104.9
Feb 26	104.0	102.4	105.9
Feb 27	103.8	102.6	106.8
Feb 28	101.9	89.3	105.1
Summary	**103.3**	**75.8**	**110.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 51

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	41.3	29.1	57.1
Feb 2	46.6	35.3	67.9
Feb 3	70.2	41.3	104.2
Feb 4	90.4	75.3	114.1
Feb 5	75.2	60.5	96.4
Feb 6	61.3	29.8	123.1
Feb 7	62.0	36.5	99.5
Feb 8	71.4	45.2	101.0
Feb 9	64.1	49.5	77.1
Feb 10	50.8	47.8	54.4
Feb 11	52.2	48.1	60.5
Feb 12	53.4	48.8	60.8
Feb 13	42.6	33.2	50.9
Feb 14	42.0	29.2	60.8
Feb 15	47.0	30.5	65.0
Feb 16	45.3	36.5	54.5
Feb 17	33.6	26.0	46.1
Feb 18	32.7	25.9	48.9
Feb 19	39.4	25.9	62.6
Feb 20	42.0	26.0	64.3
Feb 21	45.4	31.3	65.0
Feb 22	52.2	38.7	71.8
Feb 23	49.9	41.3	58.7
Feb 24	39.6	34.1	47.3
Feb 25	41.3	25.9	57.2
Feb 26	49.6	38.1	65.2
Feb 27	53.9	42.3	69.1
Feb 28	51.0	33.3	65.5
Summary	**51.7**	**32.7**	**90.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 52

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	156.8	145.8	173.1
Feb 2	154.0	149.6	170.4
Feb 3	149.1	147.4	150.7
Feb 4	147.5	146.3	148.8
Feb 5	151.7	145.4	169.6
Feb 6	154.8	147.6	173.1
Feb 7	149.2	147.3	150.7
Feb 8	147.5	146.1	149.2
Feb 9	146.1	144.9	147.1
Feb 10	146.0	143.9	147.1
Feb 11	145.9	143.0	147.6
Feb 12	146.4	143.9	147.6
Feb 13	143.4	141.7	144.8
Feb 14	143.8	131.7	145.3
Feb 15	144.6	143.1	145.9
Feb 16	152.0	143.9	171.2
Feb 17	145.8	143.1	150.0
Feb 18	142.4	138.7	145.4
Feb 19	144.5	140.1	150.2
Feb 20	145.8	143.8	148.9
Feb 21	145.3	142.9	146.9
Feb 22	145.3	143.4	146.6
Feb 23	145.0	144.2	145.8
Feb 24	143.3	141.1	145.4
Feb 25	143.9	142.4	145.6
Feb 26	145.4	144.1	146.8
Feb 27	145.6	144.6	146.8
Feb 28	144.1	140.7	147.3
Summary	**147.0**	**142.4**	**156.8**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 53

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	146.7	90.0	193.4
Feb 2	149.2	125.5	191.8
Feb 3	121.7	111.2	134.2
Feb 4	113.0	106.2	125.9
Feb 5	139.4	96.9	191.6
Feb 6	156.6	131.0	192.5
Feb 7	169.6	127.5	195.7
Feb 8	153.9	112.1	194.8
Feb 9	157.1	133.3	194.1
Feb 10	129.4	119.9	140.4
Feb 11	116.2	106.5	123.5
Feb 12	134.4	89.8	176.6
Feb 13	68.5	53.7	85.1
Feb 14	80.3	53.1	127.4
Feb 15	86.9	57.7	113.2
Feb 16	91.7	71.3	109.3
Feb 17	58.7	46.4	80.7
Feb 18	76.9	40.2	107.2
Feb 19	89.4	64.3	116.5
Feb 20	84.5	55.2	112.6
Feb 21	87.8	57.3	112.6
Feb 22	123.9	57.9	180.8
Feb 23	151.2	110.3	186.8
Feb 24	134.1	97.8	187.6
Feb 25	114.8	95.8	176.7
Feb 26	143.4	90.1	189.3
Feb 27	140.1	120.5	186.0
Feb 28	147.3	114.3	190.0
Summary	**120.2**	**58.7**	**169.6**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 54

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	129.7	51.3	178.2
Feb 2	142.3	87.7	179.1
Feb 3	81.5	67.3	102.9
Feb 4	76.6	62.4	98.0
Feb 5	77.5	64.2	99.4
Feb 6	74.5	58.3	96.4
Feb 7	104.8	53.0	174.5
Feb 8	161.4	115.7	179.9
Feb 9	153.7	128.9	179.8
Feb 10	96.9	81.4	125.8
Feb 11	88.0	74.5	99.3
Feb 12	130.0	82.9	179.4
Feb 13	127.9	67.9	178.0
Feb 14	94.0	67.4	136.8
Feb 15	78.9	60.1	97.2
Feb 16	121.4	72.9	178.8
Feb 17	102.9	66.6	169.2
Feb 18	74.6	61.9	91.8
Feb 19	126.8	55.4	179.1
Feb 20	146.4	99.8	182.1
Feb 21	93.5	74.2	105.2
Feb 22	90.1	79.1	105.2
Feb 23	86.1	79.3	94.4
Feb 24	70.3	56.7	80.3
Feb 25	73.4	54.9	89.5
Feb 26	120.7	71.8	175.9
Feb 27	130.5	88.6	178.8
Feb 28	137.1	84.2	179.2
Summary	**106.9**	**70.3**	**161.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 55

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	106.6	98.6	114.3
Feb 2	103.0	98.1	113.0
Feb 3	109.8	98.4	122.9
Feb 4	109.3	101.5	119.6
Feb 5	109.6	103.2	120.8
Feb 6	106.7	99.1	119.8
Feb 7	105.9	89.6	126.2
Feb 8	106.0	93.9	118.5
Feb 9	105.2	98.7	110.1
Feb 10	110.8	93.9	116.6
Feb 11	113.7	91.7	120.8
Feb 12	111.7	81.1	116.3
Feb 13	83.3	70.5	94.6
Feb 14	90.6	69.2	102.0
Feb 15	97.9	86.5	108.9
Feb 16	100.8	93.8	109.5
Feb 17	75.2	69.9	80.4
Feb 18	76.9	57.4	90.6
Feb 19	89.8	70.4	117.7
Feb 20	96.4	77.6	113.4
Feb 21	102.6	91.9	111.6
Feb 22	102.1	93.4	110.8
Feb 23	99.1	93.1	103.3
Feb 24	88.0	76.7	98.3
Feb 25	92.4	80.2	100.9
Feb 26	101.7	96.5	113.4
Feb 27	101.9	98.4	111.8
Feb 28	90.6	69.0	107.1
Summary	**99.6**	**75.2**	**113.7**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 56

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	72.2	64.4	84.4
Feb 2	72.6	65.5	89.3
Feb 3	71.2	60.5	89.9
Feb 4	71.8	64.9	85.5
Feb 5	72.3	60.4	91.1
Feb 6	71.5	63.1	86.0
Feb 7	70.4	59.3	89.1
Feb 8	73.2	62.5	90.6
Feb 9	70.6	67.6	73.7
Feb 10	73.6	68.9	77.8
Feb 11	75.2	66.7	84.7
Feb 12	87.9	71.3	102.4
Feb 13	83.4	76.7	93.8
Feb 14	85.7	78.5	95.3
Feb 15	89.4	82.3	99.4
Feb 16	90.4	84.3	96.9
Feb 17	79.0	74.0	85.6
Feb 18	76.1	68.0	90.6
Feb 19	77.2	65.6	94.4
Feb 20	83.7	72.0	99.9
Feb 21	89.3	81.1	100.9
Feb 22	94.1	87.3	104.5
Feb 23	92.6	86.5	98.6
Feb 24	83.2	73.9	88.6
Feb 25	85.8	76.4	97.4
Feb 26	90.8	86.7	98.5
Feb 27	92.0	85.6	101.9
Feb 28	85.8	66.9	96.7
Summary	**80.8**	**70.4**	**94.1**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 57

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	141.1	134.9	146.7
Feb 2	140.5	135.6	147.3
Feb 3	142.6	136.8	151.8
Feb 4	141.6	137.4	147.5
Feb 5	140.8	135.1	150.0
Feb 6	137.3	70.1	148.5
Feb 7	139.6	130.4	151.9
Feb 8	141.3	133.5	149.9
Feb 9	140.4	136.6	143.9
Feb 10	140.8	132.3	144.3
Feb 11	141.0	131.2	147.0
Feb 12	142.5	130.4	145.6
Feb 13	127.5	118.5	138.0
Feb 14	132.6	117.9	141.0
Feb 15	134.6	126.7	143.5
Feb 16	136.2	128.1	142.2
Feb 17	121.2	115.0	130.2
Feb 18	116.2	103.9	128.4
Feb 19	120.8	97.4	143.0
Feb 20	129.7	117.7	139.3
Feb 21	134.4	124.6	142.6
Feb 22	136.5	129.3	143.4
Feb 23	132.0	125.7	136.7
Feb 24	121.3	106.8	131.1
Feb 25	125.4	112.2	134.0
Feb 26	131.3	124.0	139.0
Feb 27	131.0	123.8	138.4
Feb 28	121.9	102.3	134.2
Summary	**133.7**	**116.2**	**142.6**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 58

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	79.6	72.9	86.3
Feb 2	79.9	73.8	88.4
Feb 3	82.0	74.8	92.8
Feb 4	81.9	74.8	90.2
Feb 5	82.9	75.0	91.6
Feb 6	80.7	74.9	88.3
Feb 7	80.0	70.2	94.1
Feb 8	82.0	72.5	92.0
Feb 9	81.4	78.4	83.3
Feb 10	81.9	80.2	84.5
Feb 11	82.0	76.5	86.7
Feb 12	81.4	73.5	86.9
Feb 13	72.7	66.5	76.9
Feb 14	74.2	55.1	81.5
Feb 15	76.9	66.7	85.4
Feb 16	77.8	73.7	83.4
Feb 17	69.6	65.0	73.8
Feb 18	55.0	41.1	68.9
Feb 19	58.2	33.3	86.1
Feb 20	75.4	61.3	90.1
Feb 21	79.5	69.5	89.2
Feb 22	82.0	73.7	91.2
Feb 23	79.6	76.4	83.4
Feb 24	73.9	69.2	77.0
Feb 25	75.8	66.9	81.3
Feb 26	81.0	74.5	90.5
Feb 27	81.5	75.3	89.3
Feb 28	78.0	69.4	85.5
Summary	**77.4**	**55.0**	**82.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 59

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	112.0	111.2	112.6
Feb 2	111.8	111.3	112.7
Feb 3	111.8	111.3	112.9
Feb 4	111.7	110.9	112.6
Feb 5	111.8	111.2	112.7
Feb 6	111.3	110.5	112.4
Feb 7	114.9	110.1	122.6
Feb 8	116.4	109.5	124.9
Feb 9	113.8	111.4	122.2
Feb 10	111.6	111.2	111.8
Feb 11	111.5	110.9	112.0
Feb 12	115.2	111.3	125.1
Feb 13	111.8	109.8	120.3
Feb 14	110.2	94.3	115.3
Feb 15	113.0	109.8	122.3
Feb 16	112.0	110.3	119.9
Feb 17	109.7	109.1	110.4
Feb 18	106.0	90.5	110.0
Feb 19	109.2	101.9	115.4
Feb 20	113.0	109.6	122.3
Feb 21	115.6	109.4	124.3
Feb 22	112.3	110.2	122.1
Feb 23	110.5	110.2	111.0
Feb 24	109.8	109.0	110.3
Feb 25	109.8	108.9	110.5
Feb 26	110.3	109.6	110.9
Feb 27	110.6	109.9	111.4
Feb 28	110.2	108.6	111.3
Summary	**111.7**	**106.0**	**116.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 60

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	59.1	48.8	71.5
Feb 2	58.7	49.4	76.3
Feb 3	62.2	50.8	81.1
Feb 4	63.8	53.1	79.3
Feb 5	65.5	53.8	81.7
Feb 6	65.6	54.8	80.2
Feb 7	67.3	54.9	85.1
Feb 8	70.2	60.3	84.1
Feb 9	69.9	67.6	72.7
Feb 10	73.1	71.1	74.8
Feb 11	74.9	69.7	81.0
Feb 12	71.2	60.0	76.1
Feb 13	56.2	48.3	64.4
Feb 14	56.7	42.2	69.9
Feb 15	59.6	47.6	73.9
Feb 16	59.0	52.6	67.2
Feb 17	48.3	43.2	55.5
Feb 18	41.1	30.4	55.1
Feb 19	45.7	27.8	72.2
Feb 20	55.6	39.8	75.1
Feb 21	61.5	49.2	76.4
Feb 22	66.4	57.6	79.6
Feb 23	65.1	59.5	72.5
Feb 24	56.1	50.6	61.1
Feb 25	59.1	47.9	70.9
Feb 26	65.2	56.8	77.4
Feb 27	66.4	59.4	77.4
Feb 28	61.9	48.1	73.0
Summary	**61.6**	**41.1**	**74.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 62

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	95.8	89.8	103.0
Feb 2	95.4	92.0	102.6
Feb 3	95.3	87.3	104.7
Feb 4	95.2	90.4	103.4
Feb 5	93.7	87.2	103.3
Feb 6	90.7	82.7	97.2
Feb 7	89.8	79.2	105.4
Feb 8	92.2	85.8	101.7
Feb 9	89.0	84.6	91.6
Feb 10	89.5	84.6	92.6
Feb 11	89.0	81.4	94.1
Feb 12	77.0	48.1	93.6
Feb 13	63.7	34.2	85.5
Feb 14	100.4	57.1	120.6
Feb 15	114.3	85.1	117.5
Feb 16	114.8	113.2	115.7
Feb 17	112.0	110.7	113.1
Feb 18	111.9	111.0	113.4
Feb 19	112.0	110.6	114.4
Feb 20	111.8	110.3	113.7
Feb 21	111.8	110.7	113.4
Feb 22	111.9	110.4	113.5
Feb 23	109.8	99.4	113.2
Feb 24	109.5	108.0	110.4
Feb 25	109.5	108.2	110.8
Feb 26	109.6	108.2	111.0
Feb 27	109.0	107.8	111.3
Feb 28	107.7	104.2	110.1
Summary	**100.4**	**63.7**	**114.8**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 63

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	92.7	86.1	101.0
Feb 2	85.9	76.1	100.4
Feb 3	82.7	73.0	99.0
Feb 4	82.2	71.5	95.3
Feb 5	80.5	71.1	97.1
Feb 6	79.1	67.2	95.9
Feb 7	77.6	64.4	98.4
Feb 8	78.9	66.8	95.1
Feb 9	74.8	70.4	77.5
Feb 10	75.7	71.4	78.9
Feb 11	76.5	68.2	84.0
Feb 12	70.3	47.9	85.2
Feb 13	56.5	34.7	72.9
Feb 14	69.1	55.2	81.2
Feb 15	70.3	58.6	84.7
Feb 16	70.8	64.4	79.4
Feb 17	57.1	49.6	66.9
Feb 18	59.2	48.2	74.6
Feb 19	65.3	50.1	85.9
Feb 20	68.8	54.5	88.2
Feb 21	71.1	58.4	88.3
Feb 22	72.9	63.7	88.1
Feb 23	67.5	54.2	79.3
Feb 24	60.8	54.7	65.7
Feb 25	64.6	49.7	81.3
Feb 26	73.1	62.9	90.1
Feb 27	75.0	67.4	87.2
Feb 28	69.2	50.7	80.3
Summary	**72.4**	**56.5**	**92.7**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 64

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	114.7	111.1	117.3
Feb 2	114.7	111.8	116.3
Feb 3	116.4	111.9	120.9
Feb 4	116.5	113.0	120.4
Feb 5	116.4	113.0	121.0
Feb 6	115.3	106.6	119.4
Feb 7	116.0	109.5	125.7
Feb 8	116.9	112.0	122.8
Feb 9	115.0	111.7	117.5
Feb 10	115.1	110.3	118.2
Feb 11	115.6	109.7	119.8
Feb 12	96.3	48.7	119.9
Feb 13	83.1	36.5	113.8
Feb 14	112.4	105.1	116.0
Feb 15	111.8	70.7	118.5
Feb 16	114.8	110.9	119.6
Feb 17	105.8	102.3	108.4
Feb 18	107.7	102.3	112.8
Feb 19	112.2	105.7	118.8
Feb 20	113.4	108.0	119.2
Feb 21	114.3	110.3	120.2
Feb 22	114.6	109.9	119.1
Feb 23	110.2	93.4	115.7
Feb 24	109.5	104.3	113.2
Feb 25	111.2	106.3	115.5
Feb 26	116.5	112.6	122.5
Feb 27	117.2	113.0	123.0
Feb 28	113.8	104.9	120.3
Summary	**112.0**	**83.1**	**117.2**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 65

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	94.7	86.1	101.3
Feb 2	91.7	85.8	100.0
Feb 3	92.5	82.0	105.8
Feb 4	89.9	83.0	98.7
Feb 5	89.1	76.9	106.1
Feb 6	89.3	76.3	104.9
Feb 7	90.4	76.8	111.0
Feb 8	91.7	79.6	107.0
Feb 9	88.3	82.2	92.3
Feb 10	90.8	83.9	95.5
Feb 11	91.9	82.2	99.9
Feb 12	93.0	77.3	99.7
Feb 13	77.5	65.9	86.0
Feb 14	82.9	51.4	95.1
Feb 15	86.5	74.4	96.9
Feb 16	88.6	80.6	98.0
Feb 17	74.0	67.4	82.1
Feb 18	45.4	27.3	73.6
Feb 19	54.9	26.5	101.3
Feb 20	88.4	69.7	105.3
Feb 21	93.1	84.3	104.4
Feb 22	91.3	83.1	101.8
Feb 23	87.8	83.9	95.5
Feb 24	78.3	69.9	84.7
Feb 25	81.1	67.5	92.9
Feb 26	108.6	78.2	145.7
Feb 27	137.9	136.8	139.4
Feb 28	135.3	133.2	136.9
Summary	**89.5**	**45.4**	**137.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 66

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	133.7	129.2	137.0
Feb 2	133.2	130.0	138.1
Feb 3	136.4	131.8	142.1
Feb 4	134.7	131.5	137.8
Feb 5	136.3	131.3	141.2
Feb 6	137.3	133.2	141.3
Feb 7	137.8	129.0	146.3
Feb 8	139.2	133.2	144.0
Feb 9	139.2	135.0	142.3
Feb 10	136.8	116.0	142.9
Feb 11	137.3	123.3	142.6
Feb 12	136.6	112.1	140.4
Feb 13	121.6	110.0	131.4
Feb 14	128.5	95.6	134.8
Feb 15	129.8	122.2	140.9
Feb 16	132.9	125.2	137.3
Feb 17	121.1	115.5	125.7
Feb 18	107.7	90.2	132.0
Feb 19	113.6	89.7	140.8
Feb 20	130.7	114.0	145.2
Feb 21	135.5	128.6	142.0
Feb 22	136.7	127.4	141.3
Feb 23	133.2	124.5	138.0
Feb 24	128.7	116.4	138.0
Feb 25	131.7	126.3	138.9
Feb 26	135.9	131.2	139.7
Feb 27	134.5	129.2	141.7
Feb 28	127.0	108.3	139.2
Summary	**131.7**	**107.7**	**139.2**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 67

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	118.1	109.6	125.1
Feb 2	115.8	109.3	128.0
Feb 3	116.8	100.9	133.3
Feb 4	117.3	110.4	125.8
Feb 5	115.5	101.0	131.8
Feb 6	117.7	108.1	128.1
Feb 7	116.8	102.2	135.3
Feb 8	120.4	109.6	131.6
Feb 9	118.9	110.6	124.5
Feb 10	120.6	107.8	127.9
Feb 11	117.6	95.4	128.7
Feb 12	122.3	101.2	130.2
Feb 13	99.0	85.7	112.7
Feb 14	109.1	102.6	116.4
Feb 15	111.3	98.7	121.0
Feb 16	116.0	101.9	125.5
Feb 17	89.5	78.5	102.3
Feb 18	98.8	84.3	110.1
Feb 19	105.8	89.5	127.7
Feb 20	108.0	92.3	124.3
Feb 21	109.8	93.0	120.6
Feb 22	113.7	105.2	122.9
Feb 23	110.1	102.6	116.9
Feb 24	97.7	77.1	114.9
Feb 25	101.7	90.8	113.5
Feb 26	112.9	101.4	123.5
Feb 27	113.9	103.6	123.6
Feb 28	102.9	71.9	123.7
Summary	**111.4**	**89.5**	**122.3**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 68

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Feb 1	120.7	119.5	121.4
Feb 2	121.0	120.0	123.9
Feb 3	121.5	119.1	123.6
Feb 4	122.0	120.8	123.3
Feb 5	122.6	120.0	124.9
Feb 6	123.1	121.8	125.1
Feb 7	123.8	121.7	125.8
Feb 8	124.3	122.5	126.3
Feb 9	124.3	122.9	126.5
Feb 10	123.3	121.4	124.7
Feb 11	120.5	117.6	121.9
Feb 12	124.0	119.4	127.3
Feb 13	125.9	122.2	130.3
Feb 14	129.8	120.5	133.7
Feb 15	124.8	123.2	126.2
Feb 16	125.3	122.5	131.2
Feb 17	121.9	120.2	123.6
Feb 18	114.9	105.8	123.3
Feb 19	118.8	110.4	129.4
Feb 20	125.0	121.8	128.2
Feb 21	125.7	123.7	127.0
Feb 22	125.5	123.8	127.0
Feb 23	123.5	121.0	125.4
Feb 24	121.5	118.7	123.6
Feb 25	122.3	120.6	123.3
Feb 26	123.2	122.4	124.5
Feb 27	123.8	122.5	126.0
Feb 28	121.7	116.6	125.2
Summary	**123.0**	**114.9**	**129.8**

Appendix D

Solid Waste Permit 588 Daily Borehole Temperature Averages

Appendix D Table of Contents

Section Page

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 1

	Depth from Surface					
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft
1-Feb	165.8	228.5	228.9	246.7	257.7	268.8
2-Feb	165.8	227.7	228.2	246.6	257.8	268.6
3-Feb	165.9	227.7	228.3	246.7	258.1	268.8
4-Feb	165.9	228.0	228.5	246.6	257.9	268.6
5-Feb	166.1	228.1	228.6	246.7	257.9	268.7
6-Feb	165.9	227.9	228.4	246.6	257.8	268.6
7-Feb	165.9	227.9	228.4	246.6	257.8	268.6
8-Feb	165.8	228.0	228.5	246.4	257.6	268.5
9-Feb	165.6	228.3	228.8	245.9	256.7	268.1
10-Feb	165.8	228.5	229.0	246.1	256.7	268.3
11-Feb	165.8	228.7	229.1	246.2	256.8	268.4
12-Feb	166.0	228.6	229.2	246.2	256.8	268.3
13-Feb	165.7	228.3	228.8	246.1	256.7	268.3
14-Feb	165.7	228.2	228.7	246.1	256.6	268.4
15-Feb	166.0	228.4	228.9	246.2	256.8	268.5
16-Feb	165.7	227.9	228.4	245.7	256.2	267.9
17-Feb	165.5	227.7	228.3	245.6	256.1	267.8
18-Feb	165.6	227.7	228.2	245.7	256.2	268.0
19-Feb	166.0	228.0	228.5	246.0	256.5	268.3
20-Feb	166.0	228.1	228.6	246.1	256.6	268.4
21-Feb	165.9	228.1	228.7	246.1	256.5	268.3
22-Feb	166.3	228.4	229.0	246.2	256.7	268.5
23-Feb	166.0	228.3	228.7	246.0	256.5	268.3
24-Feb	165.4	227.5	228.0	245.5	256.1	267.8
25-Feb	165.8	227.6	228.2	246.1	256.6	268.4
26-Feb	165.8	227.5	227.9	245.8	256.4	268.2
27-Feb	166.1	227.6	228.1	246.1	256.7	268.5
28-Feb	165.9	227.2	227.7	246.0	256.6	268.3
29-Feb	165.8	226.9	227.3	246.0	256.7	268.5
Average	**165.8**	**228.0**	**228.5**	**246.2**	**256.9**	**268.4**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 2

	Depth from Surface					
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft
1-Feb	195.9	234.4	234.9	263.9	250.2	261.8
2-Feb	197.1	234.3	234.8	264.0	250.2	261.8
3-Feb	196.5	234.3	234.8	264.1	250.2	261.8
4-Feb	197.7	234.2	234.6	264.1	250.1	261.7
5-Feb	197.1	234.1	234.7	264.1	250.3	261.9
6-Feb	194.5	234.3	234.8	264.1	250.1	261.7
7-Feb	191.1	234.5	235.0	264.1	250.5	261.8
8-Feb	187.8	234.4	235.0	264.1	250.4	261.6
9-Feb	191.9	234.2	234.7	263.9	249.8	261.3
10-Feb	194.6	234.3	234.7	264.1	250.0	261.5
11-Feb	196.4	234.3	234.7	264.2	250.1	261.6
12-Feb	198.6	234.1	234.5	264.2	250.2	261.6
13-Feb	193.4	234.0	234.5	264.1	250.0	261.5
14-Feb	185.0	234.3	234.8	264.2	250.3	261.5
15-Feb	196.4	234.7	235.1	264.0	253.3	261.6
16-Feb	198.6	234.1	234.6	263.9	251.7	261.3
17-Feb	191.2	233.9	234.4	263.8	251.2	261.2
18-Feb	190.0	234.0	234.5	263.9	251.8	261.2
19-Feb	191.0	234.3	234.9	264.1	252.2	261.4
20-Feb	191.2	234.5	235.1	264.1	252.4	261.5
21-Feb	192.2	234.5	235.0	264.1	252.4	261.4
22-Feb	198.3	234.2	234.7	264.2	252.4	261.5
23-Feb	200.4	233.8	234.3	264.1	252.2	261.3
24-Feb	196.9	233.7	234.2	263.7	251.8	260.9
25-Feb	193.4	234.2	234.7	263.9	252.1	261.2
26-Feb	194.5	234.2	234.8	263.8	252.2	261.2
27-Feb	197.3	234.2	234.7	263.8	252.2	261.4
28-Feb	195.9	234.1	234.6	263.6	252.0	261.1
29-Feb	185.5	234.4	235.0	263.5	251.8	261.1
Average	**194.2**	**234.2**	**234.7**	**264.0**	**251.2**	**261.5**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 3

	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	202.2	235.5	235.6	245.5	255.0	263.0	267.9	255.1
2-Feb	202.6	235.4	235.5	244.9	254.9	262.9	267.8	255.1
3-Feb	203.1	235.4	235.5	244.9	254.9	263.0	268.0	255.2
4-Feb	203.2	235.3	235.5	245.0	254.8	262.9	267.9	255.1
5-Feb	203.4	235.6	235.6	245.1	254.8	262.9	268.0	255.3
6-Feb	203.2	235.5	235.6	244.8	254.7	262.9	267.9	255.3
7-Feb	203.3	235.4	235.5	244.5	254.6	262.8	267.9	255.3
8-Feb	203.4	235.2	235.3	244.2	254.3	262.6	267.8	255.2
9-Feb	203.3	234.8	234.8	243.7	253.9	262.3	267.4	254.8
10-Feb	203.4	234.7	234.8	243.8	254.0	262.4	267.5	254.9
11-Feb	203.3	234.9	235.0	244.0	254.0	262.4	267.6	255.0
12-Feb	203.3	235.0	235.0	244.0	253.8	262.3	267.5	255.0
13-Feb	202.9	234.9	235.0	244.0	253.9	262.3	267.6	255.2
14-Feb	203.0	235.0	235.1	244.0	253.8	262.2	267.6	255.2
15-Feb	203.2	235.2	235.3	244.1	253.8	262.3	267.7	255.3
16-Feb	202.7	234.9	235.0	243.7	253.2	261.9	267.2	254.8
17-Feb	202.3	234.7	234.8	243.5	253.0	261.6	267.1	254.7
18-Feb	202.3	234.8	235.0	243.6	253.1	261.7	267.3	255.0
19-Feb	202.4	235.1	235.2	244.0	253.4	261.9	267.6	255.3
20-Feb	202.1	235.2	235.3	244.1	253.4	261.8	267.6	255.4
21-Feb	201.7	235.2	235.4	244.2	253.3	261.8	267.6	255.4
22-Feb	200.8	235.3	235.4	244.1	253.2	261.6	267.4	255.2
23-Feb	200.8	235.0	235.1	243.8	253.0	261.3	267.3	255.0
24-Feb	199.9	234.5	234.6	243.1	252.6	260.8	266.9	254.6
25-Feb	199.1	234.7	234.9	243.7	253.1	261.0	267.4	255.3
26-Feb	198.6	234.7	234.8	243.6	252.9	261.0	267.2	255.0
27-Feb	199.0	234.7	234.9	243.7	253.1	261.1	267.3	255.1
28-Feb	198.3	234.5	234.6	243.5	252.9	260.9	267.1	254.9
29-Feb	196.4	234.3	234.4	243.4	252.9	261.0	267.2	255.1
Average	**201.8**	**235.0**	**235.1**	**244.1**	**253.7**	**262.0**	**267.5**	**255.1**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 4

	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	193.6	227.4	227.8	247.8	263.3	248.3	245.3	186.0
2-Feb	194.5	229.1	229.6	248.2	262.5	248.3	245.3	187.5
3-Feb	194.8	228.1	228.6	248.2	262.6	248.3	245.4	187.4
4-Feb	191.4	229.2	229.7	248.3	263.1	248.8	245.3	184.9
5-Feb	192.3	229.5	230.0	248.4	262.0	248.2	245.5	184.9
6-Feb	192.8	229.5	230.1	248.3	259.5	246.5	245.4	186.0
7-Feb	192.8	229.4	230.0	248.1	257.4	244.8	245.5	187.0
8-Feb	193.0	229.1	229.7	248.0	255.7	243.7	245.4	187.7
9-Feb	192.8	228.7	229.2	247.6	253.8	242.4	244.9	188.3
10-Feb	191.7	228.7	229.2	247.8	250.8	240.4	245.2	190.7
11-Feb	188.6	228.6	229.0	247.8	256.1	244.3	245.2	186.0
12-Feb	191.0	228.7	229.1	247.6	261.5	248.3	245.2	182.1
13-Feb	187.1	228.3	228.6	247.6	262.9	249.4	245.3	180.5
14-Feb	190.6	228.2	228.4	247.4	265.3	251.4	245.3	178.6
15-Feb	191.1	228.5	228.9	247.5	268.4	253.9	245.4	176.6
16-Feb	191.0	228.4	228.8	247.1	267.1	253.3	244.9	177.1
17-Feb	189.9	227.8	228.1	247.1	264.1	250.2	244.9	178.4
18-Feb	190.5	228.0	228.4	247.1	264.1	250.4	245.1	178.6
19-Feb	191.5	228.2	228.7	247.7	264.3	250.9	245.5	179.9
20-Feb	192.2	228.2	228.7	247.2	262.9	250.1	245.3	181.4
21-Feb	192.4	228.3	228.8	247.3	264.2	251.1	245.4	182.3
22-Feb	192.2	228.9	229.5	247.3	265.3	252.2	245.4	181.7
23-Feb	191.4	228.4	228.9	246.5	262.3	249.5	245.3	183.2
24-Feb	191.1	227.9	228.4	246.0	267.5	253.7	244.8	177.0
25-Feb	191.9	225.3	228.8	246.4	263.3	250.9	245.3	185.1
26-Feb	192.4	221.2	228.6	246.7	263.9	251.3	245.0	189.0
27-Feb	192.4	221.8	229.5	246.2	269.0	251.0	245.3	190.5
28-Feb	193.0	220.4	229.0	245.8	275.0	252.5	245.1	189.6
29-Feb	193.1	218.9	228.3	245.6	277.5	253.0	245.3	188.4
Average	**191.8**	**227.3**	**229.0**	**247.3**	**263.3**	**249.2**	**245.2**	**184.0**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 5

	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	207.1	206.7	206.8	207.1	211.1	215.9	242.2	196.9
2-Feb	206.8	206.5	206.6	206.9	210.9	214.2	241.0	196.9
3-Feb	207.0	206.5	206.6	206.9	210.7	212.7	240.1	197.0
4-Feb	206.8	206.3	206.4	206.7	210.5	211.8	239.5	197.0
5-Feb	206.8	206.4	206.4	206.8	210.9	211.1	239.1	197.1
6-Feb	207.1	206.6	206.7	207.0	211.6	210.1	238.5	197.0
7-Feb	207.4	207.0	207.1	207.4	211.8	209.3	238.0	197.1
8-Feb	207.4	207.0	207.1	207.4	212.6	208.5	237.5	197.2
9-Feb	207.1	206.7	206.8	207.1	212.5	207.7	236.9	197.1
10-Feb	207.1	206.6	206.8	207.1	212.6	207.4	236.7	197.3
11-Feb	206.9	206.5	206.6	207.0	212.5	207.2	236.3	197.3
12-Feb	206.5	206.1	206.2	206.6	211.2	206.7	235.8	197.3
13-Feb	206.8	206.3	206.4	206.7	210.6	206.9	235.4	197.2
14-Feb	207.3	206.8	206.9	207.2	211.0	207.2	235.2	197.1
15-Feb	206.9	206.4	206.5	206.9	210.2	206.8	234.6	196.8
16-Feb	*	*	*	*	*	*	*	*
17-Feb	*	*	*	*	*	*	*	*
18-Feb	*	*	*	*	*	*	*	*
19-Feb	*	*	*	*	*	*	*	*
20-Feb	*	*	*	*	*	*	*	*
21-Feb	*	*	*	*	*	*	*	*
22-Feb	*	*	*	*	*	*	*	*
23-Feb	*	*	*	*	*	*	*	*
24-Feb	*	*	*	*	*	*	*	*
25-Feb	*	*	*	*	*	*	*	*
26-Feb	*	*	*	*	*	*	*	*
27-Feb	*	*	*	*	*	*	*	*
28-Feb	*	*	*	*	*	*	*	*
29-Feb	*	*	*	*	*	*	*	*
Average	**207.0**	**206.6**	**206.6**	**207.0**	**211.4**	**209.6**	**237.8**	**197.1**

* Indicates senor reading failures

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 6

	Depth from Surface				
Date	25 ft	50 ft	75 ft	100 ft	125 ft
1-Feb	198.4	226.4	226.6	224.5	239.2
2-Feb	180.1	226.5	226.5	225.1	238.8
3-Feb	174.9	226.6	226.9	226.1	237.8
4-Feb	172.8	226.9	225.6	224.4	241.3
5-Feb	171.7	226.6	226.7	225.7	236.7
6-Feb	170.3	226.1	226.6	226.8	237.1
7-Feb	189.7	225.6	226.2	227.4	240.9
8-Feb	206.8	224.7	226.2	225.6	248.9
9-Feb	206.5	225.2	226.4	223.8	248.2
10-Feb	206.5	225.3	225.7	221.5	254.7
11-Feb	206.6	224.9	225.9	222.3	256.1
12-Feb	206.2	225.3	226.0	222.7	251.6
13-Feb	206.3	225.4	225.7	221.5	251.2
14-Feb	206.8	225.6	226.0	223.3	244.8
15-Feb	206.9	225.7	226.3	224.7	241.3
16-Feb	206.4	225.7	226.1	225.1	239.1
17-Feb	206.4	225.4	225.8	224.2	240.0
18-Feb	206.6	225.6	225.8	224.0	242.4
19-Feb	207.0	225.9	226.2	225.8	237.8
20-Feb	207.0	225.7	226.3	225.4	238.9
21-Feb	196.7	225.7	225.1	215.5	262.9
22-Feb	195.3	225.7	225.9	220.3	255.4
23-Feb	206.0	225.0	225.1	214.2	275.4
24-Feb	206.0	225.5	226.0	223.6	244.9
25-Feb	206.8	226.2	226.3	227.3	236.8
26-Feb	206.7	226.1	226.3	227.3	235.7
27-Feb	204.4	226.1	226.4	224.4	242.1
28-Feb	184.2	226.4	226.6	222.1	246.8
29-Feb	177.6	226.4	225.4	205.5	244.6
Average	**197.5**	**225.8**	**226.1**	**223.1**	**245.2**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 7

	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	184.1	215.0	201.0	208.9	207.0	202.5	222.2	192.7
2-Feb	184.8	214.5	200.9	209.6	205.3	198.5	222.1	192.4
3-Feb	185.7	213.9	201.4	209.8	205.7	199.4	222.6	193.2
4-Feb	186.4	212.9	201.8	209.5	208.6	199.0	223.0	193.4
5-Feb	186.7	211.8	202.1	208.9	208.4	207.4	223.4	193.1
6-Feb	185.8	210.9	203.0	208.8	208.7	211.5	224.1	193.9
7-Feb	185.2	211.9	203.7	205.7	208.1	212.5	224.0	194.6
8-Feb	185.6	212.0	203.6	205.5	208.8	212.6	224.0	194.4
9-Feb	186.0	210.2	203.8	207.5	211.6	210.8	223.9	193.1
10-Feb	184.4	209.0	203.6	207.7	210.2	210.1	223.5	194.8
11-Feb	184.2	209.2	202.9	209.0	210.9	210.2	223.5	192.8
12-Feb	185.5	210.1	201.2	210.6	211.7	210.8	222.4	189.6
13-Feb	184.0	210.8	199.4	212.2	213.0	212.3	221.3	186.0
14-Feb	181.9	212.7	192.7	216.0	216.0	215.2	218.8	180.4
15-Feb	181.2	215.2	185.1	219.5	219.3	217.8	217.4	172.7
16-Feb	179.4	214.6	183.3	220.2	219.7	219.0	216.7	171.6
17-Feb	176.3	211.7	178.4	219.7	219.2	219.1	215.9	175.2
18-Feb	173.6	211.2	178.4	221.1	220.1	220.0	215.1	168.8
19-Feb	172.0	211.3	177.9	219.6	217.3	218.5	216.1	172.3
20-Feb	169.0	211.2	174.7	220.6	216.1	218.4	215.0	174.4
21-Feb	167.3	209.1	179.8	218.9	213.3	216.0	215.9	178.3
22-Feb	166.9	206.6	184.4	216.4	210.9	213.4	216.7	178.7
23-Feb	166.4	203.2	189.0	213.3	207.1	210.0	218.7	183.9
24-Feb	165.0	202.2	187.6	213.2	205.4	208.0	217.6	185.3
25-Feb	163.3	201.4	190.0	213.5	205.2	207.3	217.9	186.6
26-Feb	163.3	198.1	195.6	210.4	202.2	204.1	217.9	189.1
27-Feb	165.0	196.2	198.7	208.4	200.4	202.2	219.1	191.8
28-Feb	166.4	196.0	199.7	207.2	199.6	201.6	219.5	188.8
29-Feb	167.4	195.2	201.2	206.4	199.4	201.1	219.5	189.2
Average	**177.0**	**208.5**	**194.0**	**212.3**	**210.0**	**210.0**	**219.9**	**185.9**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 8

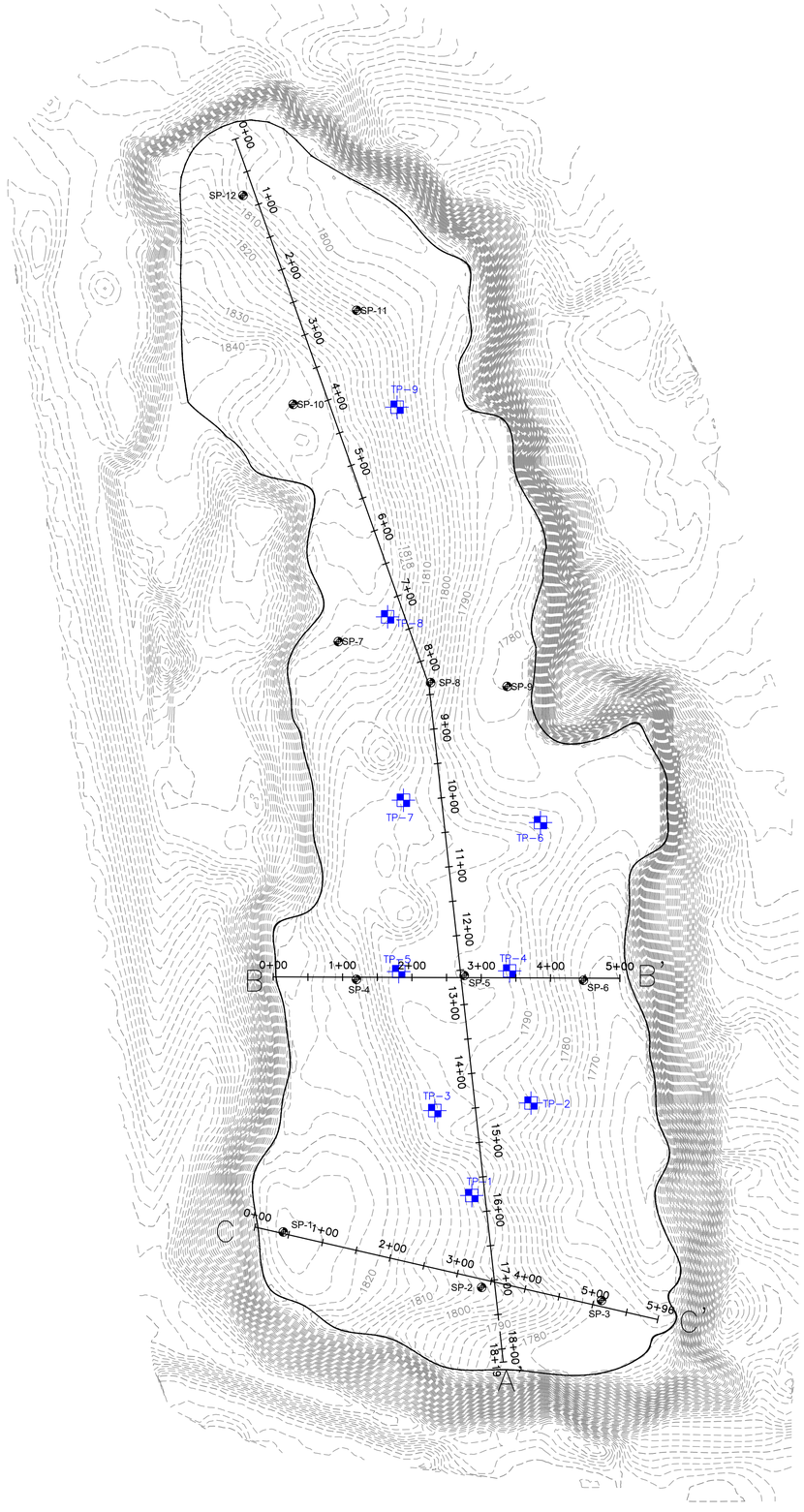
	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	180.9	194.2	194.5	197.1	198.7	192.1	187.4	177.3
2-Feb	179.7	194.1	194.4	197.0	198.6	192.1	187.4	177.3
3-Feb	179.1	194.2	194.5	197.2	198.7	192.2	187.6	177.4
4-Feb	180.0	194.1	194.4	197.0	198.6	192.2	187.5	177.3
5-Feb	179.6	194.2	194.6	197.1	198.7	192.3	187.6	177.5
6-Feb	178.4	194.3	194.6	197.2	198.7	192.4	187.6	177.4
7-Feb	177.4	194.4	194.7	197.4	198.9	192.4	187.7	177.4
8-Feb	176.3	194.4	194.7	197.4	198.9	192.4	187.6	177.3
9-Feb	175.7	194.1	194.4	197.1	198.6	192.1	187.2	176.8
10-Feb	176.2	194.2	194.4	197.1	198.6	192.2	187.3	177.0
11-Feb	177.6	194.2	194.5	197.0	198.5	192.3	187.4	177.0
12-Feb	179.8	194.1	194.3	196.9	198.3	192.3	187.3	177.0
13-Feb	181.6	194.1	194.4	197.0	198.5	192.4	187.5	177.2
14-Feb	178.9	194.2	194.5	197.1	198.7	192.4	187.5	177.1
15-Feb	178.1	194.3	194.7	197.3	198.8	192.5	187.6	177.2
16-Feb	177.6	194.0	194.3	196.9	198.4	192.2	187.2	176.8
17-Feb	176.9	193.9	194.2	196.8	198.3	192.2	187.3	176.8
18-Feb	176.5	194.1	194.4	197.1	198.6	192.5	187.5	177.0
19-Feb	176.7	194.3	194.7	197.3	198.8	192.7	187.7	177.3
20-Feb	178.3	194.4	194.7	197.3	198.9	192.7	187.8	177.3
21-Feb	179.6	194.4	194.7	197.4	198.9	192.7	187.9	177.3
22-Feb	180.7	194.3	194.6	197.2	198.7	192.7	187.8	177.2
23-Feb	181.5	194.1	194.4	196.9	198.3	192.7	187.7	177.2
24-Feb	179.0	193.8	194.0	196.7	198.1	192.3	187.4	176.8
25-Feb	179.0	194.2	194.5	197.2	198.7	192.7	187.9	177.3
26-Feb	180.3	194.2	194.5	197.1	198.6	192.6	187.7	177.1
27-Feb	181.5	194.2	194.6	197.1	198.5	192.7	187.8	177.3
28-Feb	181.1	194.1	194.3	196.9	198.3	192.5	187.6	177.1
29-Feb	181.1	194.3	194.6	197.3	198.8	192.6	187.7	177.2
Average	**178.9**	**194.2**	**194.5**	**197.1**	**198.6**	**192.4**	**187.6**	**177.2**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 9

	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	113.2	149.5	149.5	151.6	147.5	131.6	117.2	105.6
2-Feb	113.1	149.2	149.2	151.7	147.7	131.7	117.2	105.7
3-Feb	113.0	149.2	149.2	151.7	147.7	131.8	117.3	105.7
4-Feb	112.9	148.9	148.9	151.7	147.8	131.8	117.3	105.7
5-Feb	112.9	148.7	148.7	151.7	147.9	131.9	117.4	105.8
6-Feb	113.1	148.9	148.7	151.6	147.8	131.8	117.3	105.7
7-Feb	113.2	149.2	149.0	151.6	147.7	131.8	117.3	105.8
8-Feb	113.3	149.2	148.9	151.7	147.7	132.0	117.4	105.9
9-Feb	112.9	148.7	148.5	151.5	147.5	131.8	117.2	105.7
10-Feb	112.6	148.5	148.3	151.6	147.7	132.0	117.4	106.0
11-Feb	111.4	148.1	147.9	151.6	148.3	135.9	117.5	106.0
12-Feb	111.0	148.5	148.2	151.6	148.0	136.1	117.5	106.1
13-Feb	110.4	147.5	147.4	151.3	147.7	135.6	115.5	106.6
14-Feb	110.8	147.7	147.5	151.3	147.7	136.3	115.5	107.3
15-Feb	110.8	147.7	147.5	151.4	147.9	137.0	115.9	107.6
16-Feb	110.8	147.1	147.0	151.1	147.7	137.0	115.8	107.2
17-Feb	110.4	146.3	146.4	150.8	147.6	137.3	115.8	106.9
18-Feb	110.4	146.6	146.6	150.8	147.4	137.1	115.8	106.7
19-Feb	110.8	146.8	146.8	151.0	147.7	137.4	116.0	106.8
20-Feb	111.2	146.8	146.7	151.1	147.8	137.3	116.0	106.8
21-Feb	111.2	146.9	146.9	151.1	147.9	137.0	116.5	106.8
22-Feb	110.7	146.8	146.8	151.2	148.0	137.3	117.2	106.9
23-Feb	110.4	146.4	145.9	151.0	148.0	137.2	115.6	106.7
24-Feb	110.1	146.5	145.6	150.4	147.5	136.7	114.9	106.5
25-Feb	110.8	147.2	146.4	150.7	147.7	136.8	115.0	107.2
26-Feb	110.8	147.2	146.4	150.8	147.9	137.0	115.2	107.5
27-Feb	110.6	147.3	146.3	151.0	148.1	137.2	115.4	107.6
28-Feb	110.8	147.1	146.1	150.8	147.9	137.0	115.1	107.3
29-Feb	111.0	147.2	146.7	150.6	147.5	136.6	114.6	107.1
Average	**111.5**	**147.8**	**147.5**	**151.2**	**147.8**	**135.1**	**116.3**	**106.5**

Appendix E

Monthly Topography Analysis



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE SIDEWALL LOCATION
- SP-9 SETTLEMENT PLATE
- TP-3 TEMPERATURE MONITORING PROBE

NOTES:

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON FEBRUARY 7, 2023 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD–83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD–88.

100 50 0 100 200

SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: FEBRUARY 2023 LANDFILL TOPOGRAPHY

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15821 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

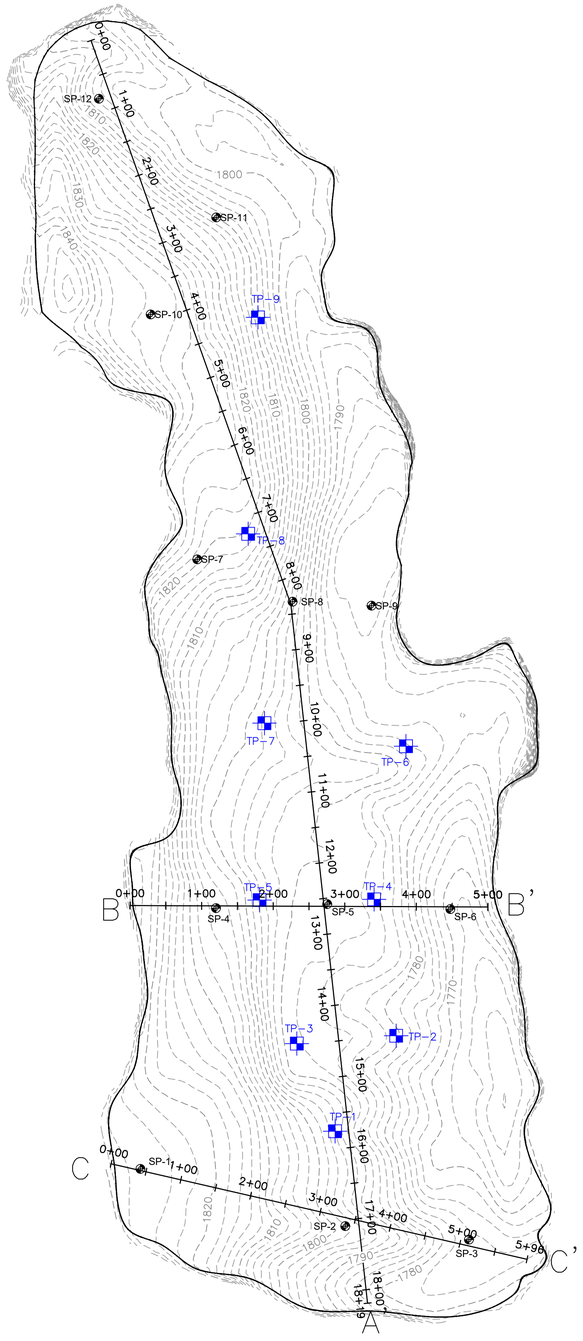
PROJ. NO. 02218208.05
DSN. BY:
DWN. BY: ISGW
CHK. BY: C.JW
QA/A RVW BY: C.JW
APP. BY: C.JW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. 1 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE SIDEWALL LOCATION
- SP-9 SETTLEMENT PLATE
- TP-3 TEMPERATURE MONITORING PROBE

NOTES:

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON NOVEMBER 16, 2023 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.

100 50 0 100 200

SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: NOVEMBER 2023 LANDFILL TOPOGRAPHY

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15621 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH: (804) 378-7440 FAX: (804) 378-7433

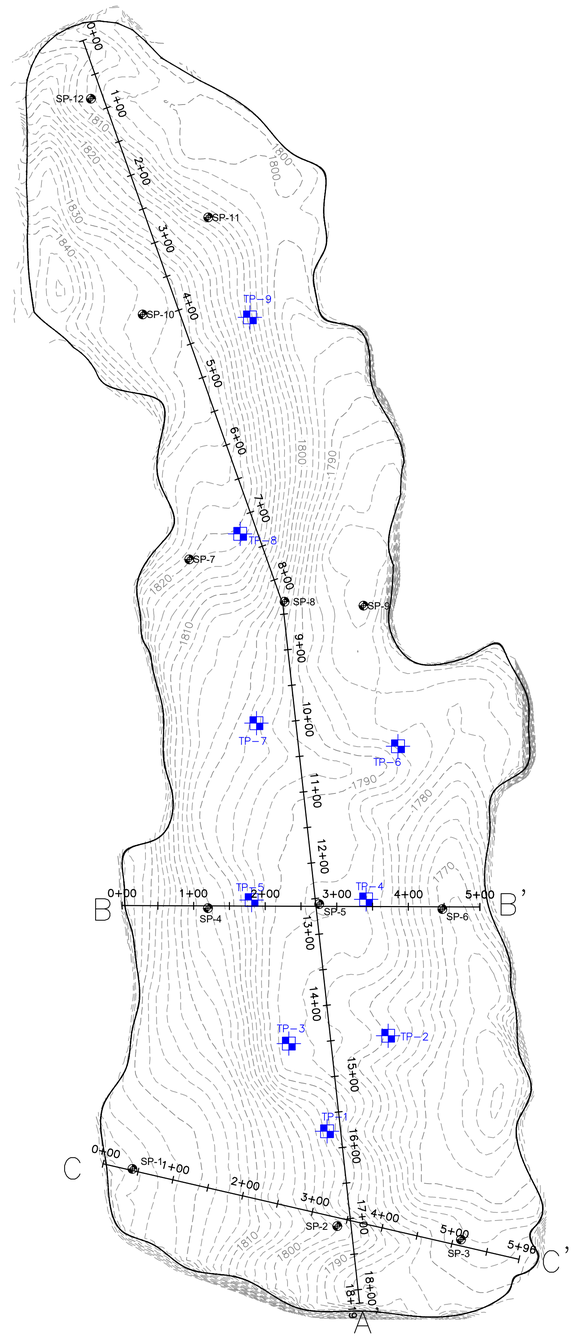
PROJ. NO. 02218208.05
DSN. BY:
DWN. BY: SRB
CHK. BY: CJW
Q/A R/W BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. 2 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE SIDEWALL LOCATION
- SP-9 SETTLEMENT PLATE
- TP-3 TEMPERATURE MONITORING PROBE

NOTES:

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON JANUARY 23, 2024 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD–83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD–88.

100 50 0 100 200

SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: JANUARY 2024 LANDFILL TOPOGRAPHY

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15621 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
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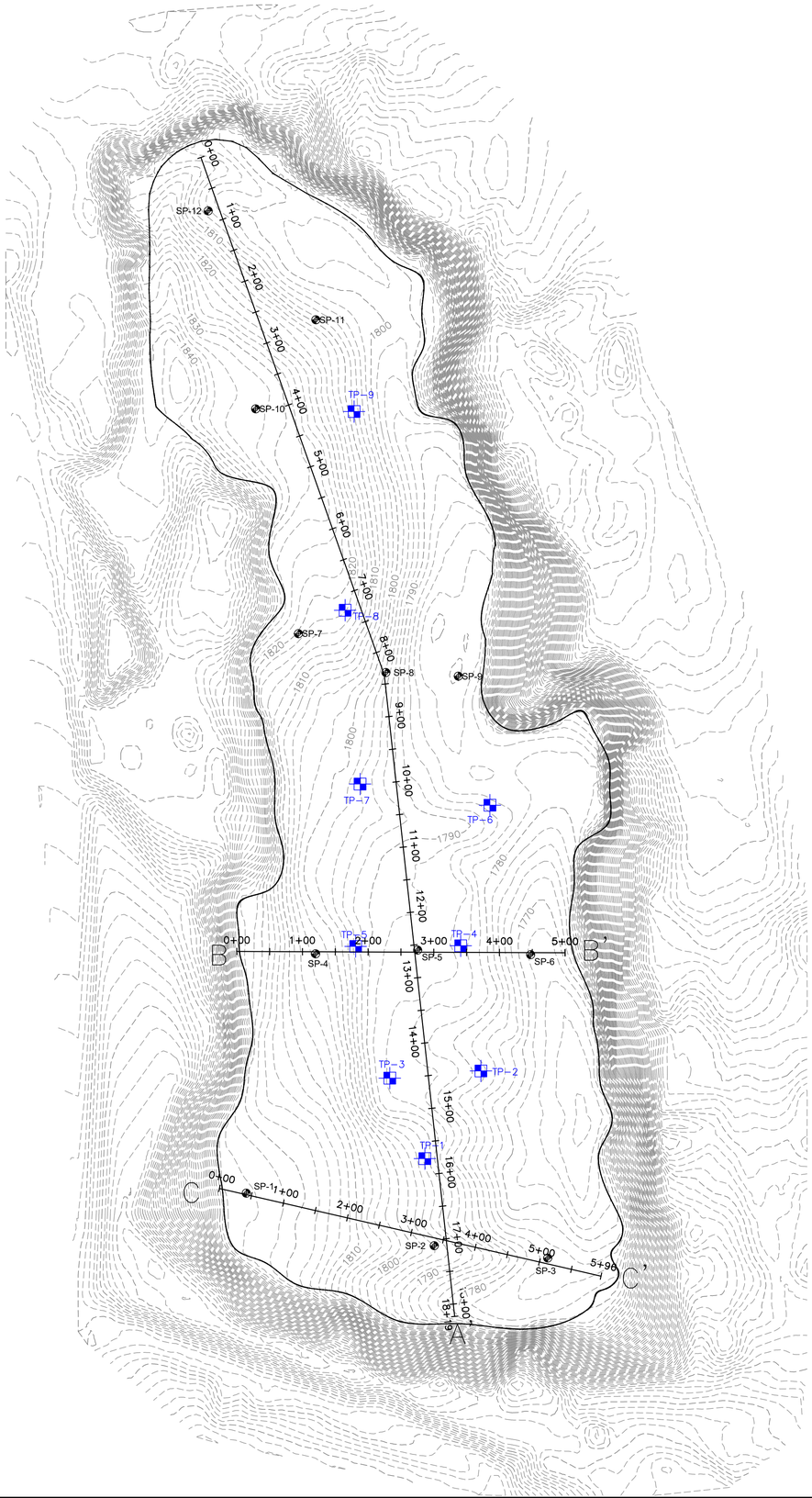
PROJ. NO. 02218208.05
DSN. BY:
DWN. BY: ISG/
CHK. BY: C.JW
QA. RVW BY: C.JW
APP. BY: C.JW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. 3 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE SIDEWALL LOCATION
- SP-9 SETTLEMENT PLATE
- TP-3 TEMPERATURE MONITORING PROBE

NOTES:

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON FEBRUARY 15, 2024 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD–83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD–88.

100 50 0 100 200
SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: FEBRUARY 2024 LANDFILL TOPOGRAPHY

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
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1621 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
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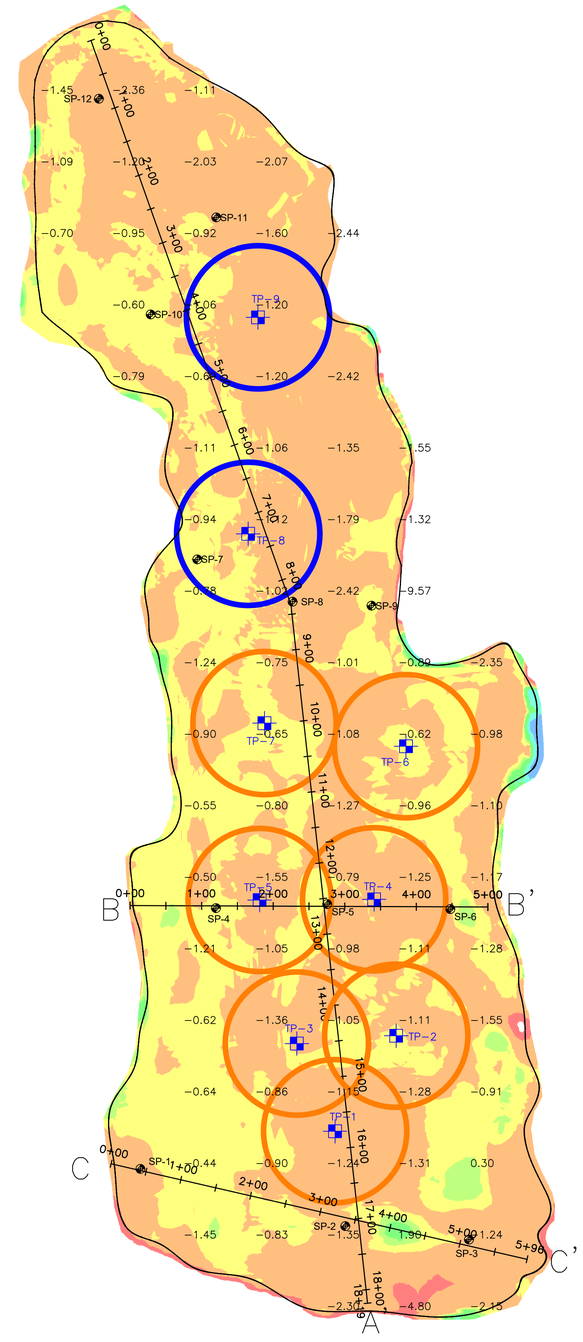
PROJ. NO. 02218208.05
DSN. BY:
DWN. BY: RSW
CHK. BY: CJW
Q/A RVW BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. 4 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE WASTE BOUNDARY
- SP-9 SETTLEMENT PLATE
- −0.39 SPOT ELEVATION ON 100' GRID
- TP−8 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200 °F
- TP−1 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200 °F AND 250 °F
- TP−2 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250 °F AND 300 °F

Volume

Base Surface TOPO – JANUARY 23, 2024
Comparison Surface TOPO – FEBRUARY 15, 2024

Cut Volume	39,300	Cu. Yd.
Fill Volume	1,400	Cu. Yd.
Net Cut	37,900	Cu. Yd.

Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color
1	−8.000	−5.000	
2	−5.000	−1.000	
3	−1.000	0.000	
4	0.000	1.000	
5	1.000	5.000	
6	5.000	10.000	
7	10.000	20.000	

NOTES:

1. THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON JANUARY 23, 2023 AND FEBRUARY 15, 2024 BY SCS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (−) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD−83 (2011)
4. THE VERTICAL DATUM IS BASED UPON NAVD−88.

100 50 0 100 200
SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: FEBRUARY VOLUME CHANGE JANUARY 2024 TO FEBRUARY 2024

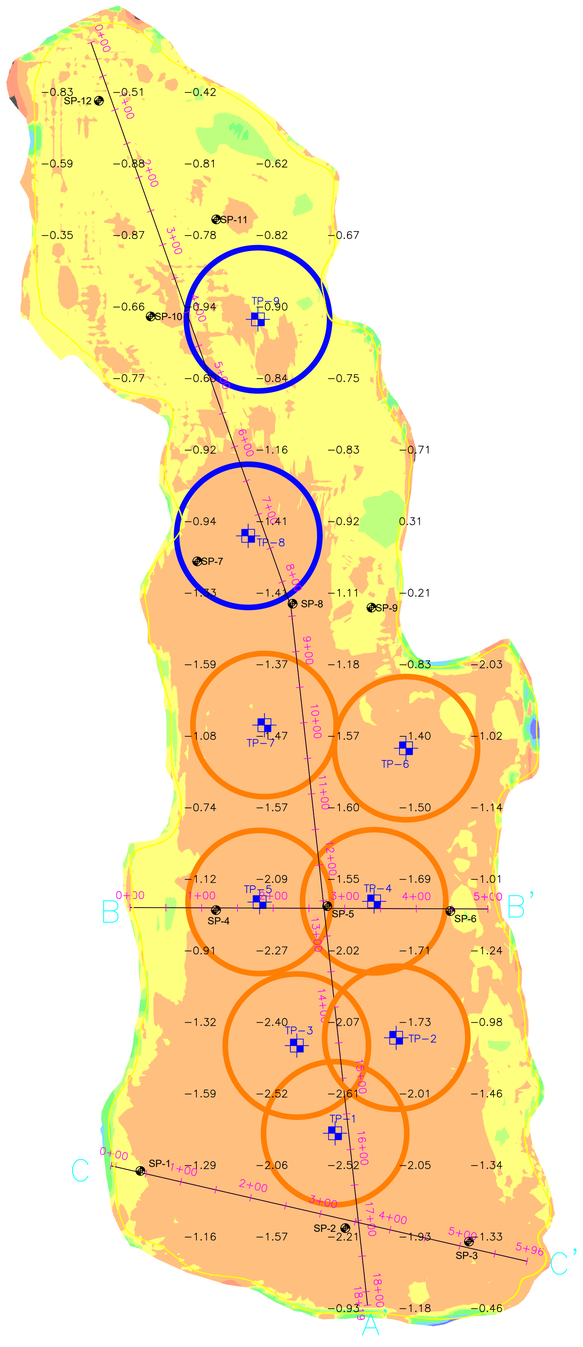
PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT
CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX: (804) 378-7433

PROJ. NO. 02218208.05
DWN. BY: SBW
CHK. BY: CJW
DSK. BY:
Q/A RVW BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 2/27/2024
SCALE:
DRAWING NO. 5 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE WASTE BOUNDARY
- SP-9 SETTLEMENT PLATE
- −0.39 SPOT ELEVATION ON 100' GRID
- TP−8 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200 °F
- TP−1 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200 °F AND 250 °F
- TP−2 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250 °F AND 300 °F

Volume

Base Surface	TOPO – NOVEMBER 16, 2023	
Comparison Surface	TOPO – FEBRUARY 15, 2024	
Cut Volume	39,200	Cu. Yd.
Fill Volume	1,200	Cu. Yd.
Net Cut	38,000	Cu. Yd.

Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color
1	−10.000	−5.000	
2	−5.000	−1.000	
3	−1.000	0.000	
4	0.000	1.000	
5	1.000	5.000	
6	5.000	10.000	

NOTES:

1. THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON NOVEMBER 16, 2023 AND FEBRUARY 15, 2024 BY SCS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (−) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD−83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD−88.

100 50 0 100 200

SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: FEBRUARY VOLUME CHANGE NOVEMBER 2023 TO FEBRUARY 2024

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15821 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX: (804) 378-7433

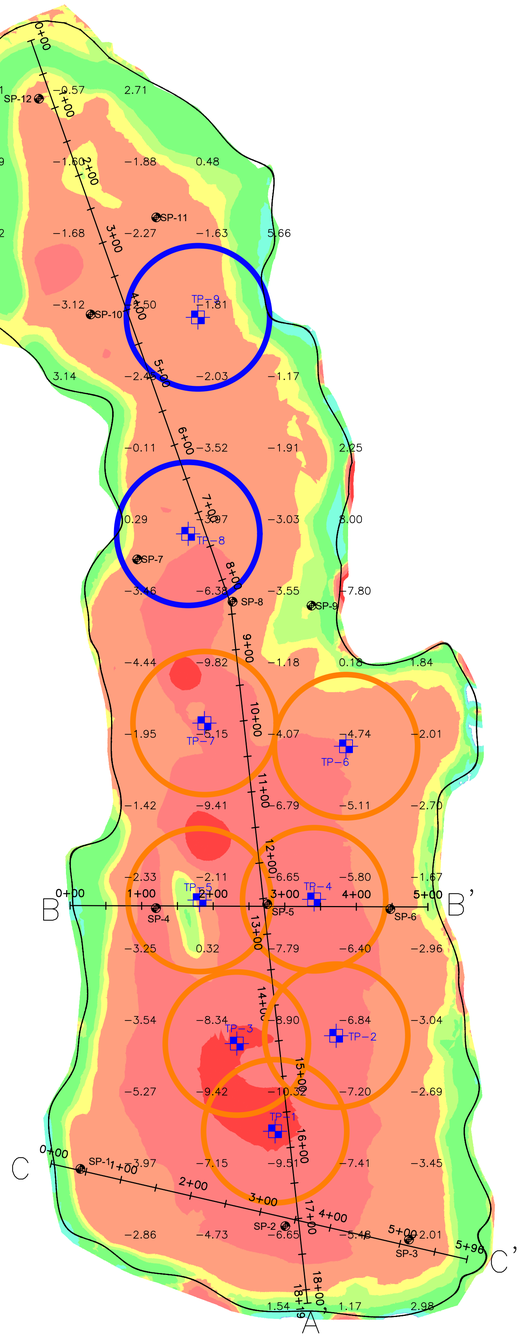
PROJ. NO. 02218208.05
DSN. BY:
DWN. BY: SBW
CHK. BY: CJW
QA RVW BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. 6 of 8



LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE WASTE BOUNDARY
- SP-9 SETTLEMENT PLATE
- -0.39 SPOT ELEVATION ON 100' GRID
- TP-8 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200 °F
- TP-1 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200 °F AND 250 °F
- TP-2 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250 °F AND 300 °F

Volume

Base Surface TOPO – FEBRUARY 7, 2023
Comparison Surface TOPO – FEBRUARY 15, 2024

Cut Volume	99,900	Cu. Yd.
Fill Volume	12,400	Cu. Yd.
Net Cut	87,500	Cu. Yd.

Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color
1	-16.000	-10.000	
2	-10.000	-5.000	
3	-5.000	-1.000	
4	-1.000	0.000	
5	0.000	1.000	
6	1.000	5.000	
7	5.000	10.000	

NOTES:

1. THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON FEBRUARY 7, 2023 AND FEBRUARY 15, 2024 BY SCS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (-) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011)
4. THE VERTICAL DATUM(S) IS BASED UPON NAVD-88.

100 50 0 100 200
SCALE: 1"=100'

NO.	REVISION	DATE

SHEET TITLE: FEBRUARY VOLUME CHANGE
FEBRUARY 2023 TO FEBRUARY 2024

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS
SOLID WASTE PERMIT #588

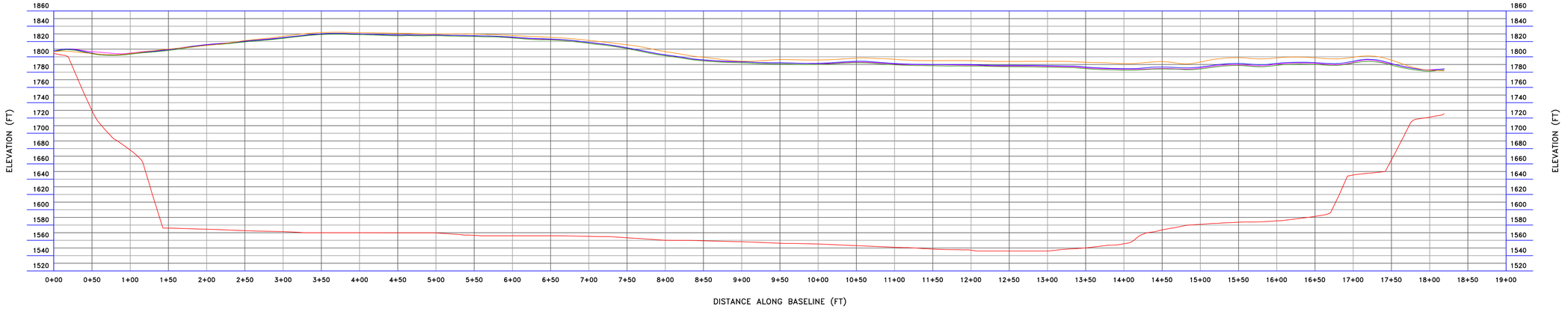
CLIENT
CITY OF BRISTOL INTEGRATED SOLID
WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX: (804) 378-7433

PROJ. NO. 02218208.05
DWN. BY: SBW
CHK. BY: CJW
QA RVW BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 2/27/2024
SCALE:
DRAWING NO. 7 of 8

LONGITUDINAL PROFILE A ALIGN



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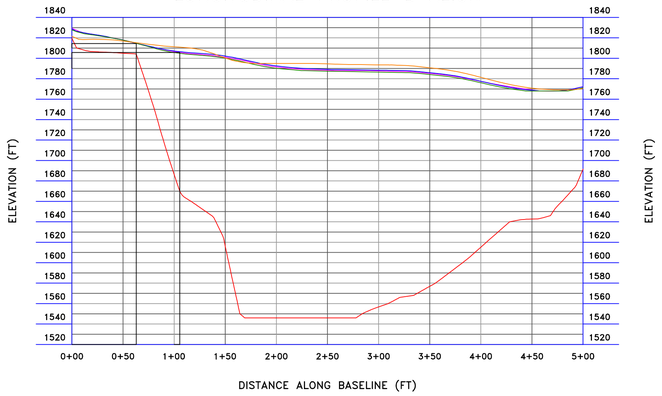

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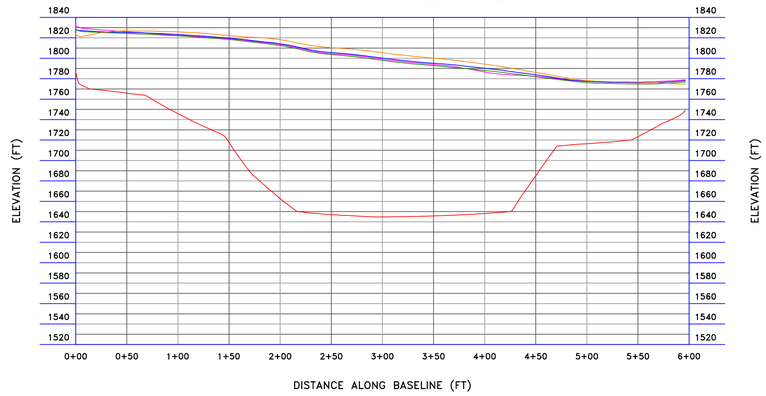

LEGEND

- BOTTOM LINER ELEVATION
- FEBRUARY 2023 TOPO
- NOVEMBER 2023 TOPO
- JANUARY 2024 TOPO
- FERUARY 2024 TOPO

NO.	REVISION	DATE

SHEET TITLE: **PROFILES**

PROJECT TITLE: **MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588**

CLIENT: **CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY**
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH: (804) 378-7440 FAX: (804) 378-7453

PROJ. NO. 02218208.05 | DSN. BY: | DWN. BY: RSB | CHK. BY: CJW | Q/A RVW BY: CJW | APP. BY: CJW

CADD FILE: SURF COMP

DATE: 2/27/2024

SCALE:

DRAWING NO. **8** of **8**

Appendix F

Field Logs

Lab Report

Historical LFG-EW Leachate Monitoring Results Summary

City of Bristol SWP 588 Landfill
Dual Phase LFG-EW Liquid Level Measurement Log

Date	2/5/2024 - 2/8/2024											
Personnel	**W. Fabrie, L. Nelson**											
Location ID	**Date**	**Measured Well Casing Depth (ft)**	**Pump Installed**	**Pump Depth (ft)**	**Prior Cycle Count (12/28/23)**	**Cycle Count**	**Prior Depth to Liquid (ft)**	**Depth to Liquid (ft)**	**Casing Stickup (ft)**	**Liquid Column Thickness (ft)**	**Sample Collected**	**Comments**
EW-33B	2/7/2024	185.00	Y	140	17	62	140.05	139.32	4.13	45.68		Blue liquid found on pump see picture
EW-36A	2/7/2024	180.00	Y	135	335039	335039	74.78	47.24	4.92	132.76		
EW-49	2/7/2024	96.15	Y	90	777893	---	---	---	8.50	---		Too tall to measure
EW-50	2/7/2024	77.70	Y	83	1395359	1416285	61.55	38.36	4.50	39.34		
EW-51	2/6/2024	92.80	Y	95	148468	175437	33.15	33.17	3.42	59.63	Y	
EW-52	2/7/2024	98.70	Y	93	448412	484502	44.03	44.49	3.38	54.21		
EW-53	2/6/2024	100.70	Y	---	2495763	2643830	52.13	55.57	4.94	45.13	Y	Lost pvc buoy in well
EW-54	2/6/2024	82.70	Y	75	602341	718242	36.37	33.63	5.38	49.07		Force main crimped
EW-55	2/6/2024	90.40	Y	90	713760	713267	42.68	40.86	7.33	49.54		
EW-56	2/6/2024	42.38	N	58	---	---	Dry	Dry	4.75	---		Depth at bottom 42.38
EW-57	2/6/2024	107.40	Y	71	44644	44644	45.65	45.18	4.66	62.22		
EW-58	2/6/2024	84.50	N	82	---	---	27.88	25.02	3.84	59.48		
EW-59	2/6/2024	73.40	Y	64	2490489	2701039	40.86	37.18	3.92	36.22		Force main crimped
EW-60	2/7/2024	81.80	Y	70	617257	617738	38.22	36.66	4.23	45.14		
EW-61	2/7/2024	87.80	Y	66	24275	26505	66.8	57.11	2.92	30.69		pump off
EW-62	2/7/2024	110.60	Y	80	202631	203920	84.6	77.21	4.42	33.39		
EW-63	2/7/2024	62.10	N	64	---	---	69.8	57.66	5.29	4.44		
EW-64	2/7/2024	109.00	Y	113	177605	177633	81.57	80.89	4.21	28.11		pump off
EW-65	2/7/2024	88.40	Y	50	4817	4818	58.12	50.93	5.50	37.47		pump off
EW-67	2/6/2024	107.75	Y	62.5	865688	865689	42.2	44.28	6.00	63.47		no sample port
EW-68	2/7/2024	73.57	Y	68	2280685	2287763	40.31	38.09	1.46	35.48		
EW-69	2/7/2024	98.00	N	---	10	15	93.02	93.95	4.42	4.05		
EW-70	2/7/2024	71.00	Y	58	---	---	---	---	---	---		Well surrounded by water could not get to it.
EW-71	2/7/2024	185.80	N	---	---	---	163.35	166.88	4.50	18.92		
EW-72	2/7/2024	141.21	N	---	---	---	147.04	144.45	4.33	-3.24		
EW-73	2/7/2024	116.00	N	---	---	---	107.37	106.64	3.96	9.36		

City of Bristol SWP 588 Landfill
Dual Phase LFG-EW Liquid Level Measurement Log

Date	2/5/2024 - 2/8/2024											
Personnel	**W. Fabrie, L. Nelson**											
Location ID	**Date**	**Measured Well Casing Depth (ft)**	**Pump Installed**	**Pump Depth (ft)**	**Prior Cycle Count (12/28/23)**	**Cycle Count**	**Prior Depth to Liquid (ft)**	**Depth to Liquid (ft)**	**Casing Stickup (ft)**	**Liquid Column Thickness (ft)**	**Sample Collected**	**Comments**
EW-74	2/7/2024	184.15	Y	140	25	35	162.3	161.82	5.83	22.33		
EW-75	2/7/2024	124.58	Y	140	11	12	66.98	Dry	4.97	---		Not sure if dry or if we hit pump at 134.35
EW-76	2/7/2024	106.08	Y	108	23	25	---	Dry	3.50	---		Got pvc buoy stuck in well, depth to bottom 106.08. Not worth measuring again.
EW-77	2/7/2024	185.22	N	---	---	---	139.86	137.37	5.27	47.85		
EW-78	2/7/2024	57.00	Y	47	91764	102402	47.13	---	3.58	---		Could not get past pumps cables around 8.35. I doubt it was water
EW-79	2/7/2024	185.64	N	---	---	---	154.3	155.11	5.58	30.53		
EW-80	2/7/2024	149.00	N		---	---	136.31	137.04	3.42	11.96		
EW-81	2/7/2024	151.56	Y	125	329326	329326	105.49	93.12	5.92	58.44		Lost pvc buoy
EW-82	2/7/2024	163.26	Y	145	---	124501	---	102.33	3.00	60.93		pump off
EW-83	2/7/2024	167.04	Y	145	428888	428902	109.57	112.84	4.42	54.20		pump off
EW-84	2/7/2024	130.56	N	---	---	---	72.61	74.31	4.75	56.25		
EW-85	2/7/2024	91.00	Y	78.5	161385	280403	57.01	82.77	4.25	8.23	Y	
EW-86	2/7/2024	153.00	N	---	---	---	76.32	74.88	4.17	78.12		
EW-87	2/7/2024	149.57	Y	125	953643	953645	55.64	54.33	4.75	95.24		
EW-88	2/7/2024	100.00	Y	58	413409	462832	44.61	65.92	3.63	34.08	Y	
EW-89	2/7/2024	84.57	Y	70	563451	---	41.42	39.36	3.58	45.21		Unable to read stroke counter
EW-90	2/7/2024	114.00	Y	101	170679	---	91.86	87.38	2.63	26.62		pump off
EW-91	2/6/2024	137.70	Y	115	265809	265809	42.39	40.29	5.15	97.41		
EW-92	2/7/2024	112.99	Y	95	391973	391973	47.29	45.42	6.83	67.57		
EW-93	2/6/2024	111.00	N	---	---	---	29.95	28.64	4.17	82.36		
EW-94	2/6/2024	50.00	Y	45	520385	520385	24.87	23.97	4.25	26.03		Lost pvc buoy
EW-95	2/6/2024	68.00	N	---	---	---	57.44	56.74	2.83	11.26		
EW-96	2/6/2024	164.35	Y	145	---	---	59.5	---	8.00	---		Too tall
EW-97	2/6/2024	67.95	N	---	---	---	90.67	89.06	6.60	-21.11		Very tall needs more dirt surrounding well to more easily get level measurement
EW-98	2/6/2024	51.00	Y	43	1859826	2166760	43.68	24.24	3.94	26.76		
EW-99	2/6/2024	65.00	N	---	---	---	60.7	59.97	3.72	5.03		
EW-100	2/6/2024	108.50	Y	96.5	470465	583480	74.95	74.27	3.83	34.23		

NOTE: Multiple wells were unable to be measureed due to the height of the well. Midway through 2/6 dirt was being transported to some of these wells, we did not return to the wells we couldn't get measurements on due to the dirt just being placed in the immediate vicinity of the well not around the well.

City of Bristol SWP 588 Landfill
Dual Phase LFG-EW Sample Collection Log

Location ID	Sample Date	Sample Time	Temperature (°C)	pH (s.u.)	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Observations
EW-33B									
EW-36A									
EW-49									
EW-50									
EW-51	2/6/24	11:30	69.2	6.00	27.369	0.13	-94.9	40.30	Amber Brown
EW-52									
EW-53	2/6/24	9:45	66.6	5.81	30.911	0.13	-94.5	17.59	Black
EW-54									
EW-55									
EW-57									
EW-58									
EW-59									
EW-60									
EW-61									
EW-62									
EW-64									
EW-67									
EW-68									
EW-70									
EW-72									

City of Bristol SWP 588 Landfill
Dual Phase LFG-EW Sample Collection Log

Location ID	Sample Date	Sample Time	Temperature (°C)	pH (s.u.)	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Observations	# Bottles
EW-73										
EW-74										
EW-75										
EW-76										
EW-78										
EW-81										
EW-82										
EW-83										
EW-85	2/7/24	9:30	76.7	5.96	34.829	0.04	-165.6	45.21	Amber Brown	(12)
EW-87										
EW-88	2/7/24	9:00	60.9	5.33	34.009	6.06	-100.5 ~~0.00~~	13.31	Amber Brown	(13)
EW-89										
EW-90										
EW-91										
EW-92										
EW-94										
EW-96										
EW-98										
EW-100										

Sampler: L. Nelson, W. Fabrie
Samples Shipped By: Courier
Log Checked By: J. Robb
Laboratory: Enthalpy Analytical

TNI Accredited
VELAP ID 460021

ENTHALPY ANALYTICAL

1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 24B0271

Client Name:	SCS Engineers-Winchester 296 Victory Road Winchester, VA 22602	Date Received:	February 7, 2024 8:00
		Date Issued:	February 29, 2024 17:28
		Project Number:	02218208.15 Task 2
Submitted To:	Jennifer Robb	Purchase Order:	
Client Site I.D.:	24-02 LFG-EW Monthly Monitoring		

Enclosed are the results of analyses for samples received by the laboratory on 02/07/2024 08:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Technical Director

End Notes:
The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.

Enthalpy Analytical
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: SCS Engineers-Winchester
Client Site ID: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:28:28PM

Laboratory Sample ID: **24B0271-01** **Client Sample ID:** **EW-51**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	01	SW6020B	680		2.0	2.0	5	ug/L
Barium	01	SW6020B	3030		5.00	25.0	5	ug/L
Chromium	01	SW6020B	230		2.00	5.00	5	ug/L
Lead	01	SW6020B	6.5		1.0	2.0	5	ug/L
Mercury	01	SW6020B	3.76		1.00	1.00	5	ug/L
Nickel	01	SW6020B	79.45		5.000	5.000	5	ug/L
Zinc	01	SW6020B	87.9		12.5	25.0	5	ug/L
2-Butanone (MEK)	01RE1	SW8260D	30500		1500	5000	500	ug/L
Acetone	01RE1	SW8260D	81600		3500	5000	500	ug/L
Benzene	01	SW8260D	906		20.0	50.0	50	ug/L
Ethylbenzene	01	SW8260D	51.0		20.0	50.0	50	ug/L
m+p-Xylenes	01	SW8260D	40.5	J	30.0	100	50	ug/L
o-Xylene	01	SW8260D	22.5	J	20.0	50.0	50	ug/L
Tetrahydrofuran	01	SW8260D	3500		500	500	50	ug/L
Toluene	01	SW8260D	49.0	J	25.0	50.0	50	ug/L
Xylenes, Total	01	SW8260D	63.0	J	50.0	150	50	ug/L
Ammonia as N	01	EPA350.1 R2.0	1900		146	200	2000	mg/L
BOD	01	SM5210B-2016	23200		0.2	2.0	1	mg/L
COD	01	SM5220D-2011	42700		5000	5000	500	mg/L
Cyanide	01	SW9012B	0.23	CI	0.05	0.05	5	mg/L
Nitrate as N	01	Calc.	9.10		1.50	5.50	100	mg/L
Nitrate+Nitrite as N	01	SM4500-NO3F-2016	9.10		0.50	0.50	5	mg/L
TKN as N	01	EPA351.2 R2.0	2540		100	250	500	mg/L
Total Recoverable Phenolics	01	SW9065	37.3		1.50	2.50	50	mg/L

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Analysis Detects Report

Client Name: SCS Engineers-Winchester
Client Site ID: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:28:28PM

Laboratory Sample ID: **24B0271-02** **Client Sample ID:** **EW-53**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	02	SW6020B	420		2.0	2.0	5	ug/L
Barium	02	SW6020B	4410		5.00	25.0	5	ug/L
Chromium	02	SW6020B	272		2.00	5.00	5	ug/L
Copper	02	SW6020B	2.01		1.50	2.00	5	ug/L
Lead	02	SW6020B	10		1.0	2.0	5	ug/L
Mercury	02	SW6020B	11.5		1.00	1.00	5	ug/L
Nickel	02	SW6020B	70.13		5.000	5.000	5	ug/L
Selenium	02	SW6020B	4.30	J	4.25	5.00	5	ug/L
Zinc	02	SW6020B	55.4		12.5	25.0	5	ug/L
2-Butanone (MEK)	02RE1	SW8260D	28900		1500	5000	500	ug/L
Acetone	02RE1	SW8260D	70200		3500	5000	500	ug/L
Benzene	02	SW8260D	884		20.0	50.0	50	ug/L
Ethylbenzene	02	SW8260D	43.0	J	20.0	50.0	50	ug/L
m+p-Xylenes	02	SW8260D	37.0	J	30.0	100	50	ug/L
o-Xylene	02	SW8260D	22.0	J	20.0	50.0	50	ug/L
Tetrahydrofuran	02	SW8260D	4580		500	500	50	ug/L
Toluene	02	SW8260D	37.0	J	25.0	50.0	50	ug/L
Xylenes, Total	02	SW8260D	59.0	J	50.0	150	50	ug/L
Ammonia as N	02	EPA350.1 R2.0	2600		146	200	2000	mg/L
BOD	02	SM5210B-2016	26200		0.2	2.0	1	mg/L
COD	02	SM5220D-2011	51200		5000	5000	500	mg/L
Cyanide	02	SW9012B	0.27	CI	0.05	0.05	5	mg/L
Nitrate+Nitrite as N	02	SM4500-NO3F-2016	2.65		2.50	2.50	25	mg/L
TKN as N	02	EPA351.2 R2.0	2890		100	250	500	mg/L
Total Recoverable Phenolics	02	SW9065	42.9		1.50	2.50	50	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EW-51	24B0271-01	Ground Water	02/06/2024 11:30	02/07/2024 08:00
EW-53	24B0271-02	Ground Water	02/06/2024 09:45	02/07/2024 08:00
Trip Blank	24B0271-03	Ground Water	08/09/2023 16:15	02/07/2024 08:00

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-51** **Laboratory Sample ID:** **24B0271-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6020B	02/09/2024 11:45	02/12/2024 12:44	BLOD		0.300	5.00	5	ug/L	AB
Arsenic	01	7440-38-2	SW6020B	02/09/2024 11:45	02/12/2024 12:44	680		2.0	2.0	5	ug/L	AB
Barium	01	7440-39-3	SW6020B	02/09/2024 11:45	02/12/2024 12:44	3030		5.00	25.0	5	ug/L	AB
Cadmium	01	7440-43-9	SW6020B	02/09/2024 11:45	02/12/2024 12:44	BLOD		0.500	5.00	5	ug/L	AB
Chromium	01	7440-47-3	SW6020B	02/09/2024 11:45	02/12/2024 12:44	230		2.00	5.00	5	ug/L	AB
Copper	01	7440-50-8	SW6020B	02/09/2024 11:45	02/12/2024 12:44	BLOD		1.50	2.00	5	ug/L	AB
Mercury	01	7439-97-6	SW6020B	02/09/2024 11:45	02/12/2024 12:44	3.76		1.00	1.00	5	ug/L	AB
Nickel	01	7440-02-0	SW6020B	02/09/2024 11:45	02/12/2024 12:44	79.45		5.000	5.000	5	ug/L	AB
Lead	01	7439-92-1	SW6020B	02/09/2024 11:45	02/12/2024 12:44	6.5		1.0	2.0	5	ug/L	AB
Selenium	01	7782-49-2	SW6020B	02/09/2024 11:45	02/12/2024 12:44	BLOD		4.25	5.00	5	ug/L	AB
Zinc	01	7440-66-6	SW6020B	02/09/2024 11:45	02/12/2024 12:44	87.9		12.5	25.0	5	ug/L	AB
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	01RE1	78-93-3	SW8260D	02/07/2024 21:25	02/07/2024 21:25	30500		1500	5000	500	ug/L	RJB
Acetone	01RE1	67-64-1	SW8260D	02/07/2024 21:25	02/07/2024 21:25	81600		3500	5000	500	ug/L	RJB
Benzene	01	71-43-2	SW8260D	02/07/2024 21:00	02/07/2024 21:00	906		20.0	50.0	50	ug/L	RJB
Ethylbenzene	01	100-41-4	SW8260D	02/07/2024 21:00	02/07/2024 21:00	51.0		20.0	50.0	50	ug/L	RJB
m+p-Xylenes	01	179601-23-1	SW8260D	02/07/2024 21:00	02/07/2024 21:00	40.5	J	30.0	100	50	ug/L	RJB
o-Xylene	01	95-47-6	SW8260D	02/07/2024 21:00	02/07/2024 21:00	22.5	J	20.0	50.0	50	ug/L	RJB
Toluene	01	108-88-3	SW8260D	02/07/2024 21:00	02/07/2024 21:00	49.0	J	25.0	50.0	50	ug/L	RJB
Xylenes, Total	01	1330-20-7	SW8260D	02/07/2024 21:00	02/07/2024 21:00	63.0	J	50.0	150	50	ug/L	RJB
Tetrahydrofuran	01	109-99-9	SW8260D	02/07/2024 21:00	02/07/2024 21:00	3500		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*01*	*94.6 %*	*70-120*	*02/07/2024 21:00*	*02/07/2024 21:00*							
Surr: 4-Bromofluorobenzene (Surr)	*01*	*93.2 %*	*75-120*	*02/07/2024 21:00*	*02/07/2024 21:00*							
Surr: Dibromofluoromethane (Surr)	*01*	*91.0 %*	*70-130*	*02/07/2024 21:00*	*02/07/2024 21:00*							

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-51** **Laboratory Sample ID:** **24B0271-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: Toluene-d8 (Surr)	*01*		*97.3 %*	*70-130*	*02/07/2024 21:00*	*02/07/2024 21:00*						
Surr: 1,2-Dichloroethane-d4 (Surr)	*01RE1*		*97.0 %*	*70-120*	*02/07/2024 21:25*	*02/07/2024 21:25*						
Surr: 4-Bromofluorobenzene (Surr)	*01RE1*		*92.1 %*	*75-120*	*02/07/2024 21:25*	*02/07/2024 21:25*						
Surr: Dibromofluoromethane (Surr)	*01RE1*		*94.5 %*	*70-130*	*02/07/2024 21:25*	*02/07/2024 21:25*						
Surr: Toluene-d8 (Surr)	*01RE1*		*98.0 %*	*70-130*	*02/07/2024 21:25*	*02/07/2024 21:25*						
Semivolatile Organic Compounds by GCMS												
Anthracene	01	120-12-7	SW8270E	02/07/2024 09:30	02/09/2024 22:02	BLOD		250	500	50	ug/L	BMS
Surr: 2,4,6-Tribromophenol (Surr)	*01*		*%*	*5-136*	*02/07/2024 09:30*	*02/09/2024 22:02*						*DS*
Surr: 2-Fluorobiphenyl (Surr)	*01*		*27.5 %*	*9-117*	*02/07/2024 09:30*	*02/09/2024 22:02*						
Surr: 2-Fluorophenol (Surr)	*01*		*37.8 %*	*5-60*	*02/07/2024 09:30*	*02/09/2024 22:02*						
Surr: Nitrobenzene-d5 (Surr)	*01*		*%*	*5-151*	*02/07/2024 09:30*	*02/09/2024 22:02*						*DS*
Surr: Phenol-d5 (Surr)	*01*		*68.0 %*	*5-60*	*02/07/2024 09:30*	*02/09/2024 22:02*						*DS*
Surr: p-Terphenyl-d14 (Surr)	*01*		*%*	*5-141*	*02/07/2024 09:30*	*02/09/2024 22:02*						*DS*

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-51** **Laboratory Sample ID:** **24B0271-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	01	7664-41-7	EPA350.1 R2.0	02/17/2024 17:18	02/17/2024 17:18	1900		146	200	2000	mg/L	LAM
BOD	01	E1640606	SM5210B-2016	02/08/2024 09:28	02/08/2024 09:28	23200		0.2	2.0	1	mg/L	SPH
Cyanide	01	57-12-5	SW9012B	02/16/2024 13:31	02/16/2024 13:31	0.23	CI	0.05	0.05	5	mg/L	MGC
COD	01	NA	SM5220D-2011	02/20/2024 12:45	02/20/2024 12:45	42700		5000	5000	500	mg/L	MGC
Nitrate as N	01	14797-55-8	Calc.	02/20/2024 09:00	02/20/2024 15:13	9.10		1.50	5.50	100	mg/L	AJM
Nitrate+Nitrite as N	01	E701177	SM4500-NO3F-2016	02/20/2024 09:00	02/20/2024 15:13	9.10		0.50	0.50	5	mg/L	TEG
Nitrite as N	01	14797-65-0	SM4500-NO2B-2011	02/08/2024 07:50	02/08/2024 07:50	BLOD		1.00	5.00	100	mg/L	AJM
Total Recoverable Phenolics	01	NA	SW9065	02/16/2024 17:00	02/16/2024 17:00	37.3		1.50	2.50	50	mg/L	AAL
TKN as N	01	E17148461	EPA351.2 R2.0	02/13/2024 16:02	02/14/2024 15:03	2540		100	250	500	mg/L	AAL

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-53** **Laboratory Sample ID:** **24B0271-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6020B	02/09/2024 11:45	02/12/2024 12:48	BLOD		0.300	5.00	5	ug/L	AB
Arsenic	02	7440-38-2	SW6020B	02/09/2024 11:45	02/12/2024 12:48	420		2.0	2.0	5	ug/L	AB
Barium	02	7440-39-3	SW6020B	02/09/2024 11:45	02/12/2024 12:48	4410		5.00	25.0	5	ug/L	AB
Cadmium	02	7440-43-9	SW6020B	02/09/2024 11:45	02/12/2024 12:48	BLOD		0.500	5.00	5	ug/L	AB
Chromium	02	7440-47-3	SW6020B	02/09/2024 11:45	02/12/2024 12:48	272		2.00	5.00	5	ug/L	AB
Copper	02	7440-50-8	SW6020B	02/09/2024 11:45	02/12/2024 12:48	2.01		1.50	2.00	5	ug/L	AB
Mercury	02	7439-97-6	SW6020B	02/09/2024 11:45	02/12/2024 12:48	11.5		1.00	1.00	5	ug/L	AB
Nickel	02	7440-02-0	SW6020B	02/09/2024 11:45	02/12/2024 12:48	70.13		5.000	5.000	5	ug/L	AB
Lead	02	7439-92-1	SW6020B	02/09/2024 11:45	02/12/2024 12:48	10		1.0	2.0	5	ug/L	AB
Selenium	02	7782-49-2	SW6020B	02/09/2024 11:45	02/12/2024 12:48	4.30	J	4.25	5.00	5	ug/L	AB
Zinc	02	7440-66-6	SW6020B	02/09/2024 11:45	02/12/2024 12:48	55.4		12.5	25.0	5	ug/L	AB
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	02RE1	78-93-3	SW8260D	02/07/2024 22:16	02/07/2024 22:16	28900		1500	5000	500	ug/L	RJB
Acetone	02RE1	67-64-1	SW8260D	02/07/2024 22:16	02/07/2024 22:16	70200		3500	5000	500	ug/L	RJB
Benzene	02	71-43-2	SW8260D	02/07/2024 21:51	02/07/2024 21:51	884		20.0	50.0	50	ug/L	RJB
Ethylbenzene	02	100-41-4	SW8260D	02/07/2024 21:51	02/07/2024 21:51	43.0	J	20.0	50.0	50	ug/L	RJB
m+p-Xylenes	02	179601-23-1	SW8260D	02/07/2024 21:51	02/07/2024 21:51	37.0	J	30.0	100	50	ug/L	RJB
o-Xylene	02	95-47-6	SW8260D	02/07/2024 21:51	02/07/2024 21:51	22.0	J	20.0	50.0	50	ug/L	RJB
Toluene	02	108-88-3	SW8260D	02/07/2024 21:51	02/07/2024 21:51	37.0	J	25.0	50.0	50	ug/L	RJB
Xylenes, Total	02	1330-20-7	SW8260D	02/07/2024 21:51	02/07/2024 21:51	59.0	J	50.0	150	50	ug/L	RJB
Tetrahydrofuran	02	109-99-9	SW8260D	02/07/2024 21:51	02/07/2024 21:51	4580		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*02*		*108 %*	*70-120*	*02/07/2024 21:51*	*02/07/2024 21:51*						
Surr: 4-Bromofluorobenzene (Surr)	*02*		*94.7 %*	*75-120*	*02/07/2024 21:51*	*02/07/2024 21:51*						
Surr: Dibromofluoromethane (Surr)	*02*		*103 %*	*70-130*	*02/07/2024 21:51*	*02/07/2024 21:51*						

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-53** **Laboratory Sample ID:** **24B0271-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: Toluene-d8 (Surr)	*02*		*97.7 %*	*70-130*	*02/07/2024 21:51*	*02/07/2024 21:51*						
Surr: 1,2-Dichloroethane-d4 (Surr)	*02RE1*		*110 %*	*70-120*	*02/07/2024 22:16*	*02/07/2024 22:16*						
Surr: 4-Bromofluorobenzene (Surr)	*02RE1*		*93.9 %*	*75-120*	*02/07/2024 22:16*	*02/07/2024 22:16*						
Surr: Dibromofluoromethane (Surr)	*02RE1*		*104 %*	*70-130*	*02/07/2024 22:16*	*02/07/2024 22:16*						
Surr: Toluene-d8 (Surr)	*02RE1*		*97.4 %*	*70-130*	*02/07/2024 22:16*	*02/07/2024 22:16*						
Semivolatile Organic Compounds by GCMS												
Anthracene	02	120-12-7	SW8270E	02/07/2024 09:30	02/09/2024 22:32	BLOD		200	400	20	ug/L	BMS
Surr: 2,4,6-Tribromophenol (Surr)	*02*		*%*	*5-136*	*02/07/2024 09:30*	*02/09/2024 22:32*						*DS*
Surr: 2-Fluorobiphenyl (Surr)	*02*		*33.2 %*	*9-117*	*02/07/2024 09:30*	*02/09/2024 22:32*						
Surr: 2-Fluorophenol (Surr)	*02*		*32.0 %*	*5-60*	*02/07/2024 09:30*	*02/09/2024 22:32*						
Surr: Nitrobenzene-d5 (Surr)	*02*		*340 %*	*5-151*	*02/07/2024 09:30*	*02/09/2024 22:32*						*DS*
Surr: Phenol-d5 (Surr)	*02*		*85.0 %*	*5-60*	*02/07/2024 09:30*	*02/09/2024 22:32*						*DS*
Surr: p-Terphenyl-d14 (Surr)	*02*		*7.20 %*	*5-141*	*02/07/2024 09:30*	*02/09/2024 22:32*						

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-53** **Laboratory Sample ID:** **24B0271-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	02	7664-41-7	EPA350.1 R2.0	02/17/2024 17:18	02/17/2024 17:18	2600		146	200	2000	mg/L	LAM
BOD	02	E1640606	SM5210B-2016	02/08/2024 08:59	02/08/2024 08:59	26200		0.2	2.0	1	mg/L	SPH
Cyanide	02	57-12-5	SW9012B	02/16/2024 13:31	02/16/2024 13:31	0.27	CI	0.05	0.05	5	mg/L	MGC
COD	02	NA	SM5220D-2011	02/20/2024 12:45	02/20/2024 12:45	51200		5000	5000	500	mg/L	MGC
Nitrate as N	02	14797-55-8	Calc.	02/20/2024 09:00	02/20/2024 15:15	BLOD		3.50	7.50	100	mg/L	AJM
Nitrate+Nitrite as N	02	E701177	SM4500-NO3F-2016	02/20/2024 09:00	02/20/2024 15:15	2.65		2.50	2.50	25	mg/L	TEG
Nitrite as N	02	14797-65-0	SM4500-NO2B-2011	02/08/2024 07:50	02/08/2024 07:50	BLOD		1.00	5.00	100	mg/L	AJM
Total Recoverable Phenolics	02	NA	SW9065	02/16/2024 17:00	02/16/2024 17:00	42.9		1.50	2.50	50	mg/L	AAL
TKN as N	02	E17148461	EPA351.2 R2.0	02/13/2024 16:02	02/14/2024 15:04	2890		100	250	500	mg/L	AAL

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **Trip Blank** **Laboratory Sample ID:** **24B0271-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	03	78-93-3	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		3.00	10.0	1	ug/L	RJB
Acetone	03	67-64-1	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		7.00	10.0	1	ug/L	RJB
Benzene	03	71-43-2	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		0.40	1.00	1	ug/L	RJB
Ethylbenzene	03	100-41-4	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		0.40	1.00	1	ug/L	RJB
m+p-Xylenes	03	179601-23-1	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		0.60	2.00	1	ug/L	RJB
o-Xylene	03	95-47-6	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	03	108-88-3	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		0.50	1.00	1	ug/L	RJB
Xylenes, Total	03	1330-20-7	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		1.00	3.00	1	ug/L	RJB
Tetrahydrofuran	03	109-99-9	SW8260D	02/07/2024 16:45	02/07/2024 16:45	BLOD		10.0	10.0	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*03*		*97.6 %*	*70-120*	*02/07/2024 16:45*	*02/07/2024 16:45*						
Surr: 4-Bromofluorobenzene (Surr)	*03*		*92.9 %*	*75-120*	*02/07/2024 16:45*	*02/07/2024 16:45*						
Surr: Dibromofluoromethane (Surr)	*03*		*105 %*	*70-130*	*02/07/2024 16:45*	*02/07/2024 16:45*						
Surr: Toluene-d8 (Surr)	*03*		*97.3 %*	*70-130*	*02/07/2024 16:45*	*02/07/2024 16:45*						

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Blank (BHB0369-BLK1)				Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	ND	0.200	ug/L							
Arsenic	ND	1.0	ug/L							
Barium	ND	5.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	1.00	ug/L							
Copper	ND	1.00	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	1.000	ug/L							
Selenium	ND	1.00	ug/L							
Silver	ND	1.00	ug/L							
Zinc	ND	5.00	ug/L							
LCS (BHB0369-BS1)				Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.03	0.200	ug/L	1.00		103	80-120			
Arsenic	51	1.0	ug/L	50.0		103	80-120			
Barium	53.2	5.00	ug/L	50.0		106	80-120			
Cadmium	51.5	1.00	ug/L	50.0		103	80-120			
Chromium	51.5	1.00	ug/L	50.0		103	80-120			
Copper	51.8	1.00	ug/L	50.0		104	80-120			
Lead	53	1.0	ug/L	50.0		107	80-120			
Nickel	52.52	1.000	ug/L	50.0		105	80-120			
Selenium	51.6	1.00	ug/L	50.0		103	80-120			
Silver	10.8	1.00	ug/L	10.0		108	80-120			
Zinc	51.9	5.00	ug/L	50.0		104	80-120			
Matrix Spike (BHB0369-MS1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Matrix Spike (BHB0369-MS1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.09	0.200	ug/L	1.00	BLOD	109	70-130			
Arsenic	67	1.0	ug/L	50.0	15	105	75-125			
Barium	133	5.00	ug/L	50.0	82.3	101	75-125			
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125			
Chromium	49.7	1.00	ug/L	50.0	0.454	98.5	75-125			
Copper	53.0	1.00	ug/L	50.0	4.39	97.1	75-125			
Lead	53	1.0	ug/L	50.0	1.1	103	75-125			
Nickel	53.09	1.000	ug/L	50.0	4.354	97.5	75-125			
Selenium	53.9	1.00	ug/L	50.0	BLOD	108	75-125			
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125			
Zinc	54.6	5.00	ug/L	50.0	7.24	94.7	75-125			
Matrix Spike (BHB0369-MS2)	**Source: 24B0351-02**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.06	0.200	ug/L	1.00	BLOD	106	70-130			
Arsenic	52	1.0	ug/L	50.0	1.1	101	75-125			
Barium	265	5.00	ug/L	50.0	210	110	75-125			E
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125			
Chromium	49.6	1.00	ug/L	50.0	BLOD	99.1	75-125			
Copper	47.9	1.00	ug/L	50.0	0.722	94.3	75-125			
Lead	52	1.0	ug/L	50.0	BLOD	103	75-125			
Nickel	49.38	1.000	ug/L	50.0	1.777	95.2	75-125			
Selenium	51.7	1.00	ug/L	50.0	BLOD	103	75-125			
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125			
Zinc	112	5.00	ug/L	50.0	66.2	91.2	75-125			
Matrix Spike Dup (BHB0369-MSD1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Matrix Spike Dup (BHB0369-MSD1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.09	0.200	ug/L	1.00	BLOD	109	70-130	0.171	20	
Arsenic	66	1.0	ug/L	50.0	15	103	75-125	1.33	20	
Barium	134	5.00	ug/L	50.0	82.3	104	75-125	1.18	20	
Cadmium	50.0	1.00	ug/L	50.0	BLOD	99.9	75-125	0.283	20	
Chromium	49.7	1.00	ug/L	50.0	0.454	98.5	75-125	0.00654	20	
Copper	52.7	1.00	ug/L	50.0	4.39	96.5	75-125	0.575	20	
Lead	52	1.0	ug/L	50.0	1.1	102	75-125	0.861	20	
Nickel	52.97	1.000	ug/L	50.0	4.354	97.2	75-125	0.228	20	
Selenium	53.0	1.00	ug/L	50.0	BLOD	106	75-125	1.59	20	
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125	0.721	20	
Zinc	54.6	5.00	ug/L	50.0	7.24	94.8	75-125	0.0536	20	
Matrix Spike Dup (BHB0369-MSD2)	**Source: 24B0351-02**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.05	0.200	ug/L	1.00	BLOD	105	70-130	0.713	20	
Arsenic	52	1.0	ug/L	50.0	1.1	102	75-125	0.682	20	
Barium	259	5.00	ug/L	50.0	210	96.6	75-125	2.55	20	E
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125	0.00274	20	
Chromium	49.7	1.00	ug/L	50.0	BLOD	99.4	75-125	0.258	20	
Copper	48.0	1.00	ug/L	50.0	0.722	94.6	75-125	0.357	20	
Lead	51	1.0	ug/L	50.0	BLOD	103	75-125	0.693	20	
Nickel	49.43	1.000	ug/L	50.0	1.777	95.3	75-125	0.102	20	
Selenium	51.8	1.00	ug/L	50.0	BLOD	104	75-125	0.0937	20	
Silver	10.5	1.00	ug/L	10.0	BLOD	105	75-125	0.403	20	
Zinc	112	5.00	ug/L	50.0	66.2	90.7	75-125	0.233	20	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Blank (BHB0273-BLK1)				Prepared & Analyzed: 02/07/2024						
2-Butanone (MEK)	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
m+p-Xylenes	ND	2.00	ug/L							
o-Xylene	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
Xylenes, Total	ND	3.00	ug/L							
Surr: 1,2-Dichloroethane-d4 (Surr)	*51.9*		ug/L	*50.0*		*104*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*46.3*		ug/L	*50.0*		*92.6*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*44.4*		ug/L	*50.0*		*88.9*	*70-130*			
Surr: Toluene-d8 (Surr)	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
LCS (BHB0273-BS1)				Prepared & Analyzed: 02/07/2024						
1,1,1,2-Tetrachloroethane	51.3	0.4	ug/L	50.0		103	80-130			
1,1,1-Trichloroethane	52.0	1	ug/L	50.0		104	65-130			
1,1,2,2-Tetrachloroethane	47.8	0.4	ug/L	50.0		95.5	65-130			
1,1,2-Trichloroethane	48.7	1	ug/L	50.0		97.5	75-125			
1,1-Dichloroethane	46.2	1	ug/L	50.0		92.5	70-135			
1,1-Dichloroethylene	51.3	1	ug/L	50.0		103	70-130			
1,1-Dichloropropene	52.7	1	ug/L	50.0		105	75-135			
1,2,3-Trichlorobenzene	61.5	1	ug/L	50.0		123	55-140			
1,2,3-Trichloropropane	48.6	1	ug/L	50.0		97.1	75-125			
1,2,4-Trichlorobenzene	62.9	1	ug/L	50.0		126	65-135			
1,2,4-Trimethylbenzene	62.2	1	ug/L	50.0		124	75-130			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
LCS (BHB0273-BS1)				Prepared & Analyzed: 02/07/2024						
1,2-Dibromo-3-chloropropane (DBCP)	50.4	1	ug/L	50.0		101	50-130			
1,2-Dibromoethane (EDB)	49.5	1	ug/L	50.0		99.1	80-120			
1,2-Dichlorobenzene	57.3	0.5	ug/L	50.0		115	70-120			
1,2-Dichloroethane	40.9	1	ug/L	50.0		81.9	70-130			
1,2-Dichloropropane	52.3	0.5	ug/L	50.0		105	75-125			
1,3,5-Trimethylbenzene	63.3	1	ug/L	50.0		127	75-125			L
1,3-Dichlorobenzene	55.6	1	ug/L	50.0		111	75-125			
1,3-Dichloropropane	47.0	1	ug/L	50.0		94.0	75-125			
1,4-Dichlorobenzene	54.3	1	ug/L	50.0		109	75-125			
2,2-Dichloropropane	48.5	1	ug/L	50.0		97.0	70-135			
2-Butanone (MEK)	44.0	10	ug/L	50.0		88.1	30-150			
2-Chlorotoluene	56.3	1	ug/L	50.0		113	75-125			
2-Hexanone (MBK)	50.1	5	ug/L	50.0		100	55-130			
4-Chlorotoluene	57.0	1	ug/L	50.0		114	75-130			
4-Isopropyltoluene	65.6	1	ug/L	50.0		131	75-130			L
4-Methyl-2-pentanone (MIBK)	48.5	5	ug/L	50.0		97.0	60-135			
Acetone	40.8	10	ug/L	50.0		81.6	40-140			
Benzene	52.8	1	ug/L	50.0		106	80-120			
Bromobenzene	54.2	1	ug/L	50.0		108	75-125			
Bromochloromethane	45.1	1	ug/L	50.0		90.2	65-130			
Bromodichloromethane	50.3	0.5	ug/L	50.0		101	75-120			
Bromoform	53.2	1	ug/L	50.0		106	70-130			
Bromomethane	52.4	1	ug/L	50.0		105	30-145			
Carbon disulfide	47.0	10	ug/L	50.0		93.9	35-160			
Carbon tetrachloride	57.8	1	ug/L	50.0		116	65-140			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
LCS (BHB0273-BS1)				Prepared & Analyzed: 02/07/2024						
Chlorobenzene	51.7	1	ug/L	50.0		103	80-120			
Chloroethane	49.4	1	ug/L	50.0		98.8	60-135			
Chloroform	41.3	0.5	ug/L	50.0		82.6	65-135			
Chloromethane	48.4	1	ug/L	50.0		96.9	40-125			
cis-1,2-Dichloroethylene	45.6	1	ug/L	50.0		91.3	70-125			
cis-1,3-Dichloropropene	52.8	1	ug/L	50.0		106	70-130			
Dibromochloromethane	50.6	0.5	ug/L	50.0		101	60-135			
Dibromomethane	53.1	1	ug/L	50.0		106	75-125			
Dichlorodifluoromethane	77.9	1	ug/L	50.0		156	30-155			L
Ethylbenzene	57.6	1	ug/L	50.0		115	75-125			
Hexachlorobutadiene	70.3	0.8	ug/L	50.0		141	50-140			L
Isopropylbenzene	51.1	1	ug/L	50.0		102	75-125			
m+p-Xylenes	104	2	ug/L	100		104	75-130			
Methylene chloride	39.3	4	ug/L	50.0		78.7	55-140			
Methyl-t-butyl ether (MTBE)	41.0	1	ug/L	50.0		82.0	65-125			
Naphthalene	62.5	1	ug/L	50.0		125	55-140			
n-Butylbenzene	67.6	1	ug/L	50.0		135	70-135			L
n-Propylbenzene	63.0	1	ug/L	50.0		126	70-130			
o-Xylene	54.0	1	ug/L	50.0		108	80-120			
sec-Butylbenzene	64.3	1	ug/L	50.0		129	70-125			L
Styrene	53.9	1	ug/L	50.0		108	65-135			
tert-Butylbenzene	63.2	1	ug/L	50.0		126	70-130			
Tetrachloroethylene (PCE)	60.2	1	ug/L	50.0		120	45-150			
Toluene	52.4	1	ug/L	50.0		105	75-120			
trans-1,2-Dichloroethylene	45.1	1	ug/L	50.0		90.2	60-140			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
LCS (BHB0273-BS1)				Prepared & Analyzed: 02/07/2024						
trans-1,3-Dichloropropene	56.8	1	ug/L	50.0		114	55-140			
Trichloroethylene	53.6	1	ug/L	50.0		107	70-125			
Trichlorofluoromethane	55.7	1	ug/L	50.0		111	60-145			
Vinyl chloride	54.5	0.5	ug/L	50.0		109	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*47.9*		ug/L	*50.0*		*95.8*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*49.2*		ug/L	*50.0*		*98.5*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*46.2*		ug/L	*50.0*		*92.5*	*70-130*			
Surr: Toluene-d8 (Surr)	*48.6*		ug/L	*50.0*		*97.3*	*70-130*			
Duplicate (BHB0273-DUP1)	**Source: 24B0284-02**			Prepared & Analyzed: 02/07/2024						
1,1,1,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromoethane (EDB)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	ND	0.50	ug/L		BLOD			NA	30	
1,2-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Duplicate (BHB0273-DUP1)	**Source: 24B0284-02**			Prepared & Analyzed: 02/07/2024						
1,2-Dichloropropane	ND	0.50	ug/L		BLOD			NA	30	
1,3,5-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
2,2-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	10.0	ug/L		BLOD			NA	30	
2-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	5.00	ug/L		BLOD			NA	30	
4-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Isopropyltoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L		BLOD			NA	30	
Acetone	ND	10.0	ug/L		BLOD			NA	30	
Benzene	ND	1.00	ug/L		BLOD			NA	30	
Bromobenzene	ND	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	ND	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	0.50	ug/L		BLOD			NA	30	
Bromoform	ND	1.00	ug/L		BLOD			NA	30	
Bromomethane	ND	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	ND	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
Chloroethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroform	ND	0.50	ug/L		BLOD			NA	30	
Chloromethane	ND	1.00	ug/L		BLOD			NA	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Duplicate (BHB0273-DUP1)		**Source: 24B0284-02**		Prepared & Analyzed: 02/07/2024						
cis-1,2-Dichloroethylene	1.22	1.00	ug/L		1.27			4.02	30	
cis-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	0.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Di-isopropyl ether (DIPE)	ND	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Hexachlorobutadiene	ND	0.80	ug/L		BLOD			NA	30	
Iodomethane	ND	10.0	ug/L		BLOD			NA	30	
Isopropylbenzene	ND	1.00	ug/L		BLOD			NA	30	
m+p-Xylenes	ND	2.00	ug/L		BLOD			NA	30	
Methylene chloride	ND	4.00	ug/L		BLOD			NA	30	
Methyl-t-butyl ether (MTBE)	ND	1.00	ug/L		BLOD			NA	30	
Naphthalene	ND	1.00	ug/L		BLOD			NA	30	
n-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
n-Propylbenzene	ND	1.00	ug/L		BLOD			NA	30	
o-Xylene	ND	1.00	ug/L		BLOD			NA	30	
sec-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Styrene	ND	1.00	ug/L		BLOD			NA	30	
tert-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	ND	1.00	ug/L		BLOD			NA	30	
Toluene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Trichloroethylene	1.13	1.00	ug/L		1.01			11.2	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Duplicate (BHB0273-DUP1)	**Source: 24B0284-02**			Prepared & Analyzed: 02/07/2024						
Trichlorofluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	ND	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	ND	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	ND	3.00	ug/L		BLOD			NA	30	
Tetrahydrofuran	ND	10.0	ug/L		BLOD			NA	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	*51.0*		ug/L	*50.0*		*102*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*46.4*		ug/L	*50.0*		*92.7*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*49.7*		ug/L	*50.0*		*99.5*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.0*		ug/L	*50.0*		*97.9*	*70-130*			
Matrix Spike (BHB0273-MS1)	**Source: 24B0284-01**			Prepared & Analyzed: 02/07/2024						
1,1,1,2-Tetrachloroethane	54.2	0.4	ug/L	50.0	BLOD	108	80-130			
1,1,1-Trichloroethane	53.2	1	ug/L	50.0	BLOD	106	65-130			
1,1,2,2-Tetrachloroethane	50.2	0.4	ug/L	50.0	BLOD	100	65-130			
1,1,2-Trichloroethane	48.4	1	ug/L	50.0	BLOD	96.8	75-125			
1,1-Dichloroethane	47.9	1	ug/L	50.0	BLOD	95.8	70-135			
1,1-Dichloroethylene	52.0	1	ug/L	50.0	BLOD	104	50-145			
1,1-Dichloropropene	55.1	1	ug/L	50.0	BLOD	110	75-135			
1,2,3-Trichlorobenzene	59.2	1	ug/L	50.0	BLOD	118	55-140			
1,2,3-Trichloropropane	50.6	1	ug/L	50.0	BLOD	101	75-125			
1,2,4-Trichlorobenzene	64.8	1	ug/L	50.0	BLOD	130	65-135			
1,2,4-Trimethylbenzene	62.0	1	ug/L	50.0	BLOD	124	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	51.5	1	ug/L	50.0	BLOD	103	50-130			
1,2-Dibromoethane (EDB)	52.1	1	ug/L	50.0	BLOD	104	80-120			
1,2-Dichlorobenzene	56.5	0.5	ug/L	50.0	BLOD	113	70-120			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Matrix Spike (BHB0273-MS1)	**Source: 24B0284-01**			Prepared & Analyzed: 02/07/2024						
1,2-Dichloroethane	40.6	1	ug/L	50.0	BLOD	81.2	70-130			
1,2-Dichloropropane	53.1	0.5	ug/L	50.0	BLOD	106	75-125			
1,3,5-Trimethylbenzene	62.8	1	ug/L	50.0	BLOD	126	75-124			M
1,3-Dichlorobenzene	56.0	1	ug/L	50.0	BLOD	112	75-125			
1,3-Dichloropropane	46.8	1	ug/L	50.0	BLOD	93.5	75-125			
1,4-Dichlorobenzene	54.5	1	ug/L	50.0	BLOD	109	75-125			
2,2-Dichloropropane	54.4	1	ug/L	50.0	BLOD	109	70-135			
2-Butanone (MEK)	42.7	10	ug/L	50.0	BLOD	85.4	30-150			
2-Chlorotoluene	58.1	1	ug/L	50.0	BLOD	116	75-125			
2-Hexanone (MBK)	49.6	5	ug/L	50.0	BLOD	99.3	55-130			
4-Chlorotoluene	59.8	1	ug/L	50.0	BLOD	120	75-130			
4-Isopropyltoluene	66.4	1	ug/L	50.0	BLOD	133	75-130			M
4-Methyl-2-pentanone (MIBK)	46.4	5	ug/L	50.0	BLOD	92.9	60-135			
Acetone	38.1	10	ug/L	50.0	BLOD	76.2	40-140			
Benzene	53.6	1	ug/L	50.0	BLOD	107	80-120			
Bromobenzene	56.0	1	ug/L	50.0	BLOD	112	75-125			
Bromochloromethane	45.5	1	ug/L	50.0	BLOD	91.1	65-130			
Bromodichloromethane	50.6	0.5	ug/L	50.0	BLOD	101	75-136			
Bromoform	56.7	1	ug/L	50.0	BLOD	113	70-130			
Bromomethane	55.7	1	ug/L	50.0	BLOD	111	30-145			
Carbon disulfide	44.9	10	ug/L	50.0	BLOD	89.7	35-160			
Carbon tetrachloride	58.9	1	ug/L	50.0	BLOD	118	65-140			
Chlorobenzene	54.7	1	ug/L	50.0	BLOD	109	80-120			
Chloroethane	49.5	1	ug/L	50.0	BLOD	98.9	60-135			
Chloroform	41.1	0.5	ug/L	50.0	BLOD	82.2	65-135			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Matrix Spike (BHB0273-MS1)	**Source: 24B0284-01**			Prepared & Analyzed: 02/07/2024						
Chloromethane	49.6	1	ug/L	50.0	BLOD	99.2	40-125			
cis-1,2-Dichloroethylene	51.4	1	ug/L	50.0	6.40	90.1	70-125			
cis-1,3-Dichloropropene	52.6	1	ug/L	50.0	BLOD	105	47-136			
Dibromochloromethane	50.9	0.5	ug/L	50.0	BLOD	102	60-135			
Dibromomethane	54.4	1	ug/L	50.0	BLOD	109	75-125			
Dichlorodifluoromethane	77.8	1	ug/L	50.0	BLOD	156	30-155			M
Ethylbenzene	61.4	1	ug/L	50.0	BLOD	123	75-125			
Hexachlorobutadiene	68.8	0.8	ug/L	50.0	BLOD	138	50-140			
Isopropylbenzene	54.7	1	ug/L	50.0	BLOD	109	75-125			
m+p-Xylenes	110	2	ug/L	100	BLOD	110	75-130			
Methylene chloride	40.1	4	ug/L	50.0	BLOD	80.2	55-140			
Methyl-t-butyl ether (MTBE)	40.8	1	ug/L	50.0	BLOD	81.5	65-125			
Naphthalene	66.2	1	ug/L	50.0	BLOD	132	55-140			
n-Butylbenzene	67.4	1	ug/L	50.0	BLOD	135	70-135			
n-Propylbenzene	62.9	1	ug/L	50.0	BLOD	126	70-130			
o-Xylene	56.1	1	ug/L	50.0	BLOD	112	80-120			
sec-Butylbenzene	65.0	1	ug/L	50.0	BLOD	130	70-125			M
Styrene	56.1	1	ug/L	50.0	BLOD	112	65-135			
tert-Butylbenzene	65.4	1	ug/L	50.0	BLOD	131	70-130			M
Tetrachloroethylene (PCE)	65.6	1	ug/L	50.0	BLOD	131	51-231			
Toluene	53.2	1	ug/L	50.0	BLOD	106	75-120			
trans-1,2-Dichloroethylene	52.5	1	ug/L	50.0	BLOD	105	60-140			
trans-1,3-Dichloropropene	57.6	1	ug/L	50.0	BLOD	115	55-140			
Trichloroethylene	60.7	1	ug/L	50.0	5.41	111	70-125			
Trichlorofluoromethane	57.5	1	ug/L	50.0	BLOD	115	60-145			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0273 - SW5030B-MS										
Matrix Spike (BHB0273-MS1)		**Source: 24B0284-01**		Prepared & Analyzed: 02/07/2024						
Vinyl chloride	52.6	0.5	ug/L	50.0	BLOD	105	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*45.6*		ug/L	*50.0*		*91.3*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*50.4*		ug/L	*50.0*		*101*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*45.5*		ug/L	*50.0*		*91.0*	*70-130*			
Surr: Toluene-d8 (Surr)	*47.6*		ug/L	*50.0*		*95.2*	*70-130*			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Blank (BHB0243-BLK1)				Prepared & Analyzed: 02/07/2024						
Anthracene	ND	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	*71.0*		ug/L	*100*		*71.0*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*33.1*		ug/L	*50.0*		*66.2*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*35.4*		ug/L	*100*		*35.4*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*32.4*		ug/L	*50.0*		*64.9*	*5-151*			
Surr: Phenol-d5 (Surr)	*21.5*		ug/L	*100*		*21.5*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*54.4*		ug/L	*50.0*		*109*	*5-141*			
LCS (BHB0243-BS1)				Prepared & Analyzed: 02/07/2024						
1,2,4-Trichlorobenzene	32.4	10.0	ug/L	50.0		64.9	57-130			
1,2-Dichlorobenzene	26.7	10.0	ug/L	50.0		53.3	22-115			
1,3-Dichlorobenzene	23.7	10.0	ug/L	50.0		47.4	22-112			
1,4-Dichlorobenzene	30.0	10.0	ug/L	50.0		60.0	13-112			
2,4,6-Trichlorophenol	48.1	10.0	ug/L	50.0		96.1	52-129			
2,4-Dichlorophenol	37.7	10.0	ug/L	50.0		75.3	53-122			
2,4-Dimethylphenol	33.8	5.00	ug/L	50.0		67.6	42-120			
2,4-Dinitrophenol	36.8	50.0	ug/L	50.0		73.5	48-127			
2,4-Dinitrotoluene	37.2	10.0	ug/L	50.0		74.4	10-173			
2,6-Dinitrotoluene	31.3	10.0	ug/L	50.0		62.7	68-137			L
2-Chloronaphthalene	35.2	10.0	ug/L	50.0		70.4	65-120			
2-Chlorophenol	31.2	10.0	ug/L	50.0		62.4	36-120			
2-Nitrophenol	31.6	10.0	ug/L	50.0		63.3	45-167			
3,3'-Dichlorobenzidine	25.6	10.0	ug/L	50.0		51.2	10-213			
4,6-Dinitro-2-methylphenol	37.0	50.0	ug/L	50.0		73.9	53-130			
4-Bromophenyl phenyl ether	40.4	10.0	ug/L	50.0		80.8	65-120			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
LCS (BHB0243-BS1)				Prepared & Analyzed: 02/07/2024						
4-Chlorophenyl phenyl ether	38.8	10.0	ug/L	50.0		77.6	38-145			
4-Nitrophenol	8.34	50.0	ug/L	50.0		16.7	13-129			
Acenaphthene	36.5	10.0	ug/L	50.0		73.1	60-132			
Acenaphthylene	37.5	10.0	ug/L	50.0		75.1	54-126			
Acetophenone	34.4	20.0	ug/L	50.0		68.9	0-200			
Anthracene	32.7	10.0	ug/L	50.0		65.4	43-120			
Benzo (a) anthracene	43.0	10.0	ug/L	50.0		86.0	42-133			
Benzo (a) pyrene	45.7	10.0	ug/L	50.0		91.3	32-148			
Benzo (b) fluoranthene	50.6	10.0	ug/L	50.0		101	42-140			
Benzo (g,h,i) perylene	40.3	10.0	ug/L	50.0		80.6	10-195			
Benzo (k) fluoranthene	48.7	10.0	ug/L	50.0		97.4	25-146			
bis (2-Chloroethoxy) methane	30.0	10.0	ug/L	50.0		60.0	49-165			
bis (2-Chloroethyl) ether	28.7	10.0	ug/L	50.0		57.4	43-126			
2,2'-Oxybis (1-chloropropane)	27.8	10.0	ug/L	50.0		55.5	63-139			L
bis (2-Ethylhexyl) phthalate	41.2	10.0	ug/L	50.0		82.3	29-137			
Butyl benzyl phthalate	38.7	10.0	ug/L	50.0		77.4	10-140			
Chrysene	37.4	10.0	ug/L	50.0		74.8	44-140			
Dibenz (a,h) anthracene	49.3	10.0	ug/L	50.0		98.6	10-200			
Diethyl phthalate	41.2	10.0	ug/L	50.0		82.5	10-120			
Dimethyl phthalate	34.3	10.0	ug/L	50.0		68.7	10-120			
Di-n-butyl phthalate	51.2	10.0	ug/L	50.0		102	10-120			
Di-n-octyl phthalate	52.8	10.0	ug/L	50.0		106	19-132			
Fluoranthene	54.7	10.0	ug/L	50.0		109	43-121			
Fluorene	42.8	10.0	ug/L	50.0		85.6	70-120			
Hexachlorobenzene	37.5	1.00	ug/L	50.0		75.0	10-142			

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
LCS (BHB0243-BS1)				Prepared & Analyzed: 02/07/2024						
Hexachlorobutadiene	37.8	10.0	ug/L	50.0		75.6	38-120			
Hexachlorocyclopentadiene	19.4	10.0	ug/L	50.0		38.8	10-76			
Hexachloroethane	29.8	10.0	ug/L	50.0		59.6	55-120			
Indeno (1,2,3-cd) pyrene	46.4	10.0	ug/L	50.0		92.7	10-151			
Isophorone	19.7	10.0	ug/L	50.0		39.4	47-180			L
Naphthalene	33.3	5.00	ug/L	50.0		66.6	36-120			
Nitrobenzene	38.6	10.0	ug/L	50.0		77.2	54-158			
n-Nitrosodimethylamine	14.8	10.0	ug/L	50.0		29.7	10-85			
n-Nitrosodi-n-propylamine	36.5	10.0	ug/L	50.0		72.9	14-198			
n-Nitrosodiphenylamine	32.2	10.0	ug/L	50.0		64.5	12-97			
p-Chloro-m-cresol	31.5	10.0	ug/L	50.0		63.0	10-142			
Pentachlorophenol	27.9	20.0	ug/L	50.0		55.8	38-152			
Phenanthrene	48.8	10.0	ug/L	50.0		97.6	65-120			
Phenol	11.6	10.0	ug/L	50.5		22.9	17-120			
Pyrene	45.3	10.0	ug/L	50.0		90.5	70-120			
Pyridine	21.1	10.0	ug/L	50.0		42.1	10-103			
Surr: 2,4,6-Tribromophenol (Surr)	*93.2*		ug/L	*100*		*93.2*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*40.1*		ug/L	*50.0*		*80.2*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*42.2*		ug/L	*100*		*42.2*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*38.6*		ug/L	*50.0*		*77.1*	*5-151*			
Surr: Phenol-d5 (Surr)	*27.2*		ug/L	*100*		*27.2*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*43.1*		ug/L	*50.0*		*86.2*	*5-141*			
Matrix Spike (BHB0243-MS1)	**Source: 24B0206-04**			Prepared & Analyzed: 02/07/2024						
1,2,4-Trichlorobenzene	25.4	10.0	ug/L	46.7	BLOD	54.5	44-142			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike (BHB0243-MS1)	**Source: 24B0206-04**			Prepared & Analyzed: 02/07/2024						
1,2-Dichlorobenzene	22.1	10.0	ug/L	46.7	BLOD	47.4	22-115			
1,3-Dichlorobenzene	19.7	10.0	ug/L	46.7	BLOD	42.1	22-112			
1,4-Dichlorobenzene	24.5	10.0	ug/L	46.7	BLOD	52.4	13-112			
2,4,6-Trichlorophenol	36.3	10.0	ug/L	46.7	BLOD	77.7	37-144			
2,4-Dichlorophenol	28.7	10.0	ug/L	46.7	BLOD	61.5	39-135			
2,4-Dimethylphenol	25.4	5.00	ug/L	46.7	BLOD	54.4	32-120			
2,4-Dinitrophenol	16.0	50.0	ug/L	46.7	BLOD	34.2	39-139			M
2,4-Dinitrotoluene	27.1	10.0	ug/L	46.7	BLOD	57.9	10-191			
2,6-Dinitrotoluene	23.2	10.0	ug/L	46.7	BLOD	49.7	50-158			M
2-Chloronaphthalene	25.7	10.0	ug/L	46.7	BLOD	54.9	60-120			M
2-Chlorophenol	22.2	10.0	ug/L	46.7	BLOD	47.5	23-134			
2-Nitrophenol	24.6	10.0	ug/L	46.7	BLOD	52.6	29-182			
3,3'-Dichlorobenzidine	18.4	10.0	ug/L	46.7	BLOD	39.3	10-262			
4,6-Dinitro-2-methylphenol	16.2	50.0	ug/L	46.7	BLOD	34.6	10-181			
4-Bromophenyl phenyl ether	30.0	10.0	ug/L	46.7	BLOD	64.3	53-127			
4-Chlorophenyl phenyl ether	28.7	10.0	ug/L	46.7	BLOD	61.4	25-158			
4-Nitrophenol	3.53	50.0	ug/L	46.7	BLOD	7.56	10-132			M
Acenaphthene	26.8	10.0	ug/L	46.7	BLOD	57.4	47-145			
Acenaphthylene	28.0	10.0	ug/L	46.7	BLOD	60.0	33-145			
Acetophenone	26.8	20.0	ug/L	46.7	BLOD	57.3	0-200			
Anthracene	25.4	10.0	ug/L	46.7	BLOD	54.4	27-133			
Benzo (a) anthracene	32.9	10.0	ug/L	46.7	BLOD	70.5	33-143			
Benzo (a) pyrene	37.2	10.0	ug/L	46.7	BLOD	79.6	17-163			
Benzo (b) fluoranthene	41.0	10.0	ug/L	46.7	BLOD	87.7	24-159			
Benzo (g,h,i) perylene	27.2	10.0	ug/L	46.7	BLOD	58.1	10-219			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike (BHB0243-MS1)	**Source: 24B0206-04**			Prepared & Analyzed: 02/07/2024						
Benzo (k) fluoranthene	40.5	10.0	ug/L	46.7	BLOD	86.7	11-162			
bis (2-Chloroethoxy) methane	23.1	10.0	ug/L	46.7	BLOD	49.5	33-184			
bis (2-Chloroethyl) ether	22.6	10.0	ug/L	46.7	BLOD	48.4	12-158			
2,2'-Oxybis (1-chloropropane)	22.5	10.0	ug/L	46.7	BLOD	48.1	36-166			
bis (2-Ethylhexyl) phthalate	29.2	10.0	ug/L	46.7	BLOD	62.5	10-158			
Butyl benzyl phthalate	29.5	10.0	ug/L	46.7	BLOD	63.2	10-152			
Chrysene	29.1	10.0	ug/L	46.7	BLOD	62.4	17-169			
Dibenz (a,h) anthracene	32.5	10.0	ug/L	46.7	BLOD	69.5	10-227			
Diethyl phthalate	31.7	10.0	ug/L	46.7	BLOD	67.8	10-120			
Dimethyl phthalate	26.8	10.0	ug/L	46.7	BLOD	57.4	10-120			
Di-n-butyl phthalate	37.3	10.0	ug/L	46.7	BLOD	79.8	10-120			
Di-n-octyl phthalate	43.8	10.0	ug/L	46.7	BLOD	93.7	10-146			
Fluoranthene	40.8	10.0	ug/L	46.7	BLOD	87.3	26-137			
Fluorene	30.9	10.0	ug/L	46.7	BLOD	66.1	59-121			
Hexachlorobenzene	29.3	1.00	ug/L	46.7	BLOD	62.6	10-152			
Hexachlorobutadiene	29.8	10.0	ug/L	46.7	BLOD	63.8	24-120			
Hexachlorocyclopentadiene	10.1	10.0	ug/L	46.7	BLOD	21.5	10-90			
Hexachloroethane	23.7	10.0	ug/L	46.7	BLOD	50.8	40-120			
Indeno (1,2,3-cd) pyrene	30.6	10.0	ug/L	46.7	BLOD	65.4	10-171			
Isophorone	15.7	10.0	ug/L	46.7	BLOD	33.6	21-196			
Naphthalene	24.9	5.00	ug/L	46.7	BLOD	53.3	21-133			
Nitrobenzene	30.0	10.0	ug/L	46.7	BLOD	64.2	35-180			
n-Nitrosodimethylamine	11.5	10.0	ug/L	46.7	BLOD	24.5	10-85			
n-Nitrosodi-n-propylamine	29.5	10.0	ug/L	46.7	BLOD	63.2	10-230			
n-Nitrosodiphenylamine	24.5	10.0	ug/L	46.7	BLOD	52.4	12-111			

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike (BHB0243-MS1)	**Source: 24B0206-04**			Prepared & Analyzed: 02/07/2024						
p-Chloro-m-cresol	23.4	10.0	ug/L	46.7	BLOD	50.0	10-127			
Pentachlorophenol	26.9	20.0	ug/L	46.7	BLOD	57.6	14-176			
Phenanthrene	35.2	10.0	ug/L	46.7	BLOD	75.4	54-120			
Phenol	7.06	10.0	ug/L	47.2	BLOD	15.0	10-120			
Pyrene	40.6	10.0	ug/L	46.7	BLOD	86.8	52-120			
Pyridine	16.3	10.0	ug/L	46.7	BLOD	34.8	10-110			
Surr: 2,4,6-Tribromophenol (Surr)	*69.9*		ug/L	*93.5*		*74.8*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*29.0*		ug/L	*46.7*		*62.0*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*28.5*		ug/L	*93.5*		*30.5*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*29.7*		ug/L	*46.7*		*63.5*	*5-151*			
Surr: Phenol-d5 (Surr)	*17.2*		ug/L	*93.5*		*18.4*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*31.2*		ug/L	*46.7*		*66.8*	*5-141*			
Matrix Spike Dup (BHB0243-MSD1)	**Source: 24B0206-04**			Prepared: 02/07/2024 Analyzed: 02/08/2024						
1,2,4-Trichlorobenzene	24.4	10.0	ug/L	46.7	BLOD	52.3	44-142	4.08	20	
1,2-Dichlorobenzene	21.5	10.0	ug/L	46.7	BLOD	45.9	22-115	3.13	20	
1,3-Dichlorobenzene	20.0	10.0	ug/L	46.7	BLOD	42.8	22-112	1.74	20	
1,4-Dichlorobenzene	23.6	10.0	ug/L	46.7	BLOD	50.6	13-112	3.57	20	
2,4,6-Trichlorophenol	35.7	10.0	ug/L	46.7	BLOD	76.4	37-144	1.76	20	
2,4-Dichlorophenol	28.7	10.0	ug/L	46.7	BLOD	61.3	39-135	0.261	20	
2,4-Dimethylphenol	25.0	5.00	ug/L	46.7	BLOD	53.6	32-120	1.48	20	
2,4-Dinitrophenol	21.4	50.0	ug/L	46.7	BLOD	45.8	39-139	29.0	20	P
2,4-Dinitrotoluene	27.9	10.0	ug/L	46.7	BLOD	59.6	10-191	2.86	20	
2,6-Dinitrotoluene	23.1	10.0	ug/L	46.7	BLOD	49.5	50-158	0.444	20	M
2-Chloronaphthalene	25.1	10.0	ug/L	46.7	BLOD	53.8	60-120	2.13	20	M

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike Dup (BHB0243-MSD1)	**Source: 24B0206-04**			Prepared: 02/07/2024 Analyzed: 02/08/2024						
2-Chlorophenol	22.7	10.0	ug/L	46.7	BLOD	48.7	23-134	2.41	20	
2-Nitrophenol	24.4	10.0	ug/L	46.7	BLOD	52.2	29-182	0.687	20	
3,3'-Dichlorobenzidine	21.0	10.0	ug/L	46.7	BLOD	44.9	10-262	13.3	20	
4,6-Dinitro-2-methylphenol	19.8	50.0	ug/L	46.7	BLOD	42.4	10-181	20.2	20	P
4-Bromophenyl phenyl ether	29.4	10.0	ug/L	46.7	BLOD	62.9	53-127	2.20	20	
4-Chlorophenyl phenyl ether	28.2	10.0	ug/L	46.7	BLOD	60.3	25-158	1.84	20	
4-Nitrophenol	3.49	50.0	ug/L	46.7	BLOD	7.46	10-132	1.33	20	M
Acenaphthene	26.2	10.0	ug/L	46.7	BLOD	56.2	47-145	2.25	20	
Acenaphthylene	27.5	10.0	ug/L	46.7	BLOD	58.9	33-145	1.78	20	
Acetophenone	28.9	20.0	ug/L	46.7	BLOD	61.8	0-200	7.62	20	
Anthracene	24.6	10.0	ug/L	46.7	BLOD	52.5	27-133	3.44	20	
Benzo (a) anthracene	32.9	10.0	ug/L	46.7	BLOD	70.5	33-143	0.00	20	
Benzo (a) pyrene	37.3	10.0	ug/L	46.7	BLOD	79.9	17-163	0.376	20	
Benzo (b) fluoranthene	37.3	10.0	ug/L	46.7	BLOD	79.7	24-159	9.53	20	
Benzo (g,h,i) perylene	28.3	10.0	ug/L	46.7	BLOD	60.5	10-219	4.08	20	
Benzo (k) fluoranthene	40.5	10.0	ug/L	46.7	BLOD	86.8	11-162	0.0231	20	
bis (2-Chloroethoxy) methane	23.1	10.0	ug/L	46.7	BLOD	49.4	33-184	0.121	20	
bis (2-Chloroethyl) ether	22.4	10.0	ug/L	46.7	BLOD	48.0	12-158	0.830	20	
2,2'-Oxybis (1-chloropropane)	22.6	10.0	ug/L	46.7	BLOD	48.3	36-166	0.540	20	
bis (2-Ethylhexyl) phthalate	24.0	10.0	ug/L	46.7	BLOD	51.5	10-158	19.4	20	
Butyl benzyl phthalate	26.4	10.0	ug/L	46.7	BLOD	56.4	10-152	11.4	20	
Chrysene	29.9	10.0	ug/L	46.7	BLOD	64.0	17-169	2.59	20	
Dibenz (a,h) anthracene	35.9	10.0	ug/L	46.7	BLOD	76.9	10-227	10.1	20	
Diethyl phthalate	30.8	10.0	ug/L	46.7	BLOD	65.9	10-120	2.90	20	
Dimethyl phthalate	26.1	10.0	ug/L	46.7	BLOD	55.9	10-120	2.58	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike Dup (BHB0243-MSD1)	**Source: 24B0206-04**			Prepared: 02/07/2024 Analyzed: 02/08/2024						
Di-n-butyl phthalate	33.7	10.0	ug/L	46.7	BLOD	72.0	10-120	10.2	20	
Di-n-octyl phthalate	47.3	10.0	ug/L	46.7	BLOD	101	10-146	7.73	20	
Fluoranthene	40.1	10.0	ug/L	46.7	BLOD	85.8	26-137	1.69	20	
Fluorene	30.6	10.0	ug/L	46.7	BLOD	65.5	59-121	0.821	20	
Hexachlorobenzene	28.1	1.00	ug/L	46.7	BLOD	60.2	10-152	3.88	20	
Hexachlorobutadiene	29.0	10.0	ug/L	46.7	BLOD	62.0	24-120	2.77	20	
Hexachlorocyclopentadiene	11.3	10.0	ug/L	46.7	BLOD	24.1	10-90	11.2	20	
Hexachloroethane	23.1	10.0	ug/L	46.7	BLOD	49.4	40-120	2.68	20	
Indeno (1,2,3-cd) pyrene	33.8	10.0	ug/L	46.7	BLOD	72.3	10-171	10.0	20	
Isophorone	15.4	10.0	ug/L	46.7	BLOD	33.0	21-196	1.68	20	
Naphthalene	23.9	5.00	ug/L	46.7	BLOD	51.2	21-133	4.06	20	
Nitrobenzene	30.2	10.0	ug/L	46.7	BLOD	64.6	35-180	0.559	20	
n-Nitrosodimethylamine	11.3	10.0	ug/L	46.7	BLOD	24.1	10-85	1.73	20	
n-Nitrosodi-n-propylamine	28.1	10.0	ug/L	46.7	BLOD	60.2	10-230	4.86	20	
n-Nitrosodiphenylamine	24.4	10.0	ug/L	46.7	BLOD	52.2	12-111	0.382	20	
p-Chloro-m-cresol	23.1	10.0	ug/L	46.7	BLOD	49.4	10-127	1.33	20	
Pentachlorophenol	26.6	20.0	ug/L	46.7	BLOD	56.8	14-176	1.33	20	
Phenanthrene	33.7	10.0	ug/L	46.7	BLOD	72.1	54-120	4.47	20	
Phenol	6.64	10.0	ug/L	47.2	BLOD	14.1	10-120	6.14	20	
Pyrene	30.9	10.0	ug/L	46.7	BLOD	66.2	52-120	26.9	20	P
Pyridine	14.5	10.0	ug/L	46.7	BLOD	31.0	10-110	11.7	20	
Surr: 2,4,6-Tribromophenol (Surr)	*66.7*		ug/L	*93.5*		*71.4*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*28.4*		ug/L	*46.7*		*60.8*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*28.5*		ug/L	*93.5*		*30.4*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*30.1*		ug/L	*46.7*		*64.4*	*5-151*			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0243 - SW3510C/EPA600-MS										
Matrix Spike Dup (BHB0243-MSD1)	**Source: 24B0206-04**			Prepared: 02/07/2024 Analyzed: 02/08/2024						
Surr: Phenol-d5 (Surr)	*17.3*		ug/L	*93.5*		*18.5*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*25.8*		ug/L	*46.7*		*55.2*	*5-141*			

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0293 - No Prep Wet Chem										
Blank (BHB0293-BLK1)				Prepared & Analyzed: 02/08/2024						
Nitrite as N	ND	0.05	mg/L							
LCS (BHB0293-BS1)				Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.12	0.05	mg/L	0.100		118	80-120			
Matrix Spike (BHB0293-MS1)	**Source: 24B0268-01**			Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	101	80-120			
Matrix Spike Dup (BHB0293-MSD1)	**Source: 24B0268-01**			Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120	3.02	20	
Batch BHB0313 - No Prep Wet Chem										
Blank (BHB0313-BLK1)				Prepared & Analyzed: 02/08/2024						
BOD	ND	2.0	mg/L							
LCS (BHB0313-BS1)				Prepared & Analyzed: 02/08/2024						
BOD	221	2	mg/L	198		112	84.6-115.4			
Duplicate (BHB0313-DUP1)	**Source: 24B0291-07**			Prepared & Analyzed: 02/08/2024						
BOD	4.4	2.0	mg/L		4.4			1.13	20	
Batch BHB0507 - No Prep Wet Chem										
Blank (BHB0507-BLK1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	ND	0.50	mg/L							

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Wet Chemistry Analysis - Quality Control

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0507 - No Prep Wet Chem										
LCS (BHB0507-BS1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	5.19	0.5	mg/L	5.00		104	90-110			
Matrix Spike (BHB0507-MS1)	**Source: 24B0170-02**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.05	0.50	mg/L	5.00	0.50	111	90-110			M
Matrix Spike (BHB0507-MS2)	**Source: 24B0170-03**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	5.82	0.50	mg/L	5.00	0.75	101	90-110			
Matrix Spike Dup (BHB0507-MSD1)	**Source: 24B0170-02**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.19	0.50	mg/L	5.00	0.50	114	90-110	2.29	20	M
Matrix Spike Dup (BHB0507-MSD2)	**Source: 24B0170-03**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.00	0.50	mg/L	5.00	0.75	105	90-110	3.15	20	
Batch BHB0671 - No Prep Wet Chem										
Blank (BHB0671-BLK1)				Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	ND	0.050	mg/L							
LCS (BHB0671-BS1)				Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	0.42	0.050	mg/L	0.500		84.8	80-120			
Matrix Spike (BHB0671-MS1)	**Source: 24B0271-01**			Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	58.1	2.50	mg/L	25.0	37.3	83.2	70-130			
Matrix Spike Dup (BHB0671-MSD1)	**Source: 24B0271-01**			Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	56.4	2.50	mg/L	25.0	37.3	76.4	70-130	2.97	20	

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Wet Chemistry Analysis - Quality Control

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0683 - No Prep Wet Chem										
Blank (BHB0683-BLK1)				Prepared & Analyzed: 02/16/2024						
Cyanide	ND	0.01	mg/L							
LCS (BHB0683-BS1)				Prepared & Analyzed: 02/16/2024						
Cyanide	0.24	0.01	mg/L	0.250		97.5	80-120			
Matrix Spike (BHB0683-MS1)		**Source: 24B0258-06**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.22	0.01	mg/L	0.250	0.02	80.4	80-120			
Matrix Spike (BHB0683-MS2)		**Source: 24B0352-05**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.26	0.01	mg/L	0.250	BLOD	102	80-120			
Matrix Spike Dup (BHB0683-MSD1)		**Source: 24B0258-06**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.23	0.01	mg/L	0.250	0.02	84.2	80-120	4.17	20	
Matrix Spike Dup (BHB0683-MSD2)		**Source: 24B0352-05**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	99.2	80-120	2.60	20	
Batch BHB0710 - No Prep Wet Chem										
Blank (BHB0710-BLK1)				Prepared & Analyzed: 02/17/2024						
Ammonia as N	ND	0.10	mg/L							
LCS (BHB0710-BS1)				Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.04	0.1	mg/L	1.00		104	90-110			
Matrix Spike (BHB0710-MS1)		**Source: 24B0651-03**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.06	0.1	mg/L	1.00	BLOD	103	89.3-131			

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0710 - No Prep Wet Chem										
Matrix Spike (BHB0710-MS2)		**Source: 24B0288-02**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.08	0.1	mg/L	1.00	BLOD	102	89.3-131			
Matrix Spike Dup (BHB0710-MSD1)		**Source: 24B0651-03**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.06	0.1	mg/L	1.00	BLOD	104	89.3-131	0.471	20	
Matrix Spike Dup (BHB0710-MSD2)		**Source: 24B0288-02**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.10	0.1	mg/L	1.00	BLOD	104	89.3-131	1.38	20	
Batch BHB0782 - No Prep Wet Chem										
Blank (BHB0782-BLK1)				Prepared & Analyzed: 02/20/2024						
COD	ND	10.0	mg/L							
LCS (BHB0782-BS1)				Prepared & Analyzed: 02/20/2024						
COD	54.8	10.0	mg/L	50.0		110	88-119			
Matrix Spike (BHB0782-MS1)		**Source: 24B0714-01**		Prepared & Analyzed: 02/20/2024						
COD	59.1	10.0	mg/L	50.0	BLOD	118	72.4-130			
Matrix Spike Dup (BHB0782-MSD1)		**Source: 24B0714-01**		Prepared & Analyzed: 02/20/2024						
COD	51.4	10.0	mg/L	50.0	BLOD	103	72.4-130	13.9	20	
Batch BHB0800 - No Prep Wet Chem										
Blank (BHB0800-BLK1)				Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	ND	0.10	mg/L							

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0800 - No Prep Wet Chem										
LCS (BHB0800-BS1)				Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	1.02	0.1	mg/L	1.00		102	90-110			
Matrix Spike (BHB0800-MS1)	**Source: 24B0306-02**			Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	8.16	0.50	mg/L	5.00	3.09	101	90-120			
Matrix Spike Dup (BHB0800-MSD1)	**Source: 24B0306-02**			Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	8.08	0.50	mg/L	5.00	3.09	99.7	90-120	1.05	20	

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Analytical Summary

24B0271-01	Subcontract
24B0271-02	Subcontract

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			**Preparation Method:**	**EPA200.8 R5.4**	
24B0271-01	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
24B0271-02	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
24B0271-01	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
24B0271-02	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
24B0271-01	300 mL / 300 mL	SM5210B-2016	BHB0313	SHB0485	
24B0271-02	300 mL / 300 mL	SM5210B-2016	BHB0313	SHB0485	
24B0271-01	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
24B0271-02	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
24B0271-01	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
24B0271-02	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
24B0271-01	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
24B0271-02	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
24B0271-01	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
24B0271-02	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
24B0271-01	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
24B0271-02	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
24B0271-01	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252
24B0271-02	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
24B0271-01	500 mL / 0.500 mL	SW8270E	BHB0243	SHB0414	AK30271
24B0271-02	500 mL / 1.00 mL	SW8270E	BHB0243	SHB0414	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
24B0271-01	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
24B0271-01RE1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
24B0271-02	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
24B0271-02RE1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
24B0271-03	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250

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QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			**Preparation Method:**	**EPA200.8 R5.4**	
BHB0369-BLK1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-BS1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MS1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MS2	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MSD1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MSD2	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
BHB0293-BLK1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-BS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MRL1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MSD1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0313-BLK1	300 mL / 300 mL	SM5210B-2016	BHB0313	SHB0485	
BHB0313-BS1	300 mL / 300 mL	SM5210B-2016	BHB0313	SHB0485	
BHB0313-DUP1	300 mL / 300 mL	SM5210B-2016	BHB0313	SHB0485	
BHB0507-BLK1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-BS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MS2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MSD1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MSD2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
BHB0671-BLK1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-BS1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MRL1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MS1	0.100 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MSD1	0.100 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0683-BLK1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-BS1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MRL1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MS1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MS2	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MSD1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MSD2	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0710-BLK1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-BS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-MRL1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-MS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-MS2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-MSD1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0710-MSD2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0710	SHB0668	AB40235
BHB0782-BLK1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
BHB0782-BS1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
BHB0782-MRL1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
BHB0782-MS1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
BHB0782-MSD1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0782	SHB0744	AB40165
BHB0800-BLK1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252
BHB0800-BS1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252
BHB0800-MS1	5.00 mL / 25.0 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252
BHB0800-MSD1	5.00 mL / 25.0 mL	SM4500-NO3F-2016	BHB0800	SHB0771	AB40252

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
BHB0243-BLK1	1000 mL / 1.00 mL	SW8270E	BHB0243	SHB0336	AK30271
BHB0243-BLK2		SW8270E	BHB0243	SHB0326	AB40138
BHB0243-BS1	1000 mL / 1.00 mL	SW8270E	BHB0243	SHB0336	AK30271
BHB0243-MRL1	1000 mL / 1.00 mL	SW8270E	BHB0243	SHB0454	AL30202
BHB0243-MRL2	1000 mL / 1.00 mL	SW8270E	BHB0243		
BHB0243-MRL3	1000 mL / 1.00 mL	SW8270E	BHB0243	SHB0460	AK30271
BHB0243-MS1	1070 mL / 1.00 mL	SW8270E	BHB0243	SHB0336	AK30271
BHB0243-MSD1	1070 mL / 1.00 mL	SW8270E	BHB0243	SHB0336	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
BHB0273-BLK1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
BHB0273-BS1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
BHB0273-DUP1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
BHB0273-MRL1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
BHB0273-MRL2	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250
BHB0273-MS1	5.00 mL / 5.00 mL	SW8260D	BHB0273	SHB0295	AL30250

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Certified Analyses included in this Report

Analyte	Certifications
EPA350.1 R2.0 in Non-Potable Water	
Ammonia as N	VELAP,NCDEQ,PADEP,WVDEP
EPA351.2 R2.0 in Non-Potable Water	
TKN as N	VELAP,NCDEQ,WVDEP
SM4500-NO2B-2011 in Non-Potable Water	
Nitrite as N	VELAP,WVDEP,NCDEQ
SM4500-NO3F-2016 in Non-Potable Water	
Nitrate+Nitrite as N	VELAP,WVDEP
SM5210B-2016 in Non-Potable Water	
BOD	VELAP,NCDEQ,WVDEP
SM5220D-2011 in Non-Potable Water	
COD	VELAP,NCDEQ,PADEP,WVDEP
SW6020B in Non-Potable Water	
Mercury	VELAP
Arsenic	VELAP,WVDEP
Barium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Zinc	VELAP,WVDEP
SW8260D in Non-Potable Water	

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Certified Analyses included in this Report

Analyte	Certifications
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
Tetrahydrofuran	VELAP,PADEP
SW8270E in Non-Potable Water	
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
SW9012B in Non-Potable Water	
Cyanide	VELAP,WVDEP
SW9065 in Non-Potable Water	
Total Recoverable Phenolics	VELAP,WVDEP

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Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2024
NCDEQ	North Carolina DEQ	495	12/31/2024
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental Control Certificate 93016001	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704576-23-1	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12759	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:28:28PM

Qualifiers and Definitions

Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
DS	Surrogate concentration reflects a dilution factor.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

ENTHALPY ANALYTICAL

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

CHAIN OF CUSTODY

COMPANY NAME: SCS Engineers	INVOICE TO: SAME	PROJECT NAME/Quote #: City of Bristol Landfill #588
CONTACT: Jennifer Robb	INVOICE CONTACT:	SITE NAME: 24-02 LFG-EW Monthly Monitoring
ADDRESS: 296 Victory Road	INVOICE ADDRESS:	PROJECT NUMBER: 02218208.15 Task 2
Winchester, VA 22602	INVOICE PHONE #:	P.O. #:
PHONE #: 703-471-6150 / EMAIL: jrobb@scsengineers.com		Pretreatment Program:
Is sample for compliance reporting? YES NO / Regulatory State: V A	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): Logan Nelson/Will Fabie	SAMPLER SIGNATURE:	Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	Ammonia - EPA 350.1 R2.0	BOD - SM22 5210B-2021	COD - SM22 5220D-2011	Cyanide - SW9012	Nitrate SM22 450-NO3F-2011 (report seperatly from Nitrite)	Nitrite SM22 450-NO3F-2011	SVOC (Anthracene) 8270	Total Metals (As, Ba, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn) 6020	TKN - EPA 351.2 R2.0	Mercury - 6020	Total Recoverable Phenolics - 9065	V. Fatty Acids (See List) 8015	VOCs (See List) 8260
1) EW-51	X					2/6/24	1130		GW	14	X	X	X	X	X	X	X	X	X	X	X	X	X
2) EW-53	X					2/6/24	945		GW	14	X	X	X	X	X	X	X	X	X	X	X	X	X
3)									GW														
4)									GW														
5)									GW														
6)									GW														
7)									GW														
8)									GW														
9)									GW														
10) Trip Blank						8/9/23	1615		DI	2													X

SCS-W 24B0271
24-02 LFG-EW
Recd: 02/07/2024 Due: 02/21/2024
v130325002

ANALYSIS / (PRESERVATIVE)

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

COMMENTS

Note VOC 8260 no HCl

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Logan Nelson	2/6/24 1300	LCN	
LCN		Hannah Ave	2/7/24 0900

QC Data Package
Level III ☐
Level IV ☐

LAB USE ONLY Therm ID: 271
Custody Seals used and intact? (Y / N)
COOLER TEMP 0.4 °C
Received on ice? (Y / N)

ENTHALPY ANALYTICAL

Sample Preservation Log

Order ID 24B0271 Date Performed: 2-7-24 Analyst Performing Check: CSB

Sample ID	Container ID	Metals pH as Received < 2	Metals pH as Received Other	Metals Final pH	Cyanide pH as Received > 12	Cyanide pH as Received Other	Cyanide Final pH	Sulfide pH as Received > 9	Sulfide pH as Received Other	Sulfide Final pH	Ammonia pH as Received < 2	Ammonia pH as Received Other	Ammonia Final pH	TKN pH as Received < 2	TKN pH as Received Other	TKN Final pH	Phos, Tot pH as Received < 2	Phos, Tot pH as Received Other	Phos, Tot Final pH	NO3+NO2 pH as Received < 2	NO3+NO2 pH as Received Other	NO3+NO2 Final pH	DRO pH as Received < 2	DRO pH as Received Other	DRO Final pH	Pesticide (8081/608/508) PCB DW only Received Res. Cl +	Pesticide Received Res. Cl -	Pesticide final + or -	SVOC (525/8270/625) Received Res. Cl +	SVOC Received Res. Cl -	SVOC final + or -	CrVI * ** Received pH	CrVI Final pH	Pest/PCB (508) / SVOC(525) pH as Received < 2	Pest/PCB (508) / SVOC(525) pH as Received Other	Pest/PCB (508) / SVOC(525) Final pH	COD pH as Received < 2	COD pH as Received Other	COD Final pH	Phenolics pH as Received < 2	Phenolics pH as Received Other	Phenolics Final pH
1	A		6	<2																																							
1	B											6	<2		6	<2					6	<2																			6	<2			
1	D					10	>12																																					
1	F																																										6	<2
1	G																													—														
1	H											6	<2		6	<2					6	<2																			6	<2			
2	A		5	<2																																							
2	B											5	<2		5	<2					5	<2																			5	<2			
2	D					10	>12																																					
2	F																																										6	<2
2	G																													—														
2	H											5	<2		5	<2					5	<2																			5	<2			

NaOH ID: 4A03375 HNO3 ID: 3L03050 CrVI preserved date/time: Analyst Initials:

** pH must be adjusted between 9.3 - 9.7*

H_2SO_4 ID: 4A01942 $Na_2S_2O_3$ ID: Ammonia Buffer Sol'n ID:

HCL ID: Na_2SO_3 ID: 5N NaOH ID:

Metals were received with pH =5, 6 HNO3 was added at 1215 on 7th of February 2024, by CSB in the Log-In room to bring pH= <2.

*.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

Enthalpy Analytical
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

ENTHALPY ANALYTICAL

Enthalpy Analytical
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Laboratory Order ID: 24B0271

Sample Conditions Checklist

Samples Received at:	**0.40°C**
How were samples received?	Logistics Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	No
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	No

*H2SO4-preserved bottles for both samples were received with a pH greater than 2, and H2SO4 was added to bring the pH to less than 2.
*NaOH-preserved bottles for both samples were received with a pH less than 12, and NaOH was added to bring the pH to greater than 12.

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1941 Reymet Road
Richmond, Virginia 23237
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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:28:28PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
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*All VOAs for both samples were received with headspace.
Analysis to proceed per Jennifer Robb via email. MRS 02/07/24 1341

Pace Analytical Services, LLC
7979 Innovation Park Drive
Baton Rouge, LA 70820
(225) 769-4900

February 29, 2024

Virginia Thrasher
Enthalpy
1941 Reymet Road
Richmond, VA 23237

RE: Project: 24B0271
Pace Project No.: 20306749

Dear Virginia Thrasher:

Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Baton Rouge

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh

Ruth Welsh
ruth.welsh@pacelabs.com
(225) 769-4900
Project Manager

Enclosures

cc: Andrew Bruner, Enthalpy
Daniel Elliott, Enthalpy
Meghan Meyer, Enthalpy

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Baton Rouge, LA 70820
(225) 769-4900

CERTIFICATIONS

Project: 24B0271
Pace Project No.: 20306749

Pace Analytical Services Baton Rouge
7979 Innovation Park Drive Ste A, Baton Rouge, LA 70820-7402
Louisiana Dept of Enviromental Quality (NELAC/LELAP): 01979
Florida Dept of Health (NELAC/FELAP): E87854
DoD ELAP (A2LA) #: 6429.01
Alabama DEM #: 41900
Alaska DEC-DW #: LA00024
Alaska DEC CS-LAP #: 21-001
Arkansas DEQ #: 88-0655
California ELAP #: 3063
Georgia DPD #: C050
Hawaii DOH State Laboratories Division
Illinois EPA #: 200048
Kansas DoHE #: E-10354
Kentucky DEP UST Branch #: 123054
Louisiana DOH #: LA036
Minnesota DOH #: 2233799
Mississippi State Dept of Health
Montana Department of Environmental Quality
Nebraska DHHS #: NE-OS-35.21
Nevada DCNR DEP #: LA00024
New York DOH #: 12149
North Carolina DEQ - WW & GW #: 618
North Dakota DEQ #: R195
Ohio EPA #: 87782
Oklahoma Dept of Environmental Quality #: 9403
Oregon ELAP #: 4168
Pennsylvania Dept of Environmental Protection #: 68-05973
South Carolina DHEC #: 73006001
Texas CEQ #: T104704178-23-15
Utah DOH #: LA00024
Virginia DCLS #: 6460215
Washington Dept of Ecology #: C929
Wisconsin DNR #: 399139510

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Baton Rouge, LA 70820
(225) 769-4900

SAMPLE SUMMARY

Project: 24B0271
Pace Project No.: 20306749

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20306749001	**24B0271-01:EW-51**	Water	02/06/24 11:30	02/08/24 09:54
20306749002	**24B0271-02:EW-53**	Water	02/06/24 09:45	02/08/24 09:54

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SAMPLE ANALYTE COUNT

Project: 24B0271
Pace Project No.: 20306749

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20306749001	**24B0271-01:EW-51**	Pace ENV-SOP-BTRO-0042	CCL	10
20306749002	**24B0271-02:EW-53**	Pace ENV-SOP-BTRO-0042	CCL	10

PASI-BR = Pace Analytical Services - Baton Rouge

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
7979 Innovation Park Drive
Baton Rouge, LA 70820
(225) 769-4900

PROJECT NARRATIVE

Project: 24B0271
Pace Project No.: 20306749

Method: **Pace ENV-SOP-BTRO-0042**
Description: BR AM23G Low Level VFA
Client: BR-Enthalpy
Date: February 29, 2024

General Information:
2 samples were analyzed for Pace ENV-SOP-BTRO-0042 by Pace Analytical Services Baton Rouge. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 318777

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- 24B0271-01:EW-51 (Lab ID: 20306749001)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- 24B0271-02:EW-53 (Lab ID: 20306749002)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid

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Baton Rouge, LA 70820
(225) 769-4900

PROJECT NARRATIVE

Project: 24B0271
Pace Project No.: 20306749

Method: **Pace ENV-SOP-BTRO-0042**
Description: BR AM23G Low Level VFA
Client: BR-Enthalpy
Date: February 29, 2024

Analyte Comments:

QC Batch: 318777

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- 24B0271-02:EW-53 (Lab ID: 20306749002)
  - Pentanoic Acid
- BLANK (Lab ID: 1526443)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- LCS (Lab ID: 1526444)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- MS (Lab ID: 1526463)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- MSD (Lab ID: 1526464)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid

This data package has been reviewed for quality and completeness and is approved for release.

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(225) 769-4900

ANALYTICAL RESULTS

Project: 24B0271
Pace Project No.: 20306749

Sample: 24B0271-01:EW-51 **Lab ID: 20306749001** Collected: 02/06/24 11:30 Received: 02/08/24 09:54 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR AM23G Low Level VFA	Analytical Method: Pace ENV-SOP-BTRO-0042 Pace Analytical Services - Baton Rouge							
Pentanoic Acid	ND	mg/L	250	500		02/26/24 18:59	109-52-4	N2
Acetic Acid	**3130**	mg/L	250	500		02/26/24 18:59	64-19-7	
Butyric Acid	**583**	mg/L	250	500		02/26/24 18:59	107-92-6	
Formic acid	**1070**	mg/L	250	500		02/26/24 18:59	64-18-6	
Hexanoic Acid	ND	mg/L	250	500		02/26/24 18:59	142-62-1	N2
i-Hexanoic Acid	ND	mg/L	250	500		02/26/24 18:59	646-07-1	N2
Lactic Acid	**334**	mg/L	250	500		02/26/24 18:59	50-21-5	
i-Pentanoic Acid	ND	mg/L	250	500		02/26/24 18:59	503-74-2	N2
Propionic Acid	**1210**	mg/L	250	500		02/26/24 18:59	79-09-4	
Pyruvic Acid	ND	mg/L	250	500		02/26/24 18:59	127-17-3	

Sample: 24B0271-02:EW-53 **Lab ID: 20306749002** Collected: 02/06/24 09:45 Received: 02/08/24 09:54 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR AM23G Low Level VFA	Analytical Method: Pace ENV-SOP-BTRO-0042 Pace Analytical Services - Baton Rouge							
Pentanoic Acid	ND	mg/L	250	500		02/26/24 19:23	109-52-4	N2
Acetic Acid	**3530**	mg/L	250	500		02/26/24 19:23	64-19-7	
Butyric Acid	**1170**	mg/L	250	500		02/26/24 19:23	107-92-6	
Formic acid	**1000**	mg/L	250	500		02/26/24 19:23	64-18-6	
Hexanoic Acid	ND	mg/L	250	500		02/26/24 19:23	142-62-1	N2
i-Hexanoic Acid	ND	mg/L	250	500		02/26/24 19:23	646-07-1	N2
Lactic Acid	**480**	mg/L	250	500		02/26/24 19:23	50-21-5	
i-Pentanoic Acid	ND	mg/L	250	500		02/26/24 19:23	503-74-2	N2
Propionic Acid	**1510**	mg/L	250	500		02/26/24 19:23	79-09-4	
Pyruvic Acid	ND	mg/L	250	500		02/26/24 19:23	127-17-3	

REPORT OF LABORATORY ANALYSIS

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(225) 769-4900

QUALITY CONTROL DATA

Project: 24B0271
Pace Project No.: 20306749

QC Batch: 318777
QC Batch Method: Pace ENV-SOP-BTRO-0042
Analysis Method: Pace ENV-SOP-BTRO-0042
Analysis Description: BR AM23G Low Level VFA
Laboratory: Pace Analytical Services - Baton Rouge
Associated Lab Samples: 20306749001, 20306749002

METHOD BLANK: 1526443 Matrix: Water
Associated Lab Samples: 20306749001, 20306749002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	02/26/24 16:06	
Butyric Acid	mg/L	ND	0.50	02/26/24 16:06	
Formic acid	mg/L	ND	0.50	02/26/24 16:06	
Hexanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
i-Hexanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
i-Pentanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
Lactic Acid	mg/L	ND	0.50	02/26/24 16:06	
Pentanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
Propionic Acid	mg/L	ND	0.50	02/26/24 16:06	
Pyruvic Acid	mg/L	ND	0.50	02/26/24 16:06	

LABORATORY CONTROL SAMPLE: 1526444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	99	70-130	
Butyric Acid	mg/L	2	1.9	93	70-130	
Formic acid	mg/L	2	1.9	96	70-130	
Hexanoic Acid	mg/L	2	1.6	81	39-114	N2
i-Hexanoic Acid	mg/L	2	1.8	92	39-114	N2
i-Pentanoic Acid	mg/L	2	1.7	85	59-121	N2
Lactic Acid	mg/L	2	2.1	106	70-130	
Pentanoic Acid	mg/L	2	1.7	87	59-121	N2
Propionic Acid	mg/L	2	1.9	93	70-130	
Pyruvic Acid	mg/L	2	1.9	96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1526463 1526464

Parameter	Units	20306861002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acetic Acid	mg/L	10.0U	40	40	40.4	40.5	96	97	70-130	0	30	
Butyric Acid	mg/L	10.0U	40	40	39.9	41.5	98	102	70-130	4	30	
Formic acid	mg/L	10.0U	40	40	39.6	40.1	97	98	70-130	1	30	
Hexanoic Acid	mg/L	10.0U	40	40	30.8	30.6	77	76	39-114	1	30	N2
i-Hexanoic Acid	mg/L	10.0U	40	40	42.9	42.3	107	106	39-114	1	30	N2
i-Pentanoic Acid	mg/L	10.0U	40	40	34.1	32.5	85	81	59-121	5	30	N2
Lactic Acid	mg/L	7.3J	40	40	47.0	47.4	99	100	70-130	1	30	
Pentanoic Acid	mg/L	10.0U	40	40	35.0	34.2	88	85	59-121	2	30	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Baton Rouge, LA 70820
(225) 769-4900

QUALITY CONTROL DATA

Project: 24B0271
Pace Project No.: 20306749

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1526463 1526464

Parameter	Units	20306861002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Propionic Acid	mg/L	10.0U	40	40	37.3	37.8	93	94	70-130	1	30	
Pyruvic Acid	mg/L	10.0U	40	40	36.9	39.4	92	99	70-130	7	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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7979 Innovation Park Drive
Baton Rouge, LA 70820
(225) 769-4900

QUALIFIERS

Project: 24B0271
Pace Project No.: 20306749

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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Pace Analytical Services, LLC
7979 Innovation Park Drive
Baton Rouge, LA 70820
(225) 769-4900

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 24B0271
Pace Project No.: 20306749

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20306749001	**24B0271-01:EW-51**	Pace ENV-SOP-BTRO-0042	318777		
20306749002	**24B0271-02:EW-53**	Pace ENV-SOP-BTRO-0042	318777		

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ENTHALPY ANALYTICAL

Pace - Gulf Coast
7979 Innovation Park Dr
Baton Rouge, LA 70820

1941 RE
RICHMOND, VIR
(804) 358-
(804)3

WO# : 20306749

20306749

CHAIN OF CUSTODY

COMPANY NAME: Enthalpy	INVOICE TO: Enthalpy	PROJECT NAME/Quote #: 24B0271
CONTACT: Dan Elliott	INVOICE CONTACT:	SITE NAME: 24B0271
ADDRESS: 1941 Reymet Rd Richmond VA 23237	INVOICE ADDRESS: 1941 Reymet Rd Richmond VA 23237	PROJECT NUMBER: 24B0271
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: PO-059844
FAX #:	EMAIL:	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	**Turn Around Time:** 10 days

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Volatile Fatty Acid Low Level							
1) 24B0271-01: EW-51	x					02/06/24	1130		GW	3	X							
2) 24B0271-02: EW-53	X					02/06/24	0945		GW	3	X							
3)																		
4)																		
5)																		
6)																		
7)																		
8)																		
9)																		
10)																		

COMMENTS

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

1
2

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[illegible]	2/7/24 1543	FedEx Express	2/7/24 1543
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
FedEx	2/8/24 9:54	DonieMcClure	2-8-24 9:54
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level I ☐
Level II ☐
Level III ☐
Level IV ☐

LAB USE ONLY **COOLER TEMP** _____ °C

Pace

Sample Condition Upon Reciept (S

Workorder

WO#: 20306749

PM: RW Due Date: 02/22/24

CLIENT: BR-Enthalpy

7979 Innovation Park Dr. Baton Rouge, LA 70806

Cooler Inspected by/date: LBR / 2/8/24

Means of receipt: ☐Pace ☐Client ☐UPS ☑FedEx ☐Other: _____				
☐ Yes	☑ No		Were custody seals present on the cooler?	
☐ Yes	☐ No	☑ NA	If custody seals were present, were they intact and unbroken?	
Method: ☐Temperature Blank ☑Against Bottles IR Gun ID: 003 IR Gun Correction Factor: 0 °C				
Cooler #1	Cooler Temp °C: 0.1	(Actual/True)	Samples on ice ☑Yes ☐No	pH Strip Lot #
Cooler #2	Cooler Temp °C: _____	(Actual/True)		
Cooler #3	Cooler Temp °C: _____	(Actual/True)	Method of coolant:	
Cooler #4	Cooler Temp °C: _____	(Actual/True)	☑ Wet ☐Ice Packs ☐ Dry Ice ☐ None	
Tracking #: 7751 0956 1746				

☒ Yes	☐ No	☐ NA	Is a temperature blank present?	
☒ Yes	☐ No	☐ NA	Was a chain of custody (COC) recieved?	
☐ Yes	☒ No	☐ NA	Was the line and profile number listed on the COC?	
☒ Yes	☐ No	☐ NA	Were all coolers received at or below 6.0°C? If no, notify Project Manager notified via email.	
☒ Yes	☐ No		Were proper custody procedures (relinquished/received) followed?	
☐ Yes	☒ No	☐ NA	Is the sampler name and signature on the COC?	
☒ Yes	☐ No		Were sample IDs listed on the COC and all sample containers?	
☒ Yes	☐ No		Was collection date & time listed on the COC and all sample containers?	
☒ Yes	☐ No		Did all container label information (ID, date, time) agree with the COC?	
☒ Yes	☐ No		Were tests to be performed listed on the COC?	
☒ Yes	☐ No		Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?	
☒ Yes	☐ No		Was adequate sample volume available?	
☒ Yes	☐ No		Were all samples received within ½ the holding time or 48 hours, whichever comes first?	
☒ Yes	☐ No		Were all samples containers accounted for? (No missing / excess)	
☐ Yes	☐ No	☐ NA	Were VOA, 8015C (GRO/VPH), and RSK-175 samples free of bubbles > "pea size" (1/4" or 6mm in diameter) in any of the VOA vials?	
☐ Yes	☐ No	☐ NA	Trip blank present?	
☐ Yes	☐ No	☐ NA	Filtered volume received for dissolved tests? *If no, list affected sample(s) in comments below.*	
☐ Yes	☐ No	☐ NA	Were all metals/nutrient samples received at a pH of < 2?	If No, was preservative added? ☐Yes ☐No If added, record lots. Dispenser/pipette lot #: _____
☐ Yes	☐ No	☐ NA	Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?	HNO_3_____ H_2SO_4 _____ NaOH_____ Date: _____ Time:_____

Comments:

TNI Accredited
VELAP ID 460021

ENTHALPY ANALYTICAL

1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 24B0353

Client Name:	SCS Engineers-Winchester 296 Victory Road Winchester, VA 22602	Date Received:	February 8, 2024 8:00
		Date Issued:	February 29, 2024 17:27
		Project Number:	02218208.15 Task 2
Submitted To:	Jennifer Robb	Purchase Order:	
Client Site I.D.:	24-02 LFG-EW Monthly Monitoring		

Enclosed are the results of analyses for samples received by the laboratory on 02/08/2024 08:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Technical Director

End Notes:
The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Analysis Detects Report

Client Name: SCS Engineers-Winchester
Client Site ID: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:27:44PM

Laboratory Sample ID: **24B0353-01** **Client Sample ID:** **EW-85**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	01	SW6020B	330		2.0	2.0	5	ug/L
Barium	01	SW6020B	2650		5.00	25.0	5	ug/L
Cadmium	01	SW6020B	17.5		0.500	5.00	5	ug/L
Chromium	01	SW6020B	203		2.00	5.00	5	ug/L
Copper	01	SW6020B	1.51	J	1.50	2.00	5	ug/L
Lead	01	SW6020B	51		1.0	2.0	5	ug/L
Mercury	01	SW6020B	2.38		1.00	1.00	5	ug/L
Nickel	01	SW6020B	91.74		5.000	5.000	5	ug/L
Selenium	01	SW6020B	5.71		4.25	5.00	5	ug/L
Zinc	01	SW6020B	475		12.5	25.0	5	ug/L
2-Butanone (MEK)	01	SW8260D	12700		150	500	50	ug/L
Acetone	01RE1	SW8260D	45600		3500	5000	500	ug/L
Benzene	01	SW8260D	346		20.0	50.0	50	ug/L
Ethylbenzene	01	SW8260D	31.0	J	20.0	50.0	50	ug/L
Tetrahydrofuran	01	SW8260D	3520		500	500	50	ug/L
Ammonia as N	01	EPA350.1 R2.0	1780		146	200	2000	mg/L
BOD	01	SM5210B-2016	21400		0.2	2.0	1	mg/L
COD	01	SM5220D-2011	48900		5000	5000	500	mg/L
Cyanide	01	SW9012B	0.27	CI	0.05	0.05	5	mg/L
TKN as N	01	EPA351.2 R2.0	2470		100	250	500	mg/L
Total Recoverable Phenolics	01	SW9065	50.2		1.50	2.50	50	mg/L

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Analysis Detects Report

Client Name: SCS Engineers-Winchester
Client Site ID: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:27:44PM

Laboratory Sample ID: **24B0353-02** **Client Sample ID:** **EW-88**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	02	SW6020B	230		2.0	2.0	5	ug/L
Barium	02	SW6020B	925		5.00	25.0	5	ug/L
Chromium	02	SW6020B	336		2.00	5.00	5	ug/L
Copper	02	SW6020B	1.63	J	1.50	2.00	5	ug/L
Lead	02	SW6020B	12		1.0	2.0	5	ug/L
Mercury	02	SW6020B	2.84		1.00	1.00	5	ug/L
Nickel	02	SW6020B	61.83		5.000	5.000	5	ug/L
Selenium	02	SW6020B	6.51		4.25	5.00	5	ug/L
Zinc	02	SW6020B	809		12.5	25.0	5	ug/L
2-Butanone (MEK)	02RE1	SW8260D	17400		1500	5000	500	ug/L
Acetone	02RE1	SW8260D	63100		3500	5000	500	ug/L
Benzene	02	SW8260D	484		20.0	50.0	50	ug/L
Ethylbenzene	02	SW8260D	41.0	J	20.0	50.0	50	ug/L
Tetrahydrofuran	02	SW8260D	4910		500	500	50	ug/L
Toluene	02	SW8260D	30.5	J	25.0	50.0	50	ug/L
Ammonia as N	02	EPA350.1 R2.0	2380		146	200	2000	mg/L
BOD	02	SM5210B-2016	34300		0.2	2.0	1	mg/L
COD	02	SM5220D-2011	68400		10000	10000	1000	mg/L
Cyanide	02	SW9012B	0.12	CI	0.05	0.05	5	mg/L
TKN as N	02	EPA351.2 R2.0	2970		100	250	500	mg/L
Total Recoverable Phenolics	02	SW9065	43.1		1.50	2.50	50	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EW-85	24B0353-01	Ground Water	02/07/2024 09:30	02/08/2024 08:00
EW-88	24B0353-02	Ground Water	02/07/2024 09:00	02/08/2024 08:00

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-85** **Laboratory Sample ID:** **24B0353-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6020B	02/09/2024 11:45	02/12/2024 12:50	BLOD		0.300	5.00	5	ug/L	AB
Arsenic	01	7440-38-2	SW6020B	02/09/2024 11:45	02/12/2024 12:50	330		2.0	2.0	5	ug/L	AB
Barium	01	7440-39-3	SW6020B	02/09/2024 11:45	02/12/2024 12:50	2650		5.00	25.0	5	ug/L	AB
Cadmium	01	7440-43-9	SW6020B	02/09/2024 11:45	02/12/2024 12:50	17.5		0.500	5.00	5	ug/L	AB
Chromium	01	7440-47-3	SW6020B	02/09/2024 11:45	02/12/2024 12:50	203		2.00	5.00	5	ug/L	AB
Copper	01	7440-50-8	SW6020B	02/09/2024 11:45	02/12/2024 12:50	1.51	J	1.50	2.00	5	ug/L	AB
Mercury	01	7439-97-6	SW6020B	02/09/2024 11:45	02/12/2024 12:50	2.38		1.00	1.00	5	ug/L	AB
Nickel	01	7440-02-0	SW6020B	02/09/2024 11:45	02/12/2024 12:50	91.74		5.000	5.000	5	ug/L	AB
Lead	01	7439-92-1	SW6020B	02/09/2024 11:45	02/12/2024 12:50	51		1.0	2.0	5	ug/L	AB
Selenium	01	7782-49-2	SW6020B	02/09/2024 11:45	02/12/2024 12:50	5.71		4.25	5.00	5	ug/L	AB
Zinc	01	7440-66-6	SW6020B	02/09/2024 11:45	02/12/2024 12:50	475		12.5	25.0	5	ug/L	AB
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	01	78-93-3	SW8260D	02/08/2024 19:14	02/08/2024 19:14	12700		150	500	50	ug/L	RJB
Acetone	01RE1	67-64-1	SW8260D	02/08/2024 19:36	02/08/2024 19:36	45600		3500	5000	500	ug/L	RJB
Benzene	01	71-43-2	SW8260D	02/08/2024 19:14	02/08/2024 19:14	346		20.0	50.0	50	ug/L	RJB
Ethylbenzene	01	100-41-4	SW8260D	02/08/2024 19:14	02/08/2024 19:14	31.0	J	20.0	50.0	50	ug/L	RJB
m+p-Xylenes	01	179601-23-1	SW8260D	02/08/2024 19:14	02/08/2024 19:14	BLOD		30.0	100	50	ug/L	RJB
o-Xylene	01	95-47-6	SW8260D	02/08/2024 19:14	02/08/2024 19:14	BLOD		20.0	50.0	50	ug/L	RJB
Toluene	01	108-88-3	SW8260D	02/08/2024 19:14	02/08/2024 19:14	BLOD		25.0	50.0	50	ug/L	RJB
Xylenes, Total	01	1330-20-7	SW8260D	02/08/2024 19:14	02/08/2024 19:14	BLOD		50.0	150	50	ug/L	RJB
Tetrahydrofuran	01	109-99-9	SW8260D	02/08/2024 19:14	02/08/2024 19:14	3520		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*01*		*97.2 %*	*70-120*	*02/08/2024 19:14*	*02/08/2024 19:14*						
Surr: 4-Bromofluorobenzene (Surr)	*01*		*98.5 %*	*75-120*	*02/08/2024 19:14*	*02/08/2024 19:14*						
Surr: Dibromofluoromethane (Surr)	*01*		*93.7 %*	*70-130*	*02/08/2024 19:14*	*02/08/2024 19:14*						

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Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-85** **Laboratory Sample ID:** **24B0353-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: Toluene-d8 (Surr)	*01*	*99.1 %*	*70-130*	*02/08/2024 19:14*	*02/08/2024 19:14*							
Surr: 1,2-Dichloroethane-d4 (Surr)	*01RE1*	*99.8 %*	*70-120*	*02/08/2024 19:36*	*02/08/2024 19:36*							
Surr: 4-Bromofluorobenzene (Surr)	*01RE1*	*100 %*	*75-120*	*02/08/2024 19:36*	*02/08/2024 19:36*							
Surr: Dibromofluoromethane (Surr)	*01RE1*	*91.9 %*	*70-130*	*02/08/2024 19:36*	*02/08/2024 19:36*							
Surr: Toluene-d8 (Surr)	*01RE1*	*100 %*	*70-130*	*02/08/2024 19:36*	*02/08/2024 19:36*							
Semivolatile Organic Compounds by GCMS												
Anthracene	01	120-12-7	SW8270E	02/14/2024 08:30	02/16/2024 15:07	BLOD		400000	800000	20	ug/L	ZDR
Surr: 2,4,6-Tribromophenol (Surr)	*01*	*%*	*5-136*	*02/14/2024 08:30*	*02/16/2024 15:07*							*DS*
Surr: 2-Fluorobiphenyl (Surr)	*01*	*%*	*9-117*	*02/14/2024 08:30*	*02/16/2024 15:07*							*DS*
Surr: 2-Fluorophenol (Surr)	*01*	*8.40 %*	*5-60*	*02/14/2024 08:30*	*02/16/2024 15:07*							
Surr: Nitrobenzene-d5 (Surr)	*01*	*742 %*	*5-151*	*02/14/2024 08:30*	*02/16/2024 15:07*							*DS*
Surr: Phenol-d5 (Surr)	*01*	*%*	*5-60*	*02/14/2024 08:30*	*02/16/2024 15:07*							*DS*
Surr: p-Terphenyl-d14 (Surr)	*01*	*%*	*5-141*	*02/14/2024 08:30*	*02/16/2024 15:07*							*DS*

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-85** **Laboratory Sample ID:** **24B0353-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	01	7664-41-7	EPA350.1 R2.0	02/17/2024 17:23	02/17/2024 17:23	1780		146	200	2000	mg/L	LAM
BOD	01	E1640606	SM5210B-2016	02/08/2024 08:50	02/08/2024 08:50	21400		0.2	2.0	1	mg/L	SPH
Cyanide	01	57-12-5	SW9012B	02/16/2024 13:31	02/16/2024 13:31	0.27	CI	0.05	0.05	5	mg/L	MGC
COD	01	NA	SM5220D-2011	02/20/2024 12:45	02/20/2024 12:45	48900		5000	5000	500	mg/L	MGC
Nitrate as N	01	14797-55-8	Calc.	02/20/2024 09:00	02/20/2024 16:33	BLOD		1.50	5.50	100	mg/L	TEG
Nitrate+Nitrite as N	01RE1	E701177	SM4500-NO3F-2016	02/20/2024 09:00	02/20/2024 16:33	BLOD		0.50	0.50	5	mg/L	TEG
Nitrite as N	01	14797-65-0	SM4500-NO2B-2011	02/08/2024 07:50	02/08/2024 07:50	BLOD		1.00	5.00	100	mg/L	AJM
Total Recoverable Phenolics	01	NA	SW9065	02/16/2024 17:00	02/16/2024 17:00	50.2		1.50	2.50	50	mg/L	AAL
TKN as N	01	E17148461	EPA351.2 R2.0	02/13/2024 16:02	02/14/2024 15:11	2470		100	250	500	mg/L	AAL

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(804)-358-8297 - Fax

Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-88** **Laboratory Sample ID:** **24B0353-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6020B	02/09/2024 11:45	02/12/2024 12:53	BLOD		0.300	5.00	5	ug/L	AB
Arsenic	02	7440-38-2	SW6020B	02/09/2024 11:45	02/12/2024 12:53	230		2.0	2.0	5	ug/L	AB
Barium	02	7440-39-3	SW6020B	02/09/2024 11:45	02/12/2024 12:53	925		5.00	25.0	5	ug/L	AB
Cadmium	02	7440-43-9	SW6020B	02/09/2024 11:45	02/12/2024 12:53	BLOD		0.500	5.00	5	ug/L	AB
Chromium	02	7440-47-3	SW6020B	02/09/2024 11:45	02/12/2024 12:53	336		2.00	5.00	5	ug/L	AB
Copper	02	7440-50-8	SW6020B	02/09/2024 11:45	02/12/2024 12:53	1.63	J	1.50	2.00	5	ug/L	AB
Mercury	02	7439-97-6	SW6020B	02/09/2024 11:45	02/12/2024 12:53	2.84		1.00	1.00	5	ug/L	AB
Nickel	02	7440-02-0	SW6020B	02/09/2024 11:45	02/12/2024 12:53	61.83		5.000	5.000	5	ug/L	AB
Lead	02	7439-92-1	SW6020B	02/09/2024 11:45	02/12/2024 12:53	12		1.0	2.0	5	ug/L	AB
Selenium	02	7782-49-2	SW6020B	02/09/2024 11:45	02/12/2024 12:53	6.51		4.25	5.00	5	ug/L	AB
Zinc	02	7440-66-6	SW6020B	02/09/2024 11:45	02/12/2024 12:53	809		12.5	25.0	5	ug/L	AB
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	02RE1	78-93-3	SW8260D	02/08/2024 20:21	02/08/2024 20:21	17400		1500	5000	500	ug/L	RJB
Acetone	02RE1	67-64-1	SW8260D	02/08/2024 20:21	02/08/2024 20:21	63100		3500	5000	500	ug/L	RJB
Benzene	02	71-43-2	SW8260D	02/08/2024 19:59	02/08/2024 19:59	484		20.0	50.0	50	ug/L	RJB
Ethylbenzene	02	100-41-4	SW8260D	02/08/2024 19:59	02/08/2024 19:59	41.0	J	20.0	50.0	50	ug/L	RJB
m+p-Xylenes	02	179601-23-1	SW8260D	02/08/2024 19:59	02/08/2024 19:59	BLOD		30.0	100	50	ug/L	RJB
o-Xylene	02	95-47-6	SW8260D	02/08/2024 19:59	02/08/2024 19:59	BLOD		20.0	50.0	50	ug/L	RJB
Toluene	02	108-88-3	SW8260D	02/08/2024 19:59	02/08/2024 19:59	30.5	J	25.0	50.0	50	ug/L	RJB
Xylenes, Total	02	1330-20-7	SW8260D	02/08/2024 19:59	02/08/2024 19:59	BLOD		50.0	150	50	ug/L	RJB
Tetrahydrofuran	02	109-99-9	SW8260D	02/08/2024 19:59	02/08/2024 19:59	4910		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*02*	*102 %*	*70-120*	*02/08/2024 19:59*	*02/08/2024 19:59*							
Surr: 4-Bromofluorobenzene (Surr)	*02*	*101 %*	*75-120*	*02/08/2024 19:59*	*02/08/2024 19:59*							
Surr: Dibromofluoromethane (Surr)	*02*	*92.8 %*	*70-130*	*02/08/2024 19:59*	*02/08/2024 19:59*							

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-88** **Laboratory Sample ID:** **24B0353-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: Toluene-d8 (Surr)	*02*	*99.6 %*	*70-130*	*02/08/2024 19:59*	*02/08/2024 19:59*							
Surr: 1,2-Dichloroethane-d4 (Surr)	*02RE1*	*97.6 %*	*70-120*	*02/08/2024 20:21*	*02/08/2024 20:21*							
Surr: 4-Bromofluorobenzene (Surr)	*02RE1*	*98.8 %*	*75-120*	*02/08/2024 20:21*	*02/08/2024 20:21*							
Surr: Dibromofluoromethane (Surr)	*02RE1*	*92.6 %*	*70-130*	*02/08/2024 20:21*	*02/08/2024 20:21*							
Surr: Toluene-d8 (Surr)	*02RE1*	*100 %*	*70-130*	*02/08/2024 20:21*	*02/08/2024 20:21*							
Semivolatile Organic Compounds by GCMS												
Anthracene	02	120-12-7	SW8270E	02/14/2024 08:30	02/16/2024 15:47	BLOD		400000	800000	20	ug/L	ZDR
Surr: 2,4,6-Tribromophenol (Surr)	*02*	*%*	*5-136*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*
Surr: 2-Fluorobiphenyl (Surr)	*02*	*%*	*9-117*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*
Surr: 2-Fluorophenol (Surr)	*02*	*0.800 %*	*5-60*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*
Surr: Nitrobenzene-d5 (Surr)	*02*	*619 %*	*5-151*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*
Surr: Phenol-d5 (Surr)	*02*	*4.80 %*	*5-60*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*
Surr: p-Terphenyl-d14 (Surr)	*02*	*%*	*5-141*	*02/14/2024 08:30*	*02/16/2024 15:47*							*DS*

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Client Sample ID: **EW-88** **Laboratory Sample ID:** **24B0353-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Ammonia as N	02	7664-41-7	EPA350.1 R2.0	02/17/2024 17:23	02/17/2024 17:23	2380		146	200	2000	mg/L	LAM
BOD	02	E1640606	SM5210B-2016	02/08/2024 08:46	02/08/2024 08:46	34300		0.2	2.0	1	mg/L	SPH
Cyanide	02	57-12-5	SW9012B	02/16/2024 13:31	02/16/2024 13:31	0.12	CI	0.05	0.05	5	mg/L	MGC
COD	02	NA	SM5220D-2011	02/20/2024 12:45	02/20/2024 12:45	68400		10000	10000	1000	mg/L	MGC
Nitrate as N	02	14797-55-8	Calc.	02/20/2024 09:00	02/20/2024 16:34	BLOD		1.50	5.50	100	mg/L	TEG
Nitrate+Nitrite as N	02RE1	E701177	SM4500-NO3F-2016	02/20/2024 09:00	02/20/2024 16:34	BLOD		0.50	0.50	5	mg/L	TEG
Nitrite as N	02	14797-65-0	SM4500-NO2B-2011	02/08/2024 07:50	02/08/2024 07:50	BLOD		1.00	5.00	100	mg/L	AJM
Total Recoverable Phenolics	02	NA	SW9065	02/16/2024 17:00	02/16/2024 17:00	43.1		1.50	2.50	50	mg/L	AAL
TKN as N	02	E17148461	EPA351.2 R2.0	02/13/2024 16:02	02/14/2024 15:12	2970		100	250	500	mg/L	AAL

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Blank (BHB0369-BLK1)				Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	ND	0.200	ug/L							
Arsenic	ND	1.0	ug/L							
Barium	ND	5.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	1.00	ug/L							
Copper	ND	1.00	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	1.000	ug/L							
Selenium	ND	1.00	ug/L							
Silver	ND	1.00	ug/L							
Zinc	ND	5.00	ug/L							
LCS (BHB0369-BS1)				Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.03	0.200	ug/L	1.00		103	80-120			
Arsenic	51	1.0	ug/L	50.0		103	80-120			
Barium	53.2	5.00	ug/L	50.0		106	80-120			
Cadmium	51.5	1.00	ug/L	50.0		103	80-120			
Chromium	51.5	1.00	ug/L	50.0		103	80-120			
Copper	51.8	1.00	ug/L	50.0		104	80-120			
Lead	53	1.0	ug/L	50.0		107	80-120			
Nickel	52.52	1.000	ug/L	50.0		105	80-120			
Selenium	51.6	1.00	ug/L	50.0		103	80-120			
Silver	10.8	1.00	ug/L	10.0		108	80-120			
Zinc	51.9	5.00	ug/L	50.0		104	80-120			
Matrix Spike (BHB0369-MS1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Matrix Spike (BHB0369-MS1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.09	0.200	ug/L	1.00	BLOD	109	70-130			
Arsenic	67	1.0	ug/L	50.0	15	105	75-125			
Barium	133	5.00	ug/L	50.0	82.3	101	75-125			
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125			
Chromium	49.7	1.00	ug/L	50.0	0.454	98.5	75-125			
Copper	53.0	1.00	ug/L	50.0	4.39	97.1	75-125			
Lead	53	1.0	ug/L	50.0	1.1	103	75-125			
Nickel	53.09	1.000	ug/L	50.0	4.354	97.5	75-125			
Selenium	53.9	1.00	ug/L	50.0	BLOD	108	75-125			
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125			
Zinc	54.6	5.00	ug/L	50.0	7.24	94.7	75-125			
Matrix Spike (BHB0369-MS2)	**Source: 24B0351-02**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.06	0.200	ug/L	1.00	BLOD	106	70-130			
Arsenic	52	1.0	ug/L	50.0	1.1	101	75-125			
Barium	265	5.00	ug/L	50.0	210	110	75-125			E
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125			
Chromium	49.6	1.00	ug/L	50.0	BLOD	99.1	75-125			
Copper	47.9	1.00	ug/L	50.0	0.722	94.3	75-125			
Lead	52	1.0	ug/L	50.0	BLOD	103	75-125			
Nickel	49.38	1.000	ug/L	50.0	1.777	95.2	75-125			
Selenium	51.7	1.00	ug/L	50.0	BLOD	103	75-125			
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125			
Zinc	112	5.00	ug/L	50.0	66.2	91.2	75-125			
Matrix Spike Dup (BHB0369-MSD1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0369 - EPA200.8 R5.4										
Matrix Spike Dup (BHB0369-MSD1)	**Source: 24B0351-01**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.09	0.200	ug/L	1.00	BLOD	109	70-130	0.171	20	
Arsenic	66	1.0	ug/L	50.0	15	103	75-125	1.33	20	
Barium	134	5.00	ug/L	50.0	82.3	104	75-125	1.18	20	
Cadmium	50.0	1.00	ug/L	50.0	BLOD	99.9	75-125	0.283	20	
Chromium	49.7	1.00	ug/L	50.0	0.454	98.5	75-125	0.00654	20	
Copper	52.7	1.00	ug/L	50.0	4.39	96.5	75-125	0.575	20	
Lead	52	1.0	ug/L	50.0	1.1	102	75-125	0.861	20	
Nickel	52.97	1.000	ug/L	50.0	4.354	97.2	75-125	0.228	20	
Selenium	53.0	1.00	ug/L	50.0	BLOD	106	75-125	1.59	20	
Silver	10.4	1.00	ug/L	10.0	BLOD	104	75-125	0.721	20	
Zinc	54.6	5.00	ug/L	50.0	7.24	94.8	75-125	0.0536	20	
Matrix Spike Dup (BHB0369-MSD2)	**Source: 24B0351-02**			Prepared: 02/09/2024 Analyzed: 02/12/2024						
Mercury	1.05	0.200	ug/L	1.00	BLOD	105	70-130	0.713	20	
Arsenic	52	1.0	ug/L	50.0	1.1	102	75-125	0.682	20	
Barium	259	5.00	ug/L	50.0	210	96.6	75-125	2.55	20	E
Cadmium	50.1	1.00	ug/L	50.0	BLOD	100	75-125	0.00274	20	
Chromium	49.7	1.00	ug/L	50.0	BLOD	99.4	75-125	0.258	20	
Copper	48.0	1.00	ug/L	50.0	0.722	94.6	75-125	0.357	20	
Lead	51	1.0	ug/L	50.0	BLOD	103	75-125	0.693	20	
Nickel	49.43	1.000	ug/L	50.0	1.777	95.3	75-125	0.102	20	
Selenium	51.8	1.00	ug/L	50.0	BLOD	104	75-125	0.0937	20	
Silver	10.5	1.00	ug/L	10.0	BLOD	105	75-125	0.403	20	
Zinc	112	5.00	ug/L	50.0	66.2	90.7	75-125	0.233	20	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Blank (BHB0320-BLK1)				Prepared & Analyzed: 02/08/2024						
2-Butanone (MEK)	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
m+p-Xylenes	ND	2.00	ug/L							
o-Xylene	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
Xylenes, Total	ND	3.00	ug/L							
Tetrahydrofuran	ND	10.0	ug/L							
Surr: 1,2-Dichloroethane-d4 (Surr)	*51.9*		ug/L	*50.0*		*104*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*49.6*		ug/L	*50.0*		*99.2*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*46.7*		ug/L	*50.0*		*93.4*	*70-130*			
Surr: Toluene-d8 (Surr)	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (BHB0320-BS1)				Prepared & Analyzed: 02/08/2024						
1,1,1,2-Tetrachloroethane	53.5	0.4	ug/L	50.0		107	80-130			
1,1,1-Trichloroethane	54.2	1	ug/L	50.0		108	65-130			
1,1,2,2-Tetrachloroethane	52.0	0.4	ug/L	50.0		104	65-130			
1,1,2-Trichloroethane	52.9	1	ug/L	50.0		106	75-125			
1,1-Dichloroethane	50.2	1	ug/L	50.0		100	70-135			
1,1-Dichloroethylene	52.9	1	ug/L	50.0		106	70-130			
1,1-Dichloropropene	52.8	1	ug/L	50.0		106	75-135			
1,2,3-Trichlorobenzene	55.9	1	ug/L	50.0		112	55-140			
1,2,3-Trichloropropane	50.8	1	ug/L	50.0		102	75-125			
1,2,4-Trichlorobenzene	57.3	1	ug/L	50.0		115	65-135			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
LCS (BHB0320-BS1)				Prepared & Analyzed: 02/08/2024						
1,2,4-Trimethylbenzene	58.3	1	ug/L	50.0		117	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	48.2	1	ug/L	50.0		96.4	50-130			
1,2-Dibromoethane (EDB)	54.4	1	ug/L	50.0		109	80-120			
1,2-Dichlorobenzene	56.6	0.5	ug/L	50.0		113	70-120			
1,2-Dichloroethane	45.4	1	ug/L	50.0		90.8	70-130			
1,2-Dichloropropane	51.7	0.5	ug/L	50.0		103	75-125			
1,3,5-Trimethylbenzene	58.0	1	ug/L	50.0		116	75-125			
1,3-Dichlorobenzene	58.4	1	ug/L	50.0		117	75-125			
1,3-Dichloropropane	51.8	1	ug/L	50.0		104	75-125			
1,4-Dichlorobenzene	56.0	1	ug/L	50.0		112	75-125			
2,2-Dichloropropane	56.1	1	ug/L	50.0		112	70-135			
2-Butanone (MEK)	44.7	10	ug/L	50.0		89.3	30-150			
2-Chlorotoluene	57.7	1	ug/L	50.0		115	75-125			
2-Hexanone (MBK)	47.9	5	ug/L	50.0		95.8	55-130			
4-Chlorotoluene	57.1	1	ug/L	50.0		114	75-130			
4-Isopropyltoluene	61.2	1	ug/L	50.0		122	75-130			
4-Methyl-2-pentanone (MIBK)	46.6	5	ug/L	50.0		93.2	60-135			
Acetone	46.4	10	ug/L	50.0		92.9	40-140			
Benzene	52.5	1	ug/L	50.0		105	80-120			
Bromobenzene	54.5	1	ug/L	50.0		109	75-125			
Bromochloromethane	48.3	1	ug/L	50.0		96.6	65-130			
Bromodichloromethane	53.4	0.5	ug/L	50.0		107	75-120			
Bromoform	52.9	1	ug/L	50.0		106	70-130			
Bromomethane	50.3	1	ug/L	50.0		101	30-145			
Carbon disulfide	47.6	10	ug/L	50.0		95.3	35-160			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
LCS (BHB0320-BS1)				Prepared & Analyzed: 02/08/2024						
Carbon tetrachloride	55.5	1	ug/L	50.0		111	65-140			
Chlorobenzene	55.5	1	ug/L	50.0		111	80-120			
Chloroethane	54.0	1	ug/L	50.0		108	60-135			
Chloroform	47.5	0.5	ug/L	50.0		94.9	65-135			
Chloromethane	57.4	1	ug/L	50.0		115	40-125			
cis-1,2-Dichloroethylene	49.6	1	ug/L	50.0		99.3	70-125			
cis-1,3-Dichloropropene	52.2	1	ug/L	50.0		104	70-130			
Dibromochloromethane	53.3	0.5	ug/L	50.0		107	60-135			
Dibromomethane	51.2	1	ug/L	50.0		102	75-125			
Dichlorodifluoromethane	69.0	1	ug/L	50.0		138	30-155			
Ethylbenzene	56.2	1	ug/L	50.0		112	75-125			
Hexachlorobutadiene	61.9	0.8	ug/L	50.0		124	50-140			
Isopropylbenzene	53.3	1	ug/L	50.0		107	75-125			
m+p-Xylenes	110	2	ug/L	100		110	75-130			
Methylene chloride	45.5	4	ug/L	50.0		90.9	55-140			
Methyl-t-butyl ether (MTBE)	48.9	1	ug/L	50.0		97.9	65-125			
Naphthalene	51.4	1	ug/L	50.0		103	55-140			
n-Butylbenzene	61.9	1	ug/L	50.0		124	70-135			
n-Propylbenzene	58.9	1	ug/L	50.0		118	70-130			
o-Xylene	54.9	1	ug/L	50.0		110	80-120			
sec-Butylbenzene	62.6	1	ug/L	50.0		125	70-125			L
Styrene	54.6	1	ug/L	50.0		109	65-135			
tert-Butylbenzene	58.8	1	ug/L	50.0		118	70-130			
Tetrachloroethylene (PCE)	58.9	1	ug/L	50.0		118	45-150			
Toluene	53.4	1	ug/L	50.0		107	75-120			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
LCS (BHB0320-BS1)				Prepared & Analyzed: 02/08/2024						
trans-1,2-Dichloroethylene	53.3	1	ug/L	50.0		107	60-140			
trans-1,3-Dichloropropene	54.6	1	ug/L	50.0		109	55-140			
Trichloroethylene	54.8	1	ug/L	50.0		110	70-125			
Trichlorofluoromethane	57.4	1	ug/L	50.0		115	60-145			
Vinyl chloride	56.7	0.5	ug/L	50.0		113	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*49.1*		ug/L	*50.0*		*98.3*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*48.5*		ug/L	*50.0*		*97.1*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*48.6*		ug/L	*50.0*		*97.1*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.0*		ug/L	*50.0*		*97.9*	*70-130*			
Duplicate (BHB0320-DUP1)	**Source: 24B0352-02**			Prepared & Analyzed: 02/08/2024						
1,1,1,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromoethane (EDB)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	ND	0.50	ug/L		BLOD			NA	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Duplicate (BHB0320-DUP1)	**Source: 24B0352-02**			Prepared & Analyzed: 02/08/2024						
1,2-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	ND	0.50	ug/L		BLOD			NA	30	
1,3,5-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
2,2-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	10.0	ug/L		BLOD			NA	30	
2-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	5.00	ug/L		BLOD			NA	30	
4-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Isopropyltoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L		BLOD			NA	30	
Acetone	ND	10.0	ug/L		BLOD			NA	30	
Benzene	ND	1.00	ug/L		BLOD			NA	30	
Bromobenzene	ND	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	ND	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	0.50	ug/L		BLOD			NA	30	
Bromoform	ND	1.00	ug/L		BLOD			NA	30	
Bromomethane	ND	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	ND	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
Chloroethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroform	ND	0.50	ug/L		BLOD			NA	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Duplicate (BHB0320-DUP1)	**Source: 24B0352-02**			Prepared & Analyzed: 02/08/2024						
Chloromethane	ND	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	0.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Di-isopropyl ether (DIPE)	ND	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Hexachlorobutadiene	ND	0.80	ug/L		BLOD			NA	30	
Iodomethane	ND	10.0	ug/L		BLOD			NA	30	
Isopropylbenzene	ND	1.00	ug/L		BLOD			NA	30	
m+p-Xylenes	ND	2.00	ug/L		BLOD			NA	30	
Methylene chloride	ND	4.00	ug/L		BLOD			NA	30	
Methyl-t-butyl ether (MTBE)	ND	1.00	ug/L		BLOD			NA	30	
Naphthalene	ND	1.00	ug/L		BLOD			NA	30	
n-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
n-Propylbenzene	ND	1.00	ug/L		BLOD			NA	30	
o-Xylene	ND	1.00	ug/L		BLOD			NA	30	
sec-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Styrene	ND	1.00	ug/L		BLOD			NA	30	
tert-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	ND	1.00	ug/L		BLOD			NA	30	
Toluene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Duplicate (BHB0320-DUP1)	**Source: 24B0352-02**			Prepared & Analyzed: 02/08/2024						
Trichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	ND	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	ND	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	ND	3.00	ug/L		BLOD			NA	30	
Tetrahydrofuran	ND	10.0	ug/L		BLOD			NA	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	*49.0*		ug/L	*50.0*		*98.1*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*49.4*		ug/L	*50.0*		*98.9*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*46.8*		ug/L	*50.0*		*93.6*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Matrix Spike (BHB0320-MS1)	**Source: 24B0352-01**			Prepared & Analyzed: 02/08/2024						
1,1,1,2-Tetrachloroethane	55.9	0.4	ug/L	50.0	BLOD	112	80-130			
1,1,1-Trichloroethane	55.7	1	ug/L	50.0	BLOD	111	65-130			
1,1,2,2-Tetrachloroethane	54.5	0.4	ug/L	50.0	BLOD	109	65-130			
1,1,2-Trichloroethane	53.6	1	ug/L	50.0	BLOD	107	75-125			
1,1-Dichloroethane	51.2	1	ug/L	50.0	BLOD	102	70-135			
1,1-Dichloroethylene	55.6	1	ug/L	50.0	BLOD	111	50-145			
1,1-Dichloropropene	55.7	1	ug/L	50.0	BLOD	111	75-135			
1,2,3-Trichlorobenzene	55.5	1	ug/L	50.0	BLOD	111	55-140			
1,2,3-Trichloropropane	53.0	1	ug/L	50.0	BLOD	106	75-125			
1,2,4-Trichlorobenzene	56.1	1	ug/L	50.0	BLOD	112	65-135			
1,2,4-Trimethylbenzene	58.5	1	ug/L	50.0	BLOD	117	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	51.4	1	ug/L	50.0	BLOD	103	50-130			
1,2-Dibromoethane (EDB)	54.9	1	ug/L	50.0	BLOD	110	80-120			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Matrix Spike (BHB0320-MS1)	**Source: 24B0352-01**			Prepared & Analyzed: 02/08/2024						
1,2-Dichlorobenzene	56.8	0.5	ug/L	50.0	BLOD	114	70-120			
1,2-Dichloroethane	45.1	1	ug/L	50.0	BLOD	89.1	70-130			
1,2-Dichloropropane	52.7	0.5	ug/L	50.0	BLOD	105	75-125			
1,3,5-Trimethylbenzene	58.7	1	ug/L	50.0	BLOD	117	75-124			
1,3-Dichlorobenzene	58.3	1	ug/L	50.0	BLOD	117	75-125			
1,3-Dichloropropane	52.4	1	ug/L	50.0	BLOD	105	75-125			
1,4-Dichlorobenzene	56.3	1	ug/L	50.0	BLOD	113	75-125			
2,2-Dichloropropane	56.3	1	ug/L	50.0	BLOD	113	70-135			
2-Butanone (MEK)	51.5	10	ug/L	50.0	BLOD	103	30-150			
2-Chlorotoluene	57.1	1	ug/L	50.0	BLOD	114	75-125			
2-Hexanone (MBK)	51.6	5	ug/L	50.0	BLOD	103	55-130			
4-Chlorotoluene	58.5	1	ug/L	50.0	BLOD	117	75-130			
4-Isopropyltoluene	62.3	1	ug/L	50.0	BLOD	125	75-130			
4-Methyl-2-pentanone (MIBK)	51.4	5	ug/L	50.0	BLOD	103	60-135			
Acetone	51.9	10	ug/L	50.0	BLOD	95.1	40-140			
Benzene	54.2	1	ug/L	50.0	BLOD	108	80-120			
Bromobenzene	55.0	1	ug/L	50.0	BLOD	110	75-125			
Bromochloromethane	48.7	1	ug/L	50.0	BLOD	97.4	65-130			
Bromodichloromethane	54.8	0.5	ug/L	50.0	BLOD	110	75-136			
Bromoform	54.1	1	ug/L	50.0	BLOD	108	70-130			
Bromomethane	54.5	1	ug/L	50.0	BLOD	109	30-145			
Carbon disulfide	61.1	10	ug/L	50.0	BLOD	122	35-160			
Carbon tetrachloride	57.3	1	ug/L	50.0	BLOD	115	65-140			
Chlorobenzene	57.1	1	ug/L	50.0	BLOD	114	80-120			
Chloroethane	55.1	1	ug/L	50.0	BLOD	110	60-135			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Matrix Spike (BHB0320-MS1)	**Source: 24B0352-01**			Prepared & Analyzed: 02/08/2024						
Chloroform	49.4	0.5	ug/L	50.0	BLOD	98.8	65-135			
Chloromethane	59.9	1	ug/L	50.0	BLOD	120	40-125			
cis-1,2-Dichloroethylene	51.1	1	ug/L	50.0	BLOD	102	70-125			
cis-1,3-Dichloropropene	53.1	1	ug/L	50.0	BLOD	106	47-136			
Dibromochloromethane	53.2	0.5	ug/L	50.0	BLOD	106	60-135			
Dibromomethane	51.2	1	ug/L	50.0	BLOD	102	75-125			
Dichlorodifluoromethane	74.7	1	ug/L	50.0	BLOD	149	30-155			
Ethylbenzene	58.3	1	ug/L	50.0	BLOD	117	75-125			
Hexachlorobutadiene	63.7	0.8	ug/L	50.0	BLOD	127	50-140			
Isopropylbenzene	55.0	1	ug/L	50.0	BLOD	110	75-125			
m+p-Xylenes	113	2	ug/L	100	BLOD	113	75-130			
Methylene chloride	46.1	4	ug/L	50.0	BLOD	91.5	55-140			
Methyl-t-butyl ether (MTBE)	49.6	1	ug/L	50.0	BLOD	99.3	65-125			
Naphthalene	54.2	1	ug/L	50.0	BLOD	108	55-140			
n-Butylbenzene	62.5	1	ug/L	50.0	BLOD	125	70-135			
n-Propylbenzene	59.8	1	ug/L	50.0	BLOD	120	70-130			
o-Xylene	57.1	1	ug/L	50.0	BLOD	114	80-120			
sec-Butylbenzene	63.4	1	ug/L	50.0	BLOD	127	70-125			M
Styrene	55.8	1	ug/L	50.0	BLOD	112	65-135			
tert-Butylbenzene	60.5	1	ug/L	50.0	BLOD	121	70-130			
Tetrachloroethylene (PCE)	63.2	1	ug/L	50.0	BLOD	126	51-231			
Toluene	54.4	1	ug/L	50.0	BLOD	109	75-120			
trans-1,2-Dichloroethylene	53.6	1	ug/L	50.0	BLOD	107	60-140			
trans-1,3-Dichloropropene	54.4	1	ug/L	50.0	BLOD	109	55-140			
Trichloroethylene	57.4	1	ug/L	50.0	BLOD	115	70-125			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0320 - SW5030B-MS										
Matrix Spike (BHB0320-MS1)	**Source: 24B0352-01**			Prepared & Analyzed: 02/08/2024						
Trichlorofluoromethane	59.8	1	ug/L	50.0	BLOD	120	60-145			
Vinyl chloride	59.0	0.5	ug/L	50.0	BLOD	118	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*47.6*		ug/L	*50.0*		*95.3*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*48.3*		ug/L	*50.0*		*96.7*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*47.6*		ug/L	*50.0*		*95.2*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.7*		ug/L	*50.0*		*99.5*	*70-130*			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0479 - SW3510C/EPA600-MS										
Blank (BHB0479-BLK1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
Anthracene	ND	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	*76.7*		ug/L	*100*		*76.7*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*32.9*		ug/L	*50.0*		*65.8*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*34.7*		ug/L	*100*		*34.7*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*34.4*		ug/L	*50.0*		*68.9*	*5-151*			
Surr: Phenol-d5 (Surr)	*23.5*		ug/L	*100*		*23.5*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*36.7*		ug/L	*50.0*		*73.4*	*5-141*			
LCS (BHB0479-BS1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
1,2,4-Trichlorobenzene	31.0	10.0	ug/L	50.0		62.0	57-130			
1,2-Dichlorobenzene	24.0	10.0	ug/L	50.0		48.0	22-115			
1,3-Dichlorobenzene	22.1	10.0	ug/L	50.0		44.2	22-112			
1,4-Dichlorobenzene	26.7	10.0	ug/L	50.0		53.3	13-112			
2,4,6-Trichlorophenol	42.2	10.0	ug/L	50.0		84.3	52-129			
2,4-Dichlorophenol	34.9	10.0	ug/L	50.0		69.9	53-122			
2,4-Dimethylphenol	29.8	5.00	ug/L	50.0		59.6	42-120			
2,4-Dinitrophenol	38.0	50.0	ug/L	50.0		76.0	48-127			
2,4-Dinitrotoluene	36.0	10.0	ug/L	50.0		72.1	10-173			
2,6-Dinitrotoluene	29.1	10.0	ug/L	50.0		58.3	68-137			L
2-Chloronaphthalene	29.6	10.0	ug/L	50.0		59.3	65-120			L
2-Chlorophenol	27.0	10.0	ug/L	50.0		54.1	36-120			
2-Nitrophenol	28.5	10.0	ug/L	50.0		57.0	45-167			
3,3'-Dichlorobenzidine	34.1	10.0	ug/L	50.0		68.1	10-213			
4,6-Dinitro-2-methylphenol	41.1	50.0	ug/L	50.0		82.2	53-130			
4-Bromophenyl phenyl ether	33.4	10.0	ug/L	50.0		66.7	65-120			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0479 - SW3510C/EPA600-MS										
LCS (BHB0479-BS1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
4-Chlorophenyl phenyl ether	34.9	10.0	ug/L	50.0		69.8	38-145			
4-Nitrophenol	6.07	50.0	ug/L	50.0		12.1	13-129			L
Acenaphthene	30.4	10.0	ug/L	50.0		60.9	60-132			
Acenaphthylene	32.0	10.0	ug/L	50.0		64.0	54-126			
Acetophenone	31.7	20.0	ug/L	50.0		63.4	0-200			
Anthracene	30.4	10.0	ug/L	50.0		60.8	43-120			
Benzo (a) anthracene	39.3	10.0	ug/L	50.0		78.6	42-133			
Benzo (a) pyrene	44.3	10.0	ug/L	50.0		88.6	32-148			
Benzo (b) fluoranthene	45.6	10.0	ug/L	50.0		91.2	42-140			
Benzo (g,h,i) perylene	39.6	10.0	ug/L	50.0		79.2	10-195			
Benzo (k) fluoranthene	37.6	10.0	ug/L	50.0		75.2	25-146			
bis (2-Chloroethoxy) methane	27.5	10.0	ug/L	50.0		55.0	49-165			
bis (2-Chloroethyl) ether	24.8	10.0	ug/L	50.0		49.6	43-126			
2,2'-Oxybis (1-chloropropane)	24.8	10.0	ug/L	50.0		49.5	63-139			L
bis (2-Ethylhexyl) phthalate	24.3	10.0	ug/L	50.0		48.6	29-137			
Butyl benzyl phthalate	25.8	10.0	ug/L	50.0		51.6	10-140			
Chrysene	35.2	10.0	ug/L	50.0		70.4	44-140			
Dibenz (a,h) anthracene	48.7	10.0	ug/L	50.0		97.3	10-200			
Diethyl phthalate	37.0	10.0	ug/L	50.0		74.0	10-120			
Dimethyl phthalate	31.6	10.0	ug/L	50.0		63.3	10-120			
Di-n-butyl phthalate	38.7	10.0	ug/L	50.0		77.5	10-120			
Di-n-octyl phthalate	33.7	10.0	ug/L	50.0		67.4	19-132			
Fluoranthene	55.1	10.0	ug/L	50.0		110	43-121			
Fluorene	37.2	10.0	ug/L	50.0		74.4	70-120			
Hexachlorobenzene	31.8	1.00	ug/L	50.0		63.6	10-142			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0479 - SW3510C/EPA600-MS										
LCS (BHB0479-BS1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
Hexachlorobutadiene	38.8	10.0	ug/L	50.0		77.6	38-120			
Hexachlorocyclopentadiene	20.8	10.0	ug/L	50.0		41.6	10-76			
Hexachloroethane	28.0	10.0	ug/L	50.0		55.9	55-120			
Indeno (1,2,3-cd) pyrene	46.7	10.0	ug/L	50.0		93.5	10-151			
Isophorone	18.2	10.0	ug/L	50.0		36.5	47-180			L
Naphthalene	27.9	5.00	ug/L	50.0		55.9	36-120			
Nitrobenzene	34.4	10.0	ug/L	50.0		68.9	54-158			
n-Nitrosodimethylamine	8.38	10.0	ug/L	50.0		16.8	10-85			
n-Nitrosodi-n-propylamine	33.8	10.0	ug/L	50.0		67.5	14-198			
n-Nitrosodiphenylamine	29.6	10.0	ug/L	50.0		59.2	12-97			
p-Chloro-m-cresol	27.9	10.0	ug/L	50.0		55.8	10-142			
Pentachlorophenol	25.4	20.0	ug/L	50.0		50.8	38-152			
Phenanthrene	40.6	10.0	ug/L	50.0		81.3	65-120			
Phenol	9.00	10.0	ug/L	50.5		17.8	17-120			
Pyrene	30.9	10.0	ug/L	50.0		61.8	70-120			L
Pyridine	8.48	10.0	ug/L	50.0		17.0	10-103			
Surr: 2,4,6-Tribromophenol (Surr)	*73.8*		ug/L	*100*		*73.8*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*31.1*		ug/L	*50.0*		*62.3*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*15.4*		ug/L	*100*		*15.4*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*32.7*		ug/L	*50.0*		*65.4*	*5-151*			
Surr: Phenol-d5 (Surr)	*20.1*		ug/L	*100*		*20.1*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*30.2*		ug/L	*50.0*		*60.4*	*5-141*			

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0293 - No Prep Wet Chem										
Blank (BHB0293-BLK1)				Prepared & Analyzed: 02/08/2024						
Nitrite as N	ND	0.05	mg/L							
LCS (BHB0293-BS1)				Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.12	0.05	mg/L	0.100		118	80-120			
Matrix Spike (BHB0293-MS1)	**Source: 24B0268-01**			Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	101	80-120			
Matrix Spike Dup (BHB0293-MSD1)	**Source: 24B0268-01**			Prepared & Analyzed: 02/08/2024						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120	3.02	20	
Batch BHB0314 - No Prep Wet Chem										
Blank (BHB0314-BLK1)				Prepared & Analyzed: 02/08/2024						
BOD	ND	2.0	mg/L							
LCS (BHB0314-BS1)				Prepared & Analyzed: 02/08/2024						
BOD	211	2	mg/L	198		107	84.6-115.4			
Duplicate (BHB0314-DUP1)	**Source: 24B0304-02**			Prepared & Analyzed: 02/08/2024						
BOD	16.7	2.0	mg/L		13.6			20.3	20	P
Batch BHB0507 - No Prep Wet Chem										
Blank (BHB0507-BLK1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	ND	0.50	mg/L							

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0507 - No Prep Wet Chem										
LCS (BHB0507-BS1)				Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	5.19	0.5	mg/L	5.00		104	90-110			
Matrix Spike (BHB0507-MS1)	**Source: 24B0170-02**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.05	0.50	mg/L	5.00	0.50	111	90-110			M
Matrix Spike (BHB0507-MS2)	**Source: 24B0170-03**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	5.82	0.50	mg/L	5.00	0.75	101	90-110			
Matrix Spike Dup (BHB0507-MSD1)	**Source: 24B0170-02**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.19	0.50	mg/L	5.00	0.50	114	90-110	2.29	20	M
Matrix Spike Dup (BHB0507-MSD2)	**Source: 24B0170-03**			Prepared: 02/13/2024 Analyzed: 02/14/2024						
TKN as N	6.00	0.50	mg/L	5.00	0.75	105	90-110	3.15	20	
Batch BHB0671 - No Prep Wet Chem										
Blank (BHB0671-BLK1)				Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	ND	0.050	mg/L							
LCS (BHB0671-BS1)				Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	0.42	0.050	mg/L	0.500		84.8	80-120			
Matrix Spike (BHB0671-MS1)	**Source: 24B0271-01**			Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	58.1	2.50	mg/L	25.0	37.3	83.2	70-130			
Matrix Spike Dup (BHB0671-MSD1)	**Source: 24B0271-01**			Prepared & Analyzed: 02/16/2024						
Total Recoverable Phenolics	56.4	2.50	mg/L	25.0	37.3	76.4	70-130	2.97	20	

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0683 - No Prep Wet Chem										
Blank (BHB0683-BLK1)				Prepared & Analyzed: 02/16/2024						
Cyanide	ND	0.01	mg/L							
LCS (BHB0683-BS1)				Prepared & Analyzed: 02/16/2024						
Cyanide	0.24	0.01	mg/L	0.250		97.5	80-120			
Matrix Spike (BHB0683-MS1)		**Source: 24B0258-06**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.22	0.01	mg/L	0.250	0.02	80.4	80-120			
Matrix Spike (BHB0683-MS2)		**Source: 24B0352-05**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.26	0.01	mg/L	0.250	BLOD	102	80-120			
Matrix Spike Dup (BHB0683-MSD1)		**Source: 24B0258-06**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.23	0.01	mg/L	0.250	0.02	84.2	80-120	4.17	20	
Matrix Spike Dup (BHB0683-MSD2)		**Source: 24B0352-05**		Prepared & Analyzed: 02/16/2024						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	99.2	80-120	2.60	20	
Batch BHB0711 - No Prep Wet Chem										
Blank (BHB0711-BLK1)				Prepared & Analyzed: 02/17/2024						
Ammonia as N	ND	0.10	mg/L							
LCS (BHB0711-BS1)				Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.01	0.1	mg/L	1.00		101	90-110			
Matrix Spike (BHB0711-MS1)		**Source: 24B0714-08**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.07	0.1	mg/L	1.00	BLOD	101	89.3-131			

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Wet Chemistry Analysis - Quality Control

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0711 - No Prep Wet Chem										
Matrix Spike (BHB0711-MS2)		**Source: 24B0352-01**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.14	0.1	mg/L	1.00	0.12	102	89.3-131			
Matrix Spike Dup (BHB0711-MSD1)		**Source: 24B0714-08**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.07	0.1	mg/L	1.00	BLOD	101	89.3-131	0.0934	20	
Matrix Spike Dup (BHB0711-MSD2)		**Source: 24B0352-01**		Prepared & Analyzed: 02/17/2024						
Ammonia as N	1.15	0.1	mg/L	1.00	0.12	103	89.3-131	0.611	20	
Batch BHB0783 - No Prep Wet Chem										
Blank (BHB0783-BLK1)				Prepared & Analyzed: 02/20/2024						
COD	ND	10.0	mg/L							
LCS (BHB0783-BS1)				Prepared & Analyzed: 02/20/2024						
COD	53.4	10.0	mg/L	50.0		107	88-119			
Matrix Spike (BHB0783-MS1)		**Source: 24B0352-03**		Prepared & Analyzed: 02/20/2024						
COD	57.8	10.0	mg/L	50.0	BLOD	116	72.4-130			
Matrix Spike Dup (BHB0783-MSD1)		**Source: 24B0352-03**		Prepared & Analyzed: 02/20/2024						
COD	51.4	10.0	mg/L	50.0	BLOD	103	72.4-130	11.6	20	
Batch BHB0801 - No Prep Wet Chem										
Blank (BHB0801-BLK1)				Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	ND	0.10	mg/L							

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHB0801 - No Prep Wet Chem										
LCS (BHB0801-BS1)				Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	1.02	0.1	mg/L	1.00		102	90-110			
Matrix Spike (BHB0801-MS1)	**Source: 24B0823-08**			Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	2.44	0.10	mg/L	1.00	1.45	99.1	90-120			
Matrix Spike Dup (BHB0801-MSD1)	**Source: 24B0823-08**			Prepared & Analyzed: 02/20/2024						
Nitrate+Nitrite as N	2.42	0.10	mg/L	1.00	1.45	96.9	90-120	0.905	20	

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Analytical Summary

24B0353-01	Subcontract
24B0353-02	Subcontract

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			**Preparation Method:**	**EPA200.8 R5.4**	
24B0353-01	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
24B0353-02	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
24B0353-01	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
24B0353-02	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
24B0353-01	300 mL / 300 mL	SM5210B-2016	BHB0314	SHB0485	
24B0353-02	300 mL / 300 mL	SM5210B-2016	BHB0314	SHB0485	
24B0353-01	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
24B0353-02	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
24B0353-01	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
24B0353-02	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
24B0353-01	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
24B0353-02	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
24B0353-01	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
24B0353-02	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
24B0353-01	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
24B0353-02	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
24B0353-01	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252
24B0353-01RE1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252
24B0353-02	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
24B0353-02RE1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
24B0353-01	0.500 mL / 2.00 mL	SW8270E	BHB0479	SHB0682	AL30202
24B0353-02	0.500 mL / 2.00 mL	SW8270E	BHB0479	SHB0682	AL30202

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
24B0353-01	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
24B0353-01RE1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
24B0353-02	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
24B0353-02RE1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322

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QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			**Preparation Method:**	**EPA200.8 R5.4**	
BHB0369-BLK1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-BS1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MS1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MS2	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MSD1	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197
BHB0369-MSD2	50.0 mL / 50.0 mL	SW6020B	BHB0369	SHB0409	AB40197

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
BHB0293-BLK1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-BS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MRL1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0293-MSD1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHB0293	SHB0298	AJ30297
BHB0314-BLK1	300 mL / 300 mL	SM5210B-2016	BHB0314	SHB0485	
BHB0314-BS1	300 mL / 300 mL	SM5210B-2016	BHB0314	SHB0485	
BHB0314-DUP1	300 mL / 300 mL	SM5210B-2016	BHB0314	SHB0485	
BHB0507-BLK1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-BS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MS2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MSD1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215
BHB0507-MSD2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHB0507	SHB0539	AB40215

Enthalpy Analytical
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
BHB0671-BLK1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-BS1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MRL1	5.00 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MS1	0.100 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0671-MSD1	0.100 mL / 10.0 mL	SW9065	BHB0671	SHB0664	AB40234
BHB0683-BLK1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-BS1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MRL1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MS1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MS2	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MSD1	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0683-MSD2	6.00 mL / 6.00 mL	SW9012B	BHB0683	SHB0640	AB40228
BHB0711-BLK1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0711-BS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0711-MS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0711-MS2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0711-MSD1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0711-MSD2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHB0711	SHB0668	AB40235
BHB0783-BLK1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
BHB0783-BS1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
BHB0783-MS1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
BHB0783-MSD1	2.00 mL / 2.00 mL	SM5220D-2011	BHB0783	SHB0744	AB40165
BHB0801-BLK1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252
BHB0801-BS1	1.00 mL / 1.00 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252
BHB0801-MS1	25.0 mL / 25.0 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252
BHB0801-MSD1	25.0 mL / 25.0 mL	SM4500-NO3F-2016	BHB0801	SHB0771	AB40252

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
BHB0479-BLK1	1000 mL / 1.00 mL	SW8270E	BHB0479	SHB0575	AK30271
BHB0479-BLK2		SW8270E	BHB0479	SHB0772	AL30202
BHB0479-BS1	1000 mL / 1.00 mL	SW8270E	BHB0479	SHB0575	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
BHB0320-BLK1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
BHB0320-BS1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
BHB0320-DUP1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322
BHB0320-MS1	5.00 mL / 5.00 mL	SW8260D	BHB0320	SHB0330	AL30322

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Submitted To: Jennifer Robb

Certified Analyses included in this Report

Analyte	Certifications
EPA350.1 R2.0 in Non-Potable Water	
Ammonia as N	VELAP,NCDEQ,PADEP,WVDEP
EPA351.2 R2.0 in Non-Potable Water	
TKN as N	VELAP,NCDEQ,WVDEP
SM4500-NO2B-2011 in Non-Potable Water	
Nitrite as N	VELAP,WVDEP,NCDEQ
SM4500-NO3F-2016 in Non-Potable Water	
Nitrate+Nitrite as N	VELAP,WVDEP
SM5210B-2016 in Non-Potable Water	
BOD	VELAP,NCDEQ,WVDEP
SM5220D-2011 in Non-Potable Water	
COD	VELAP,NCDEQ,PADEP,WVDEP
SW6020B in Non-Potable Water	
Mercury	VELAP
Arsenic	VELAP,WVDEP
Barium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Zinc	VELAP,WVDEP
SW8260D in Non-Potable Water	

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Certified Analyses included in this Report

Analyte	Certifications
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
Tetrahydrofuran	VELAP,PADEP
SW8270E in Non-Potable Water	
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
SW9012B in Non-Potable Water	
Cyanide	VELAP,WVDEP
SW9065 in Non-Potable Water	
Total Recoverable Phenolics	VELAP,WVDEP

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Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2024
NCDEQ	North Carolina DEQ	495	12/31/2024
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental Control Certificate 93016001	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704576-23-1	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12759	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024

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Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:27:44PM

Qualifiers and Definitions

Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
DS	Surrogate concentration reflects a dilution factor.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

ENTHALPY ANALYTICAL

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

CHAIN OF CUSTODY

COMPANY NAME: SCS Engineers	INVOICE TO: SAME	PROJECT NAME/Quote #: City of Bristol Landfill #588
CONTACT: Jennifer Robb	INVOICE CONTACT:	SITE NAME: 24-02 LFG-EW Monthly Monitoring
ADDRESS: 296 Victory Road	INVOICE ADDRESS:	PROJECT NUMBER: 02218208.15 Task 2
Winchester, VA 22602	INVOICE PHONE #:	P.O. #:
PHONE #: 703-471-6150 EMAIL: jrobb@scsengineers.com		Pretreatment Program:
Is sample for compliance reporting? YES NO	Regulatory State: V A	Is sample from a chlorinated supply? YES NO
PWS I.D. #:		
SAMPLER NAME (PRINT): Logan Nelson/Will Fabric	SAMPLER SIGNATURE:	Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	Ammonia - EPA 350.1 R2.0	BOD - SM22 5210B-2021	COD - SM22 5220D-2011	Cyanide - SW9012	Nitrate SM22 450-NO3F-2011 (report seperatly from Nitrite)	Nitrite SM22 450-NO3F-2011	SVOC (Anthracene) 8270	Total Metals (As, Ba, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn) 6020	TKN - EPA 351.2 R2.0	Mercury - 6020	Total Recoverable Phenolics - 9065	V. Fatty Acids (See List) 8015	VOCs (See List) 8260	COMMENTS
1) EW-85	X					2/6/24	930		GW	12	X	X	X	X	X	X	X	X	X	X	X	X	X	
2) EW-88	X					2/6/24	900		GW	13	X	X	X	X	X	X	X	X	X	X	X	X	X	
3)									GW															
4)									GW															
5)									GW															
6)									GW															
7)									GW															
8)									GW															
9)									GW															
10)									DI															

Note VOC 8260 no HCl

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

SCS-W 24B0353
24-02 LFG-EW
Recd: 02/08/2024 Due: 02/22/2024
v130325002

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Logan Nelson	2/6/24 1230	LCN	
RELINQUISHED: LCN	DATE / TIME	RECEIVED:	DATE / TIME 2/8/24 0800
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level III ☐
Level IV ☐

LAB USE ONLY Therm ID: HEG 0.4
Custody Seals used and intact? (Y) N
271

COOLER TEMP 0.2 °C
Received on ice? (Y) N

ENTHALPY ANALYTICAL

Sample Preservation Log

Order ID 24B0353 Date Performed: 2-8-24 Analyst Performing Check: CSB

Sample ID	Container ID	Metals pH as Received < 2	Metals pH as Received Other	Metals Final pH	Cyanide pH as Received > 12	Cyanide pH as Received Other	Cyanide Final pH	Sulfide pH as Received > 9	Sulfide pH as Received Other	Sulfide Final pH	Ammonia pH as Received < 2	Ammonia pH as Received Other	Ammonia Final pH	TKN pH as Received < 2	TKN pH as Received Other	TKN Final pH	Phos, Tot pH as Received < 2	Phos, Tot pH as Received Other	Phos, Tot Final pH	NO3+NO2 pH as Received < 2	NO3+NO2 pH as Received Other	NO3+NO2 Final pH	DRO pH as Received < 2	DRO pH as Received Other	DRO Final pH	Pesticide (8081/608/508) PCB DW only Received Res. Cl +	Pesticide Received Res. Cl -	Pesticide final + or -	SVOC (525/8270/625) Received Res. Cl +	SVOC Received Res. Cl -	SVOC final + or -	CrVI * ** Received pH	CrVI Final pH	Pest/PCB (508) / SVOC(525) pH as Received < 2	Pest/PCB (508) / SVOC(525) pH as Received Other	Pest/PCB (508) / SVOC(525) Final pH	COD pH as Received <2	COD pH as Received Other	COD Final pH	Phenolics pH as Received <2	Phenolics pH as Received Other	Phenolics Final pH
1	A		5	<2																																						
1	D					9	>12																																				
1	F																																									5	<2
1	G																													—													
1	H											5	<2		5	<2					5	<2																		5	<2			
2	A		5	<2																																						
2	D					8	>12																																				
2	F																																									5	<2
2	G																													—													
2	H											5	<2		5	<2					5	<2																		5	<2			

NaOH ID: 4A03375 HNO3 ID: 4A03887 CrVI preserved date/time: Analyst Initials:

** pH must be adjusted between 9.3 - 9.7*

H_2SO_4 ID: 4A01942 $Na_2S_2O_3$ ID: Ammonia Buffer Sol'n ID:

HCL ID: Na_2SO_3 ID: 5N NaOH ID:

Metals were received with pH = 5 HNO3 was added at 0900 on 8 February 2024, by HEG in the Log-In room to bring pH= <2.

Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

Enthalpy Analytical
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Richmond, Virginia 23237
(804)-358-8295 - Telephone
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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 2/29/2024 5:27:44PM

ENTHALPY ANALYTICAL

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Certificate of Analysis

Client Name: SCS Engineers-Winchester
Date Issued: 2/29/2024 5:27:44PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Laboratory Order ID: 24B0353

Sample Conditions Checklist

Samples Received at:	**0.20°C**
How were samples received?	Logistics Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	No
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	No
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	No

*H2SO4-preserved bottles for both samples were received with a pH greater than 2, and H2SO4 was added to bring the pH to less than 2.
*NaOH-preserved bottles for both samples were received with a pH less than 12, and NaOH was added to bring the pH to greater than 12.

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Client Site I.D.: 24-02 LFG-EW Monthly Monitoring

Submitted To: Jennifer Robb

*All VOAs for both samples were received with headspace.
*No trip blanks were received.
Analysis to proceed per Jennifer Robb via email.

*Samples were logged with a collection date of 02/07/24 per Will Fabrie via email and the bottle labels, which differ from the chain of custody (02/06/24). MRS 02/08/24 1330

Pace Analytical Services, LLC
7979 Innovation Park Drive
Baton Rouge, LA 70820
(225) 769-4900

February 29, 2024

Virginia Thrasher
Enthalpy
1941 Reymet Road
Richmond, VA 23237

RE: Project: 24B0353
Pace Project No.: 20306866

Dear Virginia Thrasher:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Baton Rouge

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh

Ruth Welsh
ruth.welsh@pacelabs.com
(225) 769-4900
Project Manager

Enclosures

cc: Andrew Bruner, Enthalpy
Daniel Elliott, Enthalpy
Meghan Meyer, Enthalpy

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 24B0353
Pace Project No.: 20306866

Pace Analytical Services Baton Rouge
7979 Innovation Park Drive Ste A, Baton Rouge, LA 70820-7402
Louisiana Dept of Enviromental Quality (NELAC/LELAP): 01979
Florida Dept of Health (NELAC/FELAP): E87854
DoD ELAP (A2LA) #: 6429.01
Alabama DEM #: 41900
Alaska DEC-DW #: LA00024
Alaska DEC CS-LAP #: 21-001
Arkansas DEQ #: 88-0655
California ELAP #: 3063
Georgia DPD #: C050
Hawaii DOH State Laboratories Division
Illinois EPA #: 200048
Kansas DoHE #: E-10354
Kentucky DEP UST Branch #: 123054
Louisiana DOH #: LA036
Minnesota DOH #: 2233799
Mississippi State Dept of Health
Montana Department of Environmental Quality
Nebraska DHHS #: NE-OS-35.21
Nevada DCNR DEP #: LA00024
New York DOH #: 12149
North Carolina DEQ - WW & GW #: 618
North Dakota DEQ #: R195
Ohio EPA #: 87782
Oklahoma Dept of Environmental Quality #: 9403
Oregon ELAP #: 4168
Pennsylvania Dept of Environmental Protection #: 68-05973
South Carolina DHEC #: 73006001
Texas CEQ #: T104704178-23-15
Utah DOH #: LA00024
Virginia DCLS #: 6460215
Washington Dept of Ecology #: C929
Wisconsin DNR #: 399139510

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SAMPLE SUMMARY

Project: 24B0353
Pace Project No.: 20306866

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20306866001	**24B0353-01: EW-85**	Water	02/07/24 09:30	02/09/24 09:50
20306866002	**24B0353-02: EW-88**	Water	02/07/24 09:00	02/09/24 09:50

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SAMPLE ANALYTE COUNT

Project: 24B0353
Pace Project No.: 20306866

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20306866001	**24B0353-01: EW-85**	Pace ENV-SOP-BTRO-0042	CCL	10
20306866002	**24B0353-02: EW-88**	Pace ENV-SOP-BTRO-0042	CCL	10

PASI-BR = Pace Analytical Services - Baton Rouge

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PROJECT NARRATIVE

Project: 24B0353
Pace Project No.: 20306866

Method: **Pace ENV-SOP-BTRO-0042**
Description: BR AM23G Low Level VFA
Client: BR-Enthalpy
Date: February 29, 2024

General Information:
2 samples were analyzed for Pace ENV-SOP-BTRO-0042 by Pace Analytical Services Baton Rouge. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 318777

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- 24B0353-01: EW-85 (Lab ID: 20306866001)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- 24B0353-02: EW-88 (Lab ID: 20306866002)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid

REPORT OF LABORATORY ANALYSIS

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Baton Rouge, LA 70820
(225) 769-4900

PROJECT NARRATIVE

Project: 24B0353
Pace Project No.: 20306866

Method: **Pace ENV-SOP-BTRO-0042**
Description: BR AM23G Low Level VFA
Client: BR-Enthalpy
Date: February 29, 2024

Analyte Comments:

QC Batch: 318777

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- 24B0353-02: EW-88 (Lab ID: 20306866002)
  - Pentanoic Acid
- BLANK (Lab ID: 1526443)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- LCS (Lab ID: 1526444)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- MS (Lab ID: 1526463)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid
- MSD (Lab ID: 1526464)
  - Hexanoic Acid
  - i-Hexanoic Acid
  - i-Pentanoic Acid
  - Pentanoic Acid

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 24B0353
Pace Project No.: 20306866

Sample: 24B0353-01: EW-85 **Lab ID: 20306866001** Collected: 02/07/24 09:30 Received: 02/09/24 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR AM23G Low Level VFA	Analytical Method: Pace ENV-SOP-BTRO-0042 Pace Analytical Services - Baton Rouge							
Pentanoic Acid	ND	mg/L	500	1000		02/27/24 06:05	109-52-4	N2
Acetic Acid	**3530**	mg/L	500	1000		02/27/24 06:05	64-19-7	
Butyric Acid	**1180**	mg/L	500	1000		02/27/24 06:05	107-92-6	
Formic acid	**2010**	mg/L	500	1000		02/27/24 06:05	64-18-6	
Hexanoic Acid	ND	mg/L	500	1000		02/27/24 06:05	142-62-1	N2
i-Hexanoic Acid	ND	mg/L	500	1000		02/27/24 06:05	646-07-1	N2
Lactic Acid	**756**	mg/L	500	1000		02/27/24 06:05	50-21-5	
i-Pentanoic Acid	ND	mg/L	500	1000		02/27/24 06:05	503-74-2	N2
Propionic Acid	**1980**	mg/L	500	1000		02/27/24 06:05	79-09-4	
Pyruvic Acid	ND	mg/L	500	1000		02/27/24 06:05	127-17-3	

Sample: 24B0353-02: EW-88 **Lab ID: 20306866002** Collected: 02/07/24 09:00 Received: 02/09/24 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR AM23G Low Level VFA	Analytical Method: Pace ENV-SOP-BTRO-0042 Pace Analytical Services - Baton Rouge							
Pentanoic Acid	ND	mg/L	500	1000		02/27/24 06:29	109-52-4	N2
Acetic Acid	**6770**	mg/L	500	1000		02/27/24 06:29	64-19-7	
Butyric Acid	**2980**	mg/L	500	1000		02/27/24 06:29	107-92-6	
Formic acid	**2940**	mg/L	500	1000		02/27/24 06:29	64-18-6	
Hexanoic Acid	ND	mg/L	500	1000		02/27/24 06:29	142-62-1	N2
i-Hexanoic Acid	ND	mg/L	500	1000		02/27/24 06:29	646-07-1	N2
Lactic Acid	**1650**	mg/L	500	1000		02/27/24 06:29	50-21-5	
i-Pentanoic Acid	ND	mg/L	500	1000		02/27/24 06:29	503-74-2	N2
Propionic Acid	**2900**	mg/L	500	1000		02/27/24 06:29	79-09-4	
Pyruvic Acid	ND	mg/L	500	1000		02/27/24 06:29	127-17-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 24B0353
Pace Project No.: 20306866

QC Batch: 318777
QC Batch Method: Pace ENV-SOP-BTRO-0042
Analysis Method: Pace ENV-SOP-BTRO-0042
Analysis Description: BR AM23G Low Level VFA
Laboratory: Pace Analytical Services - Baton Rouge
Associated Lab Samples: 20306866001, 20306866002

METHOD BLANK: 1526443 Matrix: Water
Associated Lab Samples: 20306866001, 20306866002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	02/26/24 16:06	
Butyric Acid	mg/L	ND	0.50	02/26/24 16:06	
Formic acid	mg/L	ND	0.50	02/26/24 16:06	
Hexanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
i-Hexanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
i-Pentanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
Lactic Acid	mg/L	ND	0.50	02/26/24 16:06	
Pentanoic Acid	mg/L	ND	0.50	02/26/24 16:06	N2
Propionic Acid	mg/L	ND	0.50	02/26/24 16:06	
Pyruvic Acid	mg/L	ND	0.50	02/26/24 16:06	

LABORATORY CONTROL SAMPLE: 1526444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	99	70-130	
Butyric Acid	mg/L	2	1.9	93	70-130	
Formic acid	mg/L	2	1.9	96	70-130	
Hexanoic Acid	mg/L	2	1.6	81	39-114	N2
i-Hexanoic Acid	mg/L	2	1.8	92	39-114	N2
i-Pentanoic Acid	mg/L	2	1.7	85	59-121	N2
Lactic Acid	mg/L	2	2.1	106	70-130	
Pentanoic Acid	mg/L	2	1.7	87	59-121	N2
Propionic Acid	mg/L	2	1.9	93	70-130	
Pyruvic Acid	mg/L	2	1.9	96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1526463 1526464

Parameter	Units	20306861002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acetic Acid	mg/L	10.0U	40	40	40.4	40.5	96	97	70-130	0	30	
Butyric Acid	mg/L	10.0U	40	40	39.9	41.5	98	102	70-130	4	30	
Formic acid	mg/L	10.0U	40	40	39.6	40.1	97	98	70-130	1	30	
Hexanoic Acid	mg/L	10.0U	40	40	30.8	30.6	77	76	39-114	1	30	N2
i-Hexanoic Acid	mg/L	10.0U	40	40	42.9	42.3	107	106	39-114	1	30	N2
i-Pentanoic Acid	mg/L	10.0U	40	40	34.1	32.5	85	81	59-121	5	30	N2
Lactic Acid	mg/L	7.3J	40	40	47.0	47.4	99	100	70-130	1	30	
Pentanoic Acid	mg/L	10.0U	40	40	35.0	34.2	88	85	59-121	2	30	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 24B0353
Pace Project No.: 20306866

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1526463 1526464

Parameter	Units	20306861002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Propionic Acid	mg/L	10.0U	40	40	37.3	37.8	93	94	70-130	1	30	
Pyruvic Acid	mg/L	10.0U	40	40	36.9	39.4	92	99	70-130	7	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 24B0353
Pace Project No.: 20306866

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

ANALYTE QUALIFIERS

N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 24B0353
Pace Project No.: 20306866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20306866001	**24B0353-01: EW-85**	Pace ENV-SOP-BTRO-0042	318777		
20306866002	**24B0353-02: EW-88**	Pace ENV-SOP-BTRO-0042	318777		

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ENTHALPY ANALYTICAL
Pace - Gulf Coast
7979 Innovation Park Dr
Baton Rouge, LA 70820

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(804) 3!
(80

WO# : 20306866

20306866

CHAIN OF CUSTODY

COMPANY NAME: Enthalpy	INVOICE TO: Enthalpy	PROJECT NAME/Quote #: 24B0353
CONTACT: Dan Elliott	INVOICE CONTACT:	SITE NAME: 24B0353
ADDRESS: 1941 Reymet Rd Richmond VA 23237	INVOICE ADDRESS: 1941 Reymet Rd Richmond VA 23237	PROJECT NUMBER: 24B0353
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 358-8295	P.O. #: PO-059959
FAX #:	EMAIL:	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:	**Turn Around Time:** 10-15

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) Volatile Fatty Acid Low Level								COMMENTS
1) 24B0353-01: EW-85	x					02/07/24	0930		GW	2	X								1
2) 24B0353-02: EW-88	X					02/07/24	0900		GW	3	X								2
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	2/8/24 1552	FedEx Express	2/8/24 1552
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
FedEx	2/9/24 9.50	[signature]	2/9/24 9.50
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package

- Level I ☐
- Level II ☐
- Level III ☐
- Level IV ☐

LAB USE ONLY **COOLER TEMP** _____ °C

WO#: 20306866

PM: RW Due Date: 02/23/24

CLIENT: BR-Enthalpy

Pace

Sample Condition Upon Reciep

Workorde

7979 Innovation Park Dr. Baton Rouge, LA 70806

Cooler Inspected by/date: CDR / 2/9/24

Means of receipt: ☐ Pace ☐ Client ☐ UPS ☑ FedEx ☐ Other:				
☐ Yes	☑ No		Were custody seals present on the cooler?	
☐ Yes	☐ No	☐ NA	If custody seals were present, were they intact and unbroken?	
Method: ☐ Temperature Blank ☐ Against Bottles IR Gun ID: _____ IR Gun Correction Factor: _____ °C				
Cooler #1	Cooler Temp °C: 5.7	(Actual/True)	Samples on ice ☑ Yes ☐ No	pH Strip Lot #
Cooler #2	Cooler Temp °C: _____	(Actual/True)		
Cooler #3	Cooler Temp °C: _____	(Actual/True)	Method of coolant: ☑ Wet ☐ Ice Packs ☐ Dry Ice ☐ None	
Cooler #4	Cooler Temp °C: _____	(Actual/True)		
Tracking #: 7751 2490 3560				

☐ Yes	☑ No	☐ NA	Is a temperature blank present?	
☑ Yes	☐ No	☐ NA	Was a chain of custody (COC) recieved?	
☐ Yes	☑ No	☐ NA	Was the line and profile number listed on the COC?	
☑ Yes	☐ No	☐ NA	Were all coolers received at or below 6.0°C? If no, notify Project Manager notified via email.	
☑ Yes	☐ No		Were proper custody procedures (relinquished/received) followed?	
☐ Yes	☑ No	☐ NA	Is the sampler name and signature on the COC?	
☑ Yes	☐ No		Were sample IDs listed on the COC and all sample containers?	
☑ Yes	☐ No		Was collection date & time listed on the COC and all sample containers?	
☑ Yes	☐ No		Did all container label information (ID, date, time) agree with the COC?	
☑ Yes	☐ No		Were tests to be performed listed on the COC?	
☑ Yes	☐ No		Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?	
☑ Yes	☐ No		Was adequate sample volume available?	
☑ Yes	☐ No		Were all samples received within ½ the holding time or 48 hours, whichever comes first?	
☑ Yes	☐ No		Were all samples containers accounted for? (No missing / excess)	
☐ Yes	☐ No	☑ NA	Were VOA, 8015C (GRO/VPH), and RSK-175 samples free of bubbles > "pea size" (1/4" or 6mm in diameter) in any of the VOA vials?	
☐ Yes	☐ No	☑ NA	Trip blank present?	
☐ Yes	☐ No	☑ NA	Filtered volume received for dissolved tests? *If no, list affected sample(s) in comments below.*	
☐ Yes	☐ No	☑ NA	Were all metals/nutrient samples received at a pH of < 2?	If No, was preservative added? ☐ Yes ☐ No If added, record lots. Dispenser/pipette lot #: _____
☐ Yes	☐ No	☑ NA	Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?	HNO_3 _____ H_2SO_4 _____ NaOH _____ Date: _____ Time: _____

Comments:

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Ammonia as N (mg/L)	November-2022	---	---	---	---	---	---	---	---	**1560**	---	**1400**	---	---	**1380**	---	---	---	---	---	---	---	---	50	50
	December-2022	**1700**	---	**2280**	---	---	---	**2110**	---	**1410**	**1310**	---	---	---	---	**1150**	**1780**	---	---	---	---	---	---	100	100
	January-2023	**1520**	---	---	---	---	---	---	**936**	---	---	---	---	---	**1330**	---	---	---	---	---	---	---	---	50	50
		---	---	---	---	---	---	---	---	**2440**	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1490**	---	---	---	---	---	---	100	100
	March-2023	---	---	---	---	---	---	---	**667**	**1480**	---	---	---	---	---	---	---	---	---	---	---	---	---	73.1	100
	April-2023	---	---	---	---	---	---	---	**1410**	---	**1220**	---	---	---	---	---	---	---	---	---	---	---	---	73.1	100
	May-2023	**1390**	---	---	---	---	---	---	**1860**	**2380**	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200
	June-2023	---	---	---	---	---	---	---	---	**2740**	---	**2370**	---	**2170**	---	---	---	---	---	---	---	---	---	146	200
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1180**	---	---	---	---	---	73.1	100
		1570	---	---	---	---	---	**2260**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2350**	**310**	146	200
	August-2023	---	---	---	---	**1600**	---	**1890**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2140**	**222**	146	200
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1720**	---	---	---	---	---	73.1	100
		---	---	**1250**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200
	October-2023	---	---	---	---	---	**1980**	---	---	---	---	---	---	---	---	---	---	**1730**	---	**2890**	---	---	---	146	200
	November-2023	**1260**	---	**2490**	**1830**	---	**2070**	---	---	---	---	---	---	---	---	---	---	**1800**	---	**2590**	---	---	---	146	200
		---	---	---	---	---	---	---	---	---	---	---	**1170**	---	---	---	---	---	---	---	---	---	**2080**	183	250
		---	---	---	---	---	---	---	---	**2440**	---	---	---	---	---	---	---	---	---	---	---	---	---	366	500
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1540**	---	---	---	---	---	73.1	100
		---	---	**2900**	---	---	---	---	---	---	---	---	---	---	---	---	**2200**	---	---	---	---	---	---	146	200
	January-2024	---	**2160**	---	---	---	---	---	---	**2400**	---	---	---	---	---	---	---	---	---	---	---	---	**1610**	146	200
	February-2024	---	**1900**	---	**2600**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1780**	---	**2380**	---	---	146	200
Biological Oxygen Demand (mg/L)	November-2022	---	---	---	---	---	---	---	---	**15700**	---	**5860**	---	---	**5140**	---	---	---	---	---	---	---	---	0.2	2
	December-2022	**6440**	---	**12500**	---	---	---	**11400**	---	**9240**	**3330**	---	---	---	---	**8360**	**6770**	---	---	---	---	---	---	0.2	2
	January-2023	**9920**	---	---	---	---	---	---	**999**	**28100**	---	---	---	---	**7060**	---	---	---	---	---	---	---	---	0.2	2
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**7230**	---	---	---	---	---	---	0.2	2
	March-2023	---	---	---	---	---	---	---	**1570**	**9190**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2
	April-2023	---	---	---	---	---	---	---	**8430**	---	**2860**	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2
	May-2023	**7350**	---	---	---	---	---	---	**11900**	**35300**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2
	June-2023	---	---	---	---	---	---	---	---	**20000**	---	**27400**	---	**23100**	---	---	---	---	---	---	---	---	---	0.2	2
	July-2023	**6820**	---	---	---	---	---	**32900**	---	---	---	---	---	---	---	---	---	**330**	---	---	---	**31800**	**937**	0.2	2
	August-2023	---	---	---	---	**>33045**	---	**>33225**	---	---	---	---	---	---	---	---	---	---	---	---	---	**>32805**	**506**	0.2	2
	September-2023	---	---	**40185.5**	---	---	---	---	---	---	---	---	---	---	---	---	---	**659**	---	---	---	---	---	0.2	2
	October-2023	---	---	---	---	---	**34600**	---	---	---	---	---	---	---	---	---	---	**690**	---	**37000**	---	---	---	0.2	2
	November-2023	**1910**	---	**30400**	**27500**	---	**32015**	---	---	**29600**	---	---	**3640**	---	---	---	---	**480**	---	**32135**	---	---	**21500**	0.2	2
	December-2023	---	---	**>44105**	---	---	---	---	---	---	---	---	---	---	---	---	**13700**	**681**	---	---	---	---	---	0.2	2
	January-2024	---	**26000**	---	---	---	---	---	---	**17100**	---	---	---	---	---	---	---	---	---	---	---	---	**14000**	0.2	2
	February-2024	---	**23200**	---	**26200**	---	---	---	---	---	---	---	---	---	---	---	---	---	**21400**	---	**34300**	---	---	0.2	2

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Chemical Oxygen Demand (mg/L)	November-2022	---	---	---	---	---	---	---	---	---	---	**9790**	---	---	**10800**	---	---	---	---	---	---	---	---	1000	1000
		---	---	---	---	---	---	---	---	**23500**	---	---	---	---	---	---	---	---	---	---	---	---	---	2000	2000
	December-2022	**7440**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	1000
		---	---	---	---	---	---	---	---	**13200**	**8000**	---	---	---	---	**20300**	**14100**	---	---	---	---	---	---	2000	2000
		---	---	---	---	---	---	**22400**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5000	5000
		---	---	**86800**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10000	10000
	January-2023	---	---	---	---	---	---	---	**3630**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
		14900	---	---	---	---	---	---	---	---	---	---	---	---	**8430**	---	---	---	---	---	---	---	---	2000	2000
		---	---	---	---	---	---	---	---	**47600**	---	---	---	---	---	---	---	---	---	---	---	---	---	5000	5000
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**9210**	---	---	---	---	---	---	1000	1000
	March-2023	---	---	---	---	---	---	---	**1690**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
		---	---	---	---	---	---	---	---	**10600**	---	---	---	---	---	---	---	---	---	---	---	---	---	2000	2000
	April-2023	---	---	---	---	---	---	---	---	---	**7370**	---	---	---	---	---	---	---	---	---	---	---	---	1000	1000
		---	---	---	---	---	---	---	**16800**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2000	2000
	May-2023	**7590**	---	---	---	---	---	---	**18700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2000	2000
		---	---	---	---	---	---	---	---	**44700**	---	---	---	---	---	---	---	---	---	---	---	---	---	4000	4000
	June-2023	---	---	---	---	---	---	---	---	---	---	**44800**	---	---	---	---	---	---	---	---	---	---	---	5000	5000
		---	---	---	---	---	---	---	---	**41300**	---	---	---	**55000**	---	---	---	---	---	---	---	---	---	10000	10000
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2180**	500	500
		6480	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2460**	---	---	---	---	---	1000	1000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**41000**	---	5000	5000
		---	---	---	---	---	---	**50100**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10000	10000
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1750**	500	500
		---	---	---	---	**59000**	---	**58600**	---	---	---	---	---	---	---	---	---	---	---	---	---	**60600**	---	5000	5000
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**6260**	---	---	---	---	---	1000	1000
		---	---	**87400**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10000	10000
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**5320**	---	---	---	---	---	500	500
		---	---	---	---	---	**51000**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5000	5000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**63600**	---	---	---	10000	10000
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4710**	---	---	---	---	---	1000	1000
		6200	---	---	---	---	---	---	---	---	---	---	**5620**	---	---	---	---	---	---	---	---	---	---	2000	2000
		---	---	---	**48100**	---	**57900**	---	---	**43700**	---	---	---	---	---	---	---	---	---	---	---	---	**37600**	5000	5000
		---	---	**77100**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**63900**	---	---	---	10000	10000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4870**	---	---	---	---	---	1000	1000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**19900**	---	---	---	---	---	---	5000	5000
		---	---	**94200**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10000	10000
	January-2024	---	**48600**	---	---	---	---	---	---	**59800**	---	---	---	---	---	---	---	---	---	---	---	---	**38200**	5000	5000
	February-2024	---	**42700**	---	**51200**	---	---	---	---	---	---	---	---	---	---	---	---	---	**48900**	---	---	---	---	5000	5000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**68400**	---	---	10000	10000

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Nitrate+Nitrite as N (mg/L)	November-2022	---	---	---	---	---	---	---	---	**2.91**	---	**0.16**	---	---	**0.33**	---	---	---	---	---	---	---	---	0.1	0.1
Nitrate as N (mg/L)	December-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	0.2	0.2
		---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.6
		ND	---	ND	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	1.5	5.5
	January-2023	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	1.1	1.1
		3.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.1	2.1
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	2.2	2.2
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.35	1.35
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1.04	5.1
	April-2023	---	---	---	---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	0.6	2.6
	May-2023	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
		---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1.2	5.2
	June-2023	---	---	---	---	---	---	---	---	ND	---	---	---	ND	---	---	---	---	---	---	---	---	---	1.1	5.1
		---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	1.2	5.2
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.355**	---	---	---	---	---	0.15	0.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.55	0.75
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	3
		---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	1.5	5.5
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.15	0.35
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	1.5	3.5
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.3	1.1
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.7	1.5
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.35	1.35
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	3
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	1.5	3.5
	November-2023	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.15	0.35
		---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	0.35	1.35
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.75
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
		---	---	---	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	ND	---	---	ND	1.5	5.5
	December-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	1.1	5.1
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	1.5	5.5
	January-2024	---	**2.01**	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	1.5	5.5
	February-2024	---	**9.1**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	1.5	5.5
		---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.5	7.5

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Nitrite as N (mg/L)	December-2022	---	---	---	---	---	---	---	---	---	**0.12 J**	---	---	---	---	---	---	---	---	---	---	---	---	0.1	0.5
		ND	---	ND	---	---	---	ND	---	ND	---	---	---	---	---	ND	ND	---	---	---	---	---	---	1	5
	January-2023	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	1	1
		ND	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	2	2
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.48 J**	---	---	---	---	---	---	0.25	1.25
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	April-2023	---	---	---	---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	June-2023	---	---	---	---	---	---	---	---	**2 J**	---	ND	---	ND	---	---	---	---	---	---	---	---	---	1	5
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	ND	0.05	0.25
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5
		---	---	---	---	---	---	**1.2 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	1	5
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.05	0.25
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.5	2.5
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.2	1
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.25	1.25
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	0.5	2.5
	November-2023	**0.06 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.05	0.25
		---	---	---	---	---	ND	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	0.25	1.25
		---	---	ND	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	ND	---	---	ND	1	5
	December-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	1	5
	January-2024	---	**1.7 J**	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	1	5
	February-2024	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	1	5
Total Kjeldahl Nitrogen (mg/L)	November-2022	---	---	---	---	---	---	---	---	---	---	**1290**	---	---	**1470**	---	---	---	---	---	---	---	---	20	50
		---	---	---	---	---	---	---	---	**2110**	---	---	---	---	---	---	---	---	---	---	---	---	---	50	125
	December-2022	**1510**	---	**3570**	---	---	---	**1790**	---	**1830**	**1490**	---	---	---	---	**1340**	**1940**	---	---	---	---	---	---	200	500
	January-2023	**1840**	---	---	---	---	---	---	**881**	---	---	---	---	---	**1410**	---	---	---	---	---	---	---	---	20	50
		---	---	---	---	---	---	---	---	**2970**	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1870**	---	---	---	---	---	---	16.8	50
	March-2023	---	---	---	---	---	---	---	**879**	**1920**	---	---	---	---	---	---	---	---	---	---	---	---	---	33.6	100
	April-2023	---	---	---	---	---	---	---	**1820**	---	**1510**	---	---	---	---	---	---	---	---	---	---	---	---	16.8	50
	May-2023	**1590**	---	---	---	---	---	---	**1950**	**2910**	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	June-2023	---	---	---	---	---	---	---	---	**3080**	---	---	---	**2750**	---	---	---	---	---	---	---	---	---	100	250
		---	---	---	---	---	---	---	---	---	---	**2650**	---	---	---	---	---	---	---	---	---	---	---	200	500
	July-2023	**1670**	---	---	---	---	---	**2960**	---	---	---	---	---	---	---	---	---	**1670**	---	---	---	**2720**	**285**	40	100
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**279**	10	25
		---	---	---	---	**2240**	---	**2820**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2850**	---	100	250
	September-2023	---	---	**3340**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2680**	---	---	---	---	---	100	250
	October-2023	---	---	---	---	---	**1050**	---	---	---	---	---	---	---	---	---	---	---	---	**1320**	---	---	---	40	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4630**	---	---	---	---	---	100	250
	November-2023	---	---	---	---	---	**2240**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2120**	80	200
		1440	---	**3290**	**2630**	---	---	---	---	**2530**	---	---	**1120**	---	---	---	---	**2270**	---	**3170**	---	---	---	100	250
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1880**	---	---	---	---	---	---	80	200
		---	---	**3130**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1890**	---	---	---	---	---	100	250
	January-2024	---	**2450**	---	---	---	---	---	---	**3020**	---	---	---	---	---	---	---	---	---	---	---	---	**1810**	100	250
	February-2024	---	**2540**	---	**2890**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2470**	---	**2970**	---	---	100	250

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Total Recoverable Phenolics (mg/L)	November-2022	---	---	---	---	---	---	---	---	---	---	**5.68**	---	---	**3**	---	---	---	---	---	---	---	---	0.3	0.5
		---	---	---	---	---	---	---	---	**28.8**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.25
	December-2022	---	---	---	---	---	---	---	---	---	**8.94**	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5
		24.9	---	**54.6**	---	---	---	**28.3**	---	**32**	---	---	---	---	---	**20.2**	**36**	---	---	---	---	---	---	1.5	2.5
	January-2023	**27.2**	---	---	---	---	---	---	**1.3**	---	---	---	---	---	**20.2**	---	---	---	---	---	---	---	---	0.75	1.25
		---	---	---	---	---	---	---	---	**56.5**	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**22.4**	---	---	---	---	---	---	1.5	2.5
	March-2023	---	---	---	---	---	---	---	**0.4**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.05
		---	---	---	---	---	---	---	---	**13.9**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5
	April-2023	---	---	---	---	---	---	---	**18.7**	---	**5.1**	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5
	May-2023	**18.6**	---	---	---	---	---	---	**20**	**50**	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5
	June-2023	---	---	---	---	---	---	---	---	**39.1**	---	**45.6**	---	**80.6**	---	---	---	---	---	---	---	---	---	1.5	2.5
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.7**	---	---	---	---	---	0.15	0.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2.92**	0.3	0.5
		11.6	---	---	---	---	---	**47.9**	---	---	---	---	---	---	---	---	---	---	---	---	---	**37.3**	---	1.5	2.5
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.46**	0.15	0.25
		---	---	---	---	**28.6**	---	**31.4**	---	---	---	---	---	---	---	---	---	---	---	---	---	**40.4**	---	1.5	2.5
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4.58**	---	---	---	---	---	0.3	0.5
		---	---	**38.2**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	5
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4.13**	---	---	---	---	---	0.15	0.25
		---	---	---	---	---	**37**	---	---	---	---	---	---	---	---	---	---	---	---	**38.7**	---	---	---	0.6	1
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3.65**	---	---	---	---	---	0.15	0.25
		7.88	---	---	**36.4**	---	---	---	---	---	---	---	**4.76**	---	---	---	---	---	---	---	---	---	---	0.6	1
		---	---	**38.8**	---	---	**47.4**	---	---	---	---	---	---	---	---	---	---	---	---	**47.1**	---	---	---	0.75	1.25
		---	---	---	---	---	---	---	---	**46.9**	---	---	---	---	---	---	---	---	---	---	---	---	**29.1**	1.5	2.5
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3.72**	---	---	---	---	---	0.06	0.1
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**23**	---	---	---	---	---	---	0.75	1.25
		---	---	**34.2**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5
	January-2024	---	**38**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**22.7**	1.5	2.5
		---	---	---	---	---	---	---	---	**39.2**	---	---	---	---	---	---	---	---	---	---	---	---	---	3	5
	February-2024	---	**37.3**	---	**42.9**	---	---	---	---	---	---	---	---	---	---	---	---	---	**50.2**	---	**43.1**	---	---	1.5	2.5

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
SEMI-VOLATILE ORGANIC COMPOUND (ug/L)																									
Anthracene	November-2022	---	---	---	---	---	---	---	---	---	---	ND	---	---	ND	---	---	---	---	---	---	---	---	46.7	93.5
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	93.5	187
	December-2022	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	ND	---	---	---	---	---	---	9.35	9.35
		---	---	---	---	---	---	ND	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	11.7	11.7
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23.4	23.4
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	485	971
	January-2023	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	243	485
		---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	253	505
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	490	980
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	187	374
	March-2023	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	51	102
		---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	117	234
	April-2023	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	37.4	74.8
		---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	38.8	77.7
	May-2023	ND	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	93.5	187
		---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	467	935
	June-2023	---	---	---	---	---	---	---	---	ND	---	---	---	ND	---	---	---	---	---	---	---	---	---	485	971
		---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	490	980
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	46.7	93.5
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	200
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	250	500
		---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	1000	2000
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	19.6	39.2
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	1000	2000
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	40	80
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	40	80
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	50	100
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	November-2023	ND	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	20	40
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	50	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	100	200
		---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	---	ND	---	---	---	400	800
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	2000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	50	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	100	200
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	400
	January-2024	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	200
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	250	500
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	2000
	February-2024	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	400
		---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	500
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	400000	800000

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
TOTAL METALS (mg/L)																									
Arsenic	November-2022	---	---	---	---	---	---	---	---	**0.863**	---	**0.464**	---	---	**1.3**	---	---	---	---	---	---	---	---	0.02	0.04
	December-2022	**1.02**	---	**0.406**	---	---	---	**0.174**	---	**1.69**	**0.49**	---	---	---	---	**0.159**	**0.574**	---	---	---	---	---	---	0.02	0.04
	January-2023	**0.285**	---	---	---	---	---	---	**0.596**	**0.225**	---	---	---	---	**0.846**	---	---	---	---	---	---	---	---	0.01	0.02
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.29**	---	---	---	---	---	---	0.005	0.01
	March-2023	---	---	---	---	---	---	---	**1.07**	**1**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.02
	April-2023	---	---	---	---	---	---	---	---	---	**0.11**	---	---	---	---	---	---	---	---	---	---	---	---	0.0005	0.001
		---	---	---	---	---	---	---	**0.36**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01
	May-2023	**0.26**	---	---	---	---	---	---	**0.3**	**0.27**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005
	June-2023	---	---	---	---	---	---	---	---	**0.26**	---	**0.5**	---	**0.14**	---	---	---	---	---	---	---	---	---	0.0025	0.005
	July-2023	**0.23**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.24**	---	---	---	**0.19**	**0.06**	0.0005	0.001
		---	---	---	---	---	---	**0.7**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.15**	0.0025	0.005
		---	---	---	---	**0.32**	---	**0.43**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.29**	---	0.005	0.01
	September-2023	---	---	**0.42**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.25**	---	---	---	---	---	0.005	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.24**	---	**0.31**	---	---	---	0.0005	0.001
		---	---	---	---	---	**0.36**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.002
	November-2023	**0.23**	---	**0.33**	**0.53**	---	**0.43**	---	---	**0.35**	---	---	**0.78**	---	---	---	---	**0.34**	---	**0.27**	---	---	**0.2**	0.003	0.003
	December-2023	---	---	**0.4**	---	---	---	---	---	---	---	---	---	---	---	---	**0.26**	---	---	---	---	---	---	0.0025	0.005
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.24**	---	---	---	---	---	0.001	0.002
	January-2024	---	**0.47**	---	---	---	---	---	---	**0.23**	---	---	---	---	---	---	---	---	---	---	---	---	**0.18**	0.0025	0.005
	February-2024	---	**0.68**	---	**0.42**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.33**	---	**0.23**	---	---	0.002	0.002
Barium	November-2022	---	---	---	---	---	---	---	---	**0.871**	---	**0.485**	---	---	**0.36**	---	---	---	---	---	---	---	---	0.01	0.02
	December-2022	**0.566**	---	**0.803**	---	---	---	**0.978**	---	**0.438**	**0.214**	---	---	---	---	**0.856**	**0.793**	---	---	---	---	---	---	0.01	0.02
	January-2023	**0.643**	---	---	---	---	---	---	**0.683**	**1.92**	---	---	---	---	**0.554**	---	---	---	---	---	---	---	---	0.005	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.04**	---	---	---	---	---	---	0.01	0.05
	March-2023	---	---	---	---	---	---	---	**0.406**	**0.683**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01
	April-2023	---	---	---	---	---	---	---	**1.21**	---	**0.326**	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	May-2023	**0.636**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
		---	---	---	---	---	---	---	**1.2**	**1.83**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	June-2023	---	---	---	---	---	---	---	---	**1.69**	---	---	---	**1.65**	---	---	---	---	---	---	---	---	---	0.005	0.025
		---	---	---	---	---	---	---	---	---	---	**3.01**	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.217**	0.001	0.005
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.558**	---	---	---	---	---	0.002	0.01
		0.542	---	---	---	---	---	**2.28**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.02**	---	0.005	0.025
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.218**	0.005	0.025
		---	---	---	---	**1.61**	---	**1.58**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.48**	---	0.01	0.05
	September-2023	---	---	**0.72**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.649**	---	---	---	---	---	0.01	0.05
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.664**	---	---	---	---	---	0.002	0.01
		---	---	---	---	---	**2.56**	---	---	---	---	---	---	---	---	---	---	---	---	**1.93**	---	---	---	0.005	0.025
	November-2023	**0.572**	---	**0.81**	**2.28**	---	**2.51**	---	---	**1.96**	---	---	**0.418**	---	---	---	---	**0.67**	---	**2.06**	---	---	**2.84**	0.01	0.05
	December-2023	---	---	**0.68**	---	---	---	---	---	---	---	---	---	---	---	---	**1.36**	---	---	---	---	---	---	0.005	0.025
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.672**	---	---	---	---	---	0.002	0.01
	January-2024	---	---	---	---	---	---	---	---	**1.92**	---	---	---	---	---	---	---	---	---	---	---	---	**1.91**	0.005	0.025
		---	**3.27**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	February-2024	---	**3.03**	---	**4.41**	---	---	---	---	---	---	---	---	---	---	---	---	---	**2.65**	---	**0.925**	---	---	0.005	0.025

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Cadmium	November-2022	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	0.004	0.008
	December-2022	ND	---	**0.0104**	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	0.004	0.008
	January-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.002	0.004
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.000297 J**	---	---	---	---	---	---	0.0001	0.001
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.004
	April-2023	---	---	---	---	---	---	---	**0.000158 J**	---	**0.000333 J**	---	---	---	---	---	---	---	---	---	---	---	---	0.0001	0.001
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0005	0.005
	June-2023	---	---	---	---	---	---	---	---	ND	---	ND	---	ND	---	---	---	---	---	---	---	---	---	0.0005	0.005
	July-2023	**0.000219 J**	---	---	---	---	---	**0.000156 J**	---	---	---	---	---	---	---	---	---	**0.000186 J**	---	---	---	ND	ND	0.0001	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0005	0.005
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.001	0.01
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.001	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.000171 J**	---	ND	---	---	---	0.0001	0.001
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.002
	November-2023	ND	---	ND	ND	---	ND	---	---	ND	---	---	ND	---	---	---	---	ND	---	ND	---	---	ND	0.001	0.003
	December-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	**0.000604 J**	---	---	---	---	---	---	0.0005	0.0015
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0002	0.002
	January-2024	---	ND	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0005	0.005
	February-2024	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0175**	---	ND	---	---	0.0005	0.005
Chromium	November-2022	---	---	---	---	---	---	---	---	**0.208**	---	**0.112**	---	---	**0.354**	---	---	---	---	---	---	---	---	0.016	0.02
	December-2022	**0.503**	---	**1.08**	---	---	---	**1.76**	---	**0.274**	**0.319**	---	---	---	---	**0.499**	**0.822**	---	---	---	---	---	---	0.016	0.02
	January-2023	**0.31**	---	---	---	---	---	---	**0.488**	**0.178**	---	---	---	---	**0.155**	---	---	---	---	---	---	---	---	0.008	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.277**	---	---	---	---	---	---	0.004	0.01
	March-2023	---	---	---	---	---	---	---	**0.213**	**0.188**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.008	0.01
	April-2023	---	---	---	---	---	---	---	---	---	**0.142**	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.001
		---	---	---	---	---	---	---	**0.306**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.004	0.01
	May-2023	**0.422**	---	---	---	---	---	---	**0.281**	**0.237**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.005
	June-2023	---	---	---	---	---	---	---	---	**0.251**	---	**0.191**	---	**0.272**	---	---	---	---	---	---	---	---	---	0.002	0.005
	July-2023	**0.308**	---	---	---	---	---	**0.535**	---	---	---	---	---	---	---	---	---	**0.231**	---	---	---	**0.215**	**0.0265**	0.0004	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0276**	0.002	0.005
		---	---	---	---	**0.606**	---	**0.449**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.259**	---	0.004	0.01
	September-2023	---	---	**1.17**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.234**	---	---	---	---	0.004	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.144**	---	**0.194**	---	---	---	0.0004	0.001
		---	---	---	---	---	**0.273**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0008	0.002
	November-2023	**0.391**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0	0.003
		---	---	---	**0.51**	---	---	---	---	---	---	---	---	---	---	---	---	**0.251**	---	**0.403**	---	---	---	0.003	0.003
		---	---	**1.04**	---	---	**0.402**	---	---	**0.246**	---	---	**0.343**	---	---	---	---	---	---	---	---	---	**0.222**	0.004	0.01
	December-2023	---	---	**1.34**	---	---	---	---	---	---	---	---	---	---	---	---	**0.259**	---	---	---	---	---	---	---	0.002	0.005
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.219**	---	---	---	---	---	0.0008	0.002
	January-2024	---	**0.17**	---	---	---	---	---	---	**0.193**	---	---	---	---	---	---	---	---	---	---	---	---	**0.128**	0.002	0.005
	February-2024	---	**0.23**	---	**0.272**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.203**	---	**0.336**	---	---	0.002	0.005

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Copper	November-2022	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	0.016	0.02
	December-2022	ND	---	ND	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	0.016	0.02
	January-2023	ND	---	---	---	---	---	---	**0.0127**	**0.0256**	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.008	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00365**	---	---	---	---	---	---	0.0003	0.001
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.008	0.01
	April-2023	---	---	---	---	---	---	---	**0.00664**	---	**0.00767**	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.001
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0015	0.005
	June-2023	---	---	---	---	---	---	---	---	**0.00154 J**	---	**0.00362 J**	---	**0.00269 J**	---	---	---	---	---	---	---	---	---	0.0015	0.005
	July-2023	**0.00124**	---	---	---	---	---	**0.00163**	---	---	---	---	---	---	---	---	---	**0.00811**	---	---	---	ND	**0.0027**	0.0003	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0015	0.005
		---	---	---	---	**0.00343 J**	---	**0.0176**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.003	0.01
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00407 J**	---	---	---	---	---	0.003	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00361**	---	**0.000609 J**	---	---	---	0.0003	0.001
		---	---	---	---	---	**0.00806**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.002
	November-2023	**0.00607**	---	**0.00352**	**0.0212**	---	**0.00756**	---	---	ND	---	---	**0.00341**	---	---	---	---	**0.00387**	---	ND	---	---	ND	0.003	0.003
	December-2023	---	---	**0.00184**	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.0015	0.0015
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0034**	---	---	---	---	---	0.0006	0.002
	January-2024	---	ND	---	---	---	---	---	---	**0.019**	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0015	0.005
	February-2024	---	ND	---	**0.00201**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	0.0015	0.002
Lead	November-2022	---	---	---	---	---	---	---	---	ND	---	ND	---	---	**0.017 J**	---	---	---	---	---	---	---	---	0.012	0.02
	December-2022	ND	---	**0.0381**	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	0.012	0.02
	January-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.006	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.006**	---	---	---	---	---	---	0.001	0.001
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.006	0.01
	April-2023	---	---	---	---	---	---	---	**0.0022**	---	**0.0067**	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005
	June-2023	---	---	---	---	---	---	---	---	ND	---	ND	---	**0.0069**	---	---	---	---	---	---	---	---	---	0.005	0.005
	July-2023	**0.0014**	---	---	---	---	---	**0.019**	---	---	---	---	---	---	---	---	---	**0.0092**	---	---	---	ND	**0.0017**	0.001	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.005	0.005
		---	---	---	---	**0.014**	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.013**	---	0.01	0.01
	September-2023	---	---	**0.12**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	0.01	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0036**	---	**0.0034**	---	---	---	0.001	0.001
		---	---	---	---	---	**0.0077**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	November-2023	ND	---	**0.13**	**0.0046**	---	**0.014**	---	---	ND	---	---	ND	---	---	---	---	**0.0032**	---	**0.0043**	---	---	ND	0.003	0.003
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0043**	---	---	---	---	---	0.002	0.002
		---	---	**0.16**	---	---	---	---	---	---	---	---	---	---	---	---	**0.002**	---	---	---	---	---	---	0.0015	0.0015
	January-2024	---	ND	---	---	---	---	---	---	**0.0081**	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.005	0.005
	February-2024	---	**0.0065**	---	**0.01**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.051**	---	**0.012**	---	---	0.001	0.002

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Mercury	November-2022	---	---	---	---	---	---	---	---	---	---	**0.00169**	---	---	**0.00053**	---	---	---	---	---	---	---	---	0.0004	0.0004
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0008	0.0008
	December-2022	**0.00051**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
		---	---	---	---	---	---	**0.00118**	---	ND	**0.00588**	---	---	---	---	**0.0048**	ND	---	---	---	---	---	---	0.0008	0.0008
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.004	0.004
	January-2023	ND	---	---	---	---	---	---	ND	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.0004	0.0004
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.004	0.004
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.0004	0.0004
	March-2023	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
		---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	April-2023	---	---	---	---	---	---	---	---	---	**0.00128**	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
		---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
	June-2023	---	---	---	---	---	---	---	---	ND	---	ND	---	ND	---	---	---	---	---	---	---	---	---	0.004	0.004
	July-2023	**0.000306**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	ND	0.0002	0.0002
		---	---	---	---	---	---	**0.0107**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.001	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.001	0.001
		---	---	---	---	**0.00312**	---	**0.00397**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.002	0.002
	September-2023	---	---	**0.00503**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	0.002	0.002
	October-2023	---	---	---	---	---	**0.00165**	---	---	---	---	---	---	---	---	---	---	ND	---	**0.00055**	---	---	0.0004	0.0004
	November-2023	ND	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	0.0000002	0.0000002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0000004	0.0000004
		---	---	**0.00576**	**0.00606**	---	**0.00578**	---	---	ND	---	---	---	---	---	---	---	---	---	**0.00954**	---	---	ND	0.000004	0.000004
	December-2023	---	---	**0.00484**	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.001	0.001
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0004	0.0004
	January-2024	---	ND	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.001	0.001
	February-2024	---	**0.00376**	---	**0.0115**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00238**	---	**0.00284**	---	---	0.001	0.001
Nickel	November-2022	---	---	---	---	---	---	---	---	**0.0866**	---	**0.1344**	---	---	**0.173**	---	---	---	---	---	---	---	---	0.014	0.02
	December-2022	**0.1722**	---	**0.5025**	---	---	---	**0.2989**	---	**0.1299**	**0.287**	---	---	---	---	**0.1853**	**0.346**	---	---	---	---	---	---	0.014	0.02
	January-2023	**0.1074**	---	---	---	---	---	---	**0.1442**	**0.0407**	---	---	---	---	**0.0769**	---	---	---	---	---	---	---	---	0.007	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.1726**	---	---	---	---	---	---	0.001	0.001
	March-2023	---	---	---	---	---	---	---	**0.1254**	**0.1033**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.007	0.01
	April-2023	---	---	---	---	---	---	---	**0.1143**	---	**0.1732**	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	May-2023	**0.113**	---	---	---	---	---	---	**0.09726**	**0.05657**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005
	June-2023	---	---	---	---	---	---	---	---	**0.05978**	---	**0.05892**	---	**0.07161**	---	---	---	---	---	---	---	---	---	0.005	0.005
	July-2023	**0.09872**	---	---	---	---	---	**0.08332**	---	---	---	---	---	---	---	---	---	**0.1576**	---	---	---	**0.03074**	**0.01403**	0.001	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.02029**	0.005	0.005
		---	---	---	---	**0.1457**	---	**0.09673**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0513**	---	0.01	0.01
	September-2023	---	---	**0.5152**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.2387**	---	---	---	---	0.01	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.2019**	---	**0.09206**	---	---	---	0.001	0.001
		---	---	---	---	---	**0.104**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	November-2023	**0.1178**	---	**0.4227**	**0.1242**	---	**0.07791**	---	---	**0.05944**	---	---	**0.1493**	---	---	---	---	**0.2492**	---	**0.1332**	---	---	**0.05277**	0.01	0.01
	December-2023	---	---	**0.6091**	---	---	---	---	---	---	---	---	---	---	---	---	**0.1447**	---	---	---	---	---	---	0.005	0.005
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.2127**	---	---	---	---	---	0.002	0.002
	January-2024	---	**0.06308**	---	---	---	---	---	---	**0.04911**	---	---	---	---	---	---	---	---	---	---	---	---	**0.0326**	0.005	0.005
	February-2024	---	**0.07945**	---	**0.07013**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.09174**	---	**0.06183**	---	---	0.005	0.005

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Selenium	November-2022	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	0.08	0.1
	December-2022	ND	---	ND	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	0.08	0.1
	January-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.04	0.05
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00199**	---	---	---	---	---	---	0.00085	0.001
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.04	0.05
	April-2023	---	---	---	---	---	---	---	**0.00189**	---	**0.00185**	---	---	---	---	---	---	---	---	---	---	---	---	0.00085	0.001
	May-2023	ND	---	---	---	---	---	---	ND	**0.00569**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	June-2023	---	---	---	---	---	---	---	---	ND	---	ND	---	ND	---	---	---	---	---	---	---	---	---	0.00425	0.005
	July-2023	**0.00101**	---	---	---	---	---	**0.00331**	---	---	---	---	---	---	---	---	---	**0.00116**	---	---	---	**0.00251**	ND	0.00085	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.00425	0.005
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.0085	0.01
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0085	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00186**	---	**0.0044**	---	---	---	0.00085	0.001
		---	---	---	---	---	**0.00332**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0017	0.002
	November-2023	ND	---	**0.00425**	**0.00314**	---	**0.00315**	---	---	ND	---	---	ND	---	---	---	---	ND	---	**0.0032**	---	---	ND	0.003	0.003
	December-2023	---	---	**0.00785**	---	---	---	---	---	---	---	---	---	---	---	---	**0.00253**	---	---	---	---	---	---	0.0015	0.0015
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00215**	---	---	---	---	---	0.0017	0.002
	January-2024	---	ND	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.00425	0.005
	February-2024	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00571**	---	**0.00651**	---	---	0.00425	0.005
Silver	November-2022	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	0.01	0.02
	December-2022	ND	---	**0.0187 J**	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	0.01	0.02
	January-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	0.005	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.00006	0.001
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01
	April-2023	---	---	---	---	---	---	---	ND	---	**0.00011 J**	---	---	---	---	---	---	---	---	---	---	---	---	0.00006	0.001
	May-2023	ND	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005
	June-2023	---	---	---	---	---	---	---	---	ND	---	ND	---	ND	---	---	---	---	---	---	---	---	---	0.0003	0.005
	July-2023	ND	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	0.00006	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0003	0.005
		---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	0.0006	0.01
	September-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0006	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	---	0.00006	0.001
		---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00012	0.002
	November-2023	ND	---	ND	ND	---	ND	---	---	ND	---	---	ND	---	---	---	---	ND	---	ND	---	---	ND	0.0006	0.01
	December-2023	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.00025	0.001
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.00012	0.002
	January-2024	---	ND	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0003	0.005
	February-2024	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	0.0003	0.005

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Zinc	November-2022	---	---	---	---	---	---	---	---	ND	---	**0.032**	---	---	**0.694**	---	---	---	---	---	---	---	---	0.02	0.02
	December-2022	**0.208**	---	**29.7**	---	---	---	**0.162**	---	**0.0686**	**0.75**	---	---	---	---	**0.364**	**0.286**	---	---	---	---	---	---	0.02	0.02
	January-2023	**0.133**	---	---	---	---	---	---	**0.15**	**0.074**	---	---	---	---	**0.0752**	---	---	---	---	---	---	---	---	0.01	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0851**	---	---	---	---	---	---	0.0025	0.005
	March-2023	---	---	---	---	---	---	---	**0.0689**	**0.0538**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01
	April-2023	---	---	---	---	---	---	---	**0.0539**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005
		---	---	---	---	---	---	---	---	---	**0.414**	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05
	May-2023	**0.079**	---	---	---	---	---	---	**0.0635**	**0.0519**	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0125	0.025
	June-2023	---	---	---	---	---	---	---	---	**0.0538**	---	**0.0253**	---	**0.945**	---	---	---	---	---	---	---	---	---	0.0125	0.025
	July-2023	**0.0488**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0714**	---	---	---	**0.354**	**0.0782**	0.0025	0.005
		---	---	---	---	---	---	**2.03**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0125	0.025
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.112**	0.0125	0.025
		---	---	---	---	---	---	**1.71**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.914**	---	0.025	0.05
		---	---	---	---	**5.92**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.1
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0788**	---	---	---	---	---	0.025	0.05
		---	---	**45**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	0.5
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0622**	---	---	---	---	---	0.0025	0.005
		---	---	---	---	---	**0.203**	---	---	---	---	---	---	---	---	---	---	---	---	**633**	---	---	---	0.005	0.01
	November-2023	**0.0471 J**	---	---	**0.0534**	---	**0.74**	---	---	**0.053**	---	---	**0.0618**	---	---	---	---	**0.0722**	---	**0.845**	---	---	**0.0313 J**	0.025	0.05
		---	---	**30.4**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	0.5
	December-2023	---	---	**52.7**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	0.5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.061**	---	---	---	---	---	0.005	0.01
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0462**	---	---	---	---	---	---	0.025	0.025
	January-2024	---	**0.117**	---	---	---	---	---	---	**0.0974**	---	---	---	---	---	---	---	---	---	---	---	---	**0.0261**	0.0125	0.025
	February-2024	---	**0.0879**	---	**0.0554**	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.475**	---	**0.809**	---	---	0.0125	0.025
VOLATILE FATTY ACIDS (ug/L)																									
Acetic Acid	November-2022	---	---	---	---	---	---	---	---	---	---	**1600**	---	---	---	---	---	---	---	---	---	---	---	25	100
		---	---	---	---	---	---	---	---	**3500**	---	---	---	---	**150 J**	---	---	---	---	---	---	---	---	62	250
	December-2022	**1800**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	62	250
	January-2023	ND	---	---	---	---	---	---	ND	**4400**	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	500
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	500
	March-2023	---	---	---	---	---	---	---	ND	**640**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
	April-2023	---	---	---	---	---	---	---	**1200**	---	**520**	---	---	---	---	---	---	---	---	---	---	---	---	370	500
	May-2023	**990**	---	---	---	---	---	---	**1800**	**3000**	---	---	---	---	---	---	---	---	---	---	---	---	---	370	500
	June-2023	---	---	---	---	---	---	---	---	**5900**	---	**4100**	---	**5000**	---	---	---	---	---	---	---	---	---	750	1000
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	150	200
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	370	500
		---	---	---	---	---	---	**6100**	---	---	---	---	---	---	---	---	---	---	---	---	---	**750**	---	750	1000
	August-2023	---	---	---	---	**3300**	---	**5300**	---	---	---	---	---	---	---	---	---	---	---	---	---	**4200**	ND	---	500
	September-2023	---	---	**7400**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	370	500
	October-2023	---	---	---	---	---	**3200**	---	---	---	---	---	---	---	---	---	---	**720**	---	**4100**	---	---	---	370	500
	November-2023	ND	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	ND	---	---	---	---	**4160**	250	500
		---	---	---	**4950**	---	**6650**	---	---	**5350**	---	---	---	---	---	---	---	---	---	**7300**	---	---	---	500	1000
		---	---	**9900**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	2000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**660**	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	250
		---	---	**11200**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	January-2024	---	**4410**	---	---	---	---	---	---	**5290**	---	---	---	---	---	---	---	---	---	---	---	---	**3080**	---	250
	February-2024	---	**3130**	---	**3530**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3530**	---	**6770**	---	---	---	500

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Butyric Acid	November-2022	---	---	---	---	---	---	---	---	---	---	**430**	---	---	---	---	---	---	---	---	---	---	---	12	100
		---	---	---	---	---	---	---	---	**830**	---	---	---	---	ND	---	---	---	---	---	---	---	---	29	250
	December-2022	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	29	250
	January-2023	ND	---	---	---	---	---	---	ND	**1800**	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	500
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	500
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
	April-2023	---	---	---	---	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	330	500
	May-2023	ND	---	---	---	---	---	---	ND	**1200**	---	---	---	---	---	---	---	---	---	---	---	---	---	330	500
	June-2023	---	---	---	---	---	---	---	---	**2500**	---	**1500**	---	**2900**	---	---	---	---	---	---	---	---	---	650	1000
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	130	200
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	330	500
		---	---	---	---	---	---	**2800**	---	---	---	---	---	---	---	---	---	---	---	---	---	**650**	---	650	1000
	August-2023	---	---	---	---	**1400**	---	**1700**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1600**	ND	---	500
	September-2023	---	---	**3100**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	330	500
	October-2023	---	---	---	---	---	**1200**	---	---	---	---	---	---	---	---	---	---	ND	---	**2000**	---	---	---	330	500
	November-2023	ND	---	---	**1670**	---	**1760**	---	---	**1370**	---	---	ND	---	---	---	---	ND	---	**2730**	---	---	**740**	250	500
		---	---	**3420**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**336**	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	250
		---	---	**3390**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	January-2024	---	**813**	---	---	---	---	---	---	**1230**	---	---	---	---	---	---	---	---	---	---	---	---	**594**	---	250
	February-2024	---	**583**	---	**1170**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1180**	---	**2980**	---	---	---	500
Lactic Acid	November-2022	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	11	100
		---	---	---	---	---	---	---	---	ND	---	---	---	---	ND	---	---	---	---	---	---	---	---	27	250
	December-2022	**90 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	27	250
	November-2023	ND	---	---	**968**	---	**1800**	---	---	**969**	---	---	ND	---	---	---	---	ND	---	**1170**	---	---	**324**	250	500
		---	---	**6030**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	250
		---	---	**9050**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	January-2024	---	**629**	---	---	---	---	---	---	**979**	---	---	---	---	---	---	---	---	---	---	---	---	**256**	---	250
	February-2024	---	**334**	---	**180**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**756**	---	**1650**	---	---	---	500
Propionic Acid	November-2022	---	---	---	---	---	---	---	---	---	---	**620**	---	---	---	---	---	---	---	---	---	---	---	11	100
		---	---	---	---	---	---	---	---	**1600**	---	---	---	---	**73 J**	---	---	---	---	---	---	---	---	27	250
	December-2022	**640**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	27	250
	January-2023	ND	---	---	---	---	---	---	ND	**2000**	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	500
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	500
	March-2023	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
	April-2023	---	---	---	---	---	---	---	**600**	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	340	500
	May-2023	**520**	---	---	---	---	---	---	**800**	**1400**	---	---	---	---	---	---	---	---	---	---	---	---	---	340	500
	June-2023	---	---	---	---	---	---	---	---	**2900**	---	**2000**	---	**2900**	---	---	---	---	---	---	---	---	---	680	1000
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	140	200
		ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	340	500
		---	---	---	---	---	---	**3100**	---	---	---	---	---	---	---	---	---	---	---	---	---	**680**	---	680	1000
	August-2023	---	---	---	---	**1200**	---	**2000**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1900**	ND	---	500
	September-2023	---	---	**1800**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	340	500
	October-2023	---	---	---	---	---	**1300**	---	---	---	---	---	---	---	---	---	---	ND	---	**2000**	---	---	---	340	500
	November-2023	ND	---	---	**2170**	---	**2310**	---	---	**2080**	---	---	**387**	---	---	---	---	ND	---	**3350**	---	---	**1420**	250	500
		---	---	**2580**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**996**	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	250
		---	---	**2280**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	January-2024	---	**1680**	---	---	---	---	---	---	**1970**	---	---	---	---	---	---	---	---	---	---	---	---	**1030**	---	250
	February-2024	---	**1210**	---	**1510**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1980**	---	**2900**	---	---	---	500

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Pyruvic Acid	November-2022	---	---	---	---	---	---	---	---	---	---	**46 J**	---	---	---	---	---	---	---	---	---	---	---	12	100
		---	---	---	---	---	---	---	---	**98 J**	---	---	---	---	ND	---	---	---	---	---	---	---	---	30	250
	December-2022	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	250
	November-2023	ND	---	---	ND	---	ND	---	---	ND	---	---	ND	---	---	---	---	ND	---	ND	---	---	ND	250	500
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	1000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	250
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	January-2024	---	ND	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	250
	February-2024	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	---	500
VOLATILE ORGANIC COMPOUNDS (ug/L)																									
2-Butanone (MEK)	November-2022	---	---	---	---	---	---	---	---	**3510**	---	---	---	---	**1140**	---	---	---	---	---	---	---	---	30	100
		---	---	---	---	---	---	---	---	---	---	**15600**	---	---	---	---	---	---	---	---	---	---	---	300	1000
	December-2022	**3140**	---	---	---	---	---	---	---	---	**3390**	---	---	---	---	---	---	---	---	---	---	---	---	30	100
		---	---	**26800**	---	---	---	**27700**	---	**5670**	---	---	---	---	---	**21700**	**7150**	---	---	---	---	---	---	300	1000
	January-2023	**3480**	---	---	---	---	---	---	**632**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	100
		---	---	---	---	---	---	---	---	**7840**	---	---	---	---	**5470**	---	---	---	---	---	---	---	---	300	1000
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**14400**	---	---	---	---	---	---	600	2000
	March-2023	---	---	---	---	---	---	---	**257**	**2770**	---	---	---	---	---	---	---	---	---	---	---	---	---	30	100
	April-2023	---	---	---	---	---	---	---	**3420**	---	**5530**	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
	May-2023	**5360**	---	---	---	---	---	---	**5970**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
		---	---	---	---	---	---	---	---	**13600**	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
	June-2023	---	---	---	---	---	---	---	---	**13800**	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
		---	---	---	---	---	---	---	---	---	---	**20100**	---	**22600**	---	---	---	---	---	---	---	---	---	1500	5000
	July-2023	**5860**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	60	200
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**13500**	750	2500
		---	---	---	---	---	---	**38400**	---	---	---	---	---	---	---	---	---	---	---	---	---	**31600**	---	3000	10000
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**5950**	60	200
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**7350**	---	150	500
		---	---	---	---	---	---	**3000**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
		---	---	---	---	**25600**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	5000
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**439**	---	---	---	---	---	60	200
		---	---	**17500**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**211**	---	---	---	---	---	15	50
		---	---	---	---	---	**17800**	---	---	---	---	---	---	---	---	---	---	---	---	**33400**	---	---	---	1500	5000
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**78.8 J**	---	---	---	---	---	30	100
		---	---	---	---	---	**17700**	---	---	**10600**	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
		3990	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	300	1000
		---	---	**25700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
		---	---	---	**22300**	---	---	---	---	---	---	---	**17600**	---	---	---	---	---	---	**26700**	---	---	**31200**	1500	5000
	December-2023	---	---	**13700**	---	---	---	---	---	---	---	---	---	---	---	---	**7060**	ND	---	---	---	---	---	150	500
	January-2024	---	---	---	---	---	---	---	---	**10800**	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
		---	**34700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**28900**	1500	5000
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**12700**	---	---	---	---	150	500
		---	**30500**	---	**28900**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**17400**	---	---	1500	5000

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Acetone	November-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	**4420**	---	---	---	---	---	---	---	---	70	100
		---	---	---	---	---	---	---	---	**16100**	---	**38300**	---	---	---	---	---	---	---	---	---	---	---	700	1000
	December-2022	---	---	---	---	---	---	---	---	**15600**	**5170**	---	---	---	---	---	**9800**	---	---	---	---	---	---	700	1000
		8500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
		---	---	**53100**	---	---	---	**49900**	---	---	---	---	---	---	---	**45600**	---	---	---	---	---	---	---	3500	5000
	January-2023	---	---	---	---	---	---	---	**1530**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	70	100
		---	---	---	---	---	---	---	---	**22200**	---	---	---	---	**14000**	---	---	---	---	---	---	---	---	700	1000
		8130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**23900**	---	---	---	---	---	---	1400	2000
	March-2023	---	---	---	---	---	---	---	**375**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	70	100
		---	---	---	---	---	---	---	---	**6810**	---	---	---	---	---	---	---	---	---	---	---	---	---	700	1000
	April-2023	---	---	---	---	---	---	---	**8290**	---	**7560**	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
	May-2023	**10700**	---	---	---	---	---	---	**11700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	350	500
		---	---	---	---	---	---	---	---	**29600**	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
	June-2023	---	---	---	---	---	---	---	---	**29600**	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
		---	---	---	---	---	---	---	---	---	---	**61800**	---	**50800**	---	---	---	---	---	---	---	---	---	3500	5000
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1180**	---	---	---	---	---	140	200
		9780	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	700	1000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**11600**	1750	2500
		---	---	---	---	---	---	**77200**	---	---	---	---	---	---	---	---	---	---	---	---	---	**69700**	---	7000	10000
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**20900**	700	1000
		---	---	---	---	---	---	**18700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
		---	---	---	---	**72500**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**87700**	---	3500	5000
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**188 J**	---	---	---	---	---	140	200
		---	---	**40100**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**79**	---	---	---	---	---	35	50
		---	---	---	---	---	**66900**	---	---	---	---	---	---	---	---	---	---	---	---	**92900**	---	---	---	3500	5000
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**104**	---	---	---	---	---	70	100
		5560	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	700	1000
		---	---	**64700**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
		---	---	---	**43100**	---	**61100**	---	---	**36800**	---	---	**32800**	---	---	---	---	---	---	**53900**	---	---	**67800**	3500	5000
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	140	200
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	350	500
		---	---	**44300**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1750	2500
	January-2024	---	**96600**	---	---	---	---	---	---	**22800**	---	---	---	---	---	---	---	---	---	---	---	---	**47300**	3500	5000
	February-2024	---	**81600**	---	**70200**	---	---	---	---	---	---	---	---	---	---	---	---	---	**45600**	---	**63100**	---	---	3500	5000

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Benzene	November-2022	---	---	---	---	---	---	---	---	**7.4 J**	---	**2860**	---	---	**50.4**	---	---	---	---	---	---	---	---	4	10
	December-2022	**301**	---	**2960**	---	---	---	---	---	**6.3 J**	**622**	---	---	---	---	**1750**	**179**	---	---	---	---	---	---	4	10
		---	---	---	---	---	---	**6550**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	January-2023	**240**	---	---	---	---	---	---	**28.7**	**1620**	---	---	---	---	**167**	---	---	---	---	---	---	---	---	4	10
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1370**	---	---	---	---	---	---	4	10
	March-2023	---	---	---	---	---	---	---	**1540**	**727**	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	April-2023	---	---	---	---	---	---	---	**3740**	---	**320**	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	May-2023	**814**	---	---	---	---	---	---	**4890**	**3370**	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	June-2023	---	---	---	---	---	---	---	---	**2630**	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
		---	---	---	---	---	---	---	---	---	---	**1400**	---	**1590**	---	---	---	---	---	---	---	---	---	20	50
	July-2023	**824**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**80.8**	---	---	---	---	---	8	20
		---	---	---	---	---	---	**4050**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1420**	---	20	50
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**11800**	100	250
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**379**	8	20
		---	---	---	---	**2320**	---	**168**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	20	50
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**193**	---	---	---	---	---	8	20
		---	---	**468**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**399**	---	---	---	---	---	2	5
		---	---	---	---	---	**576**	---	---	---	---	---	---	---	---	---	---	---	---	**3100**	---	---	---	20	50
	November-2023	**80.8**	---	---	---	---	---	---	---	---	---	---	**31.3**	---	---	---	---	---	---	---	---	---	---	2	5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**323**	---	---	---	---	---	4	10
		---	---	---	**1070**	---	**654**	---	---	**982**	---	---	---	---	---	---	---	---	---	**1960**	---	---	**1190**	20	50
		---	---	**870**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**932**	---	---	---	---	---	---	8	20
		---	---	**1330**	---	---	---	---	---	---	---	---	---	---	---	---	---	**463**	---	---	---	---	---	20	50
	January-2024	---	**1410**	---	---	---	---	---	---	**662**	---	---	---	---	---	---	---	---	---	---	---	---	**2900**	20	50
	February-2024	---	**906**	---	**884**	---	---	---	---	---	---	---	---	---	---	---	---	---	**346**	---	**484**	---	---	20	50
Ethylbenzene	December-2022	**67.3**	---	**172**	---	---	---	**287**	---	ND	**48.5**	---	---	---	---	**108**	**27.4**	---	---	---	---	---	---	4	10
	November-2022	---	---	---	---	---	---	---	---	ND	---	**194**	---	---	**16.2**	---	---	---	---	---	---	---	---	4	10
	January-2023	**65.1**	---	---	---	---	---	---	ND	**93.9**	---	---	---	---	**20.8**	---	---	---	---	---	---	---	---	4	10
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**151**	---	---	---	---	---	---	4	10
	March-2023	---	---	---	---	---	---	---	**131**	**71.5**	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	April-2023	---	---	---	---	---	---	---	**186**	---	**43.4**	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	May-2023	**124**	---	---	---	---	---	---	**276**	**144**	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	June-2023	---	---	---	---	---	---	---	---	**104**	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
		---	---	---	---	---	---	---	---	---	---	**98**	---	**116**	---	---	---	---	---	---	---	---	---	20	50
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**666**	4	10
		128	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**82**	---	---	---	---	---	8	20
		---	---	---	---	---	---	**224**	---	---	---	---	---	---	---	---	---	---	---	---	---	**87.5**	---	20	50
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**16.8 J**	8	20
		---	---	---	---	**80**	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	20	50
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**22.8**	---	---	---	---	---	8	20
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**34.8**	---	---	---	---	---	2	5
		---	---	---	---	---	**42.5 J**	---	---	---	---	---	---	---	---	---	---	---	---	**247**	---	---	---	20	50
	November-2023	**26.3**	---	---	---	---	---	---	---	---	---	---	**45.4**	---	---	---	---	---	---	---	---	---	---	2	5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**26.9**	---	---	---	---	---	4	10
		---	---	---	**62**	---	**54**	---	---	**76.5**	---	---	---	---	---	---	---	---	---	**224**	---	---	**60.5**	20	50
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**46**	---	---	---	---	---	---	8	20
		---	---	**69.5**	---	---	---	---	---	---	---	---	---	---	---	---	---	**44 J**	---	---	---	---	---	20	50
	January-2024	---	**99**	---	---	---	---	---	---	**28 J**	---	---	---	---	---	---	---	---	---	---	---	---	**248**	20	50
	February-2024	---	**51**	---	**43 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	**31 J**	---	**41 J**	---	---	20	50

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	Monitoring Event	Concentration																							
Tetrahydrofuran	November-2022	---	---	---	---	---	---	---	---	**309**	---	---	---	---	**176**	---	---	---	---	---	---	---	---	100	100
		---	---	---	---	---	---	---	---	---	---	**8530**	---	---	---	---	---	---	---	---	---	---	---	1000	1000
	December-2022	**151**	---	---	---	---	---	---	---	**170**	**1120**	---	---	---	---	---	**663**	---	---	---	---	---	---	100	100
		---	---	**5210**	---	---	---	**19800**	---	---	---	---	---	---	---	**6130**	---	---	---	---	---	---	---	1000	1000
	January-2023	**183**	---	---	---	---	---	---	**566**	**1810**	---	---	---	---	**352**	---	---	---	---	---	---	---	---	100	100
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3760**	---	---	---	---	---	---	2000	2000
	March-2023	---	---	---	---	---	---	---	**353**	**464**	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	April-2023	---	---	---	---	---	---	---	**2410**	---	**4790**	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	May-2023	ND	---	---	---	---	---	---	**2740**	**2380**	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	June-2023	---	---	---	---	---	---	---	---	**2100**	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
		---	---	---	---	---	---	---	---	---	---	**7320**	---	**6670**	---	---	---	---	---	---	---	---	---	500	500
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2960**	100	100
		411	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**616**	---	---	---	---	---	200	200
		---	---	---	---	---	---	**8380**	---	---	---	---	---	---	---	---	---	---	---	---	---	**5310**	---	500	500
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2880**	200	200
		---	---	---	---	**7370**	---	**3210**	---	---	---	---	---	---	---	---	---	---	---	---	---	**1200**	---	500	500
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**343**	---	---	---	---	---	200	200
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2500	2500
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**606**	---	---	---	---	---	50	50
		---	---	---	---	---	**4870**	---	---	---	---	---	---	---	---	---	---	---	---	**9140**	---	---	---	500	500
	November-2023	**199**	---	---	---	---	---	---	---	---	---	---	**325**	---	---	---	---	---	---	---	---	---	---	50	50
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**358**	---	---	---	---	---	100	100
		---	---	---	**4780**	---	**3320**	---	---	**785**	---	---	---	---	---	---	---	---	---	**5370**	---	---	**4600**	500	500
		---	---	**4620**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2500	2500
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4240**	---	---	---	---	---	---	200	200
		---	---	**2620**	---	---	---	---	---	---	---	---	---	---	---	---	---	**502**	---	---	---	---	---	500	500
	January-2024	---	**5160**	---	---	---	---	---	---	**1040**	---	---	---	---	---	---	---	---	---	---	---	---	**10900**	500	500
	February-2024	---	**3500**	---	**4580**	---	---	---	---	---	---	---	---	---	---	---	---	---	**3520**	---	**4910**	---	---	500	500
Toluene	November-2022	---	---	---	---	---	---	---	---	ND	---	**214**	---	---	**32.8**	---	---	---	---	---	---	---	---	5	10
	December-2022	**122**	---	**175**	---	---	---	**195**	---	ND	**113**	---	---	---	---	**113**	**48.3**	---	---	---	---	---	---	5	10
	January-2023	**122**	---	---	---	---	---	---	**8 J**	**139**	---	---	---	---	**35.3**	---	---	---	---	---	---	---	---	5	10
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**224**	---	---	---	---	---	---	5	10
	March-2023	---	---	---	---	---	---	---	**182**	**98.1**	---	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	April-2023	---	---	---	---	---	---	---	**303**	---	**94.4**	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	May-2023	**258**	---	---	---	---	---	---	**371**	**239**	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	June-2023	---	---	---	---	---	---	---	---	**165**	---	---	---	---	---	---	---	---	---	---	---	---	---	10	20
		---	---	---	---	---	---	---	---	---	---	**67**	---	**212**	---	---	---	---	---	---	---	---	---	25	50
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**965**	5	10
		248	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**107**	---	---	---	---	---	10	20
		---	---	---	---	---	---	**218**	---	---	---	---	---	---	---	---	---	---	---	---	---	**118**	---	25	50
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**36.6**	10	20
		---	---	---	---	**105**	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	25	50
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**40.6**	---	---	---	---	---	10	20
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	125	250
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**59.2**	---	---	---	---	---	2.5	5
		---	---	---	---	---	**37 J**	---	---	---	---	---	---	---	---	---	---	---	---	**235**	---	---	---	25	50
	November-2023	**47.3**	---	---	---	---	---	---	---	---	---	---	**50.4**	---	---	---	---	---	---	---	---	---	---	2.5	5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**48.7**	---	---	---	---	---	5	10
		---	---	---	**62.5**	---	**51.5**	---	---	**114**	---	---	---	---	---	---	---	---	---	**167**	---	---	**114**	25	50
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	125	250
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**73.2**	---	---	---	---	---	---	10	20
		---	---	**83.5**	---	---	---	---	---	---	---	---	---	---	---	---	---	**74.5**	---	---	---	---	---	25	50
	January-2024	---	**95.5**	---	---	---	---	---	---	**60**	---	---	---	---	---	---	---	---	---	---	---	---	**310**	25	50
	February-2024	---	**49 J**	---	**37 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	**30.5 J**	---	---	25	50

Historical LFG-EW Leachate Monitoring Results Summary

Well ID		EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ
Parameter	**Monitoring Event**	**Concentration**																							
Xylenes, Total	November-2022	---	---	---	---	---	---	---	---	ND	---	**185**	---	---	**37.8**	---	---	---	---	---	---	---	---	10	30
	December-2022	**161**	---	**222**	---	---	---	**186**	---	ND	**112**	---	---	---	---	**197**	**59.9**	---	---	---	---	---	---	10	30
	January-2023	**138**	---	---	---	---	---	---	ND	**134**	---	---	---	---	**38.1**	---	---	---	---	---	---	---	---	10	30
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**240**	---	---	---	---	---	---	10	30
	March-2023	---	---	---	---	---	---	---	**240**	**111**	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	April-2023	---	---	---	---	---	---	---	**329**	---	**97.4**	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	May-2023	**274**	---	---	---	---	---	---	**441**	**230**	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	June-2023	---	---	---	---	---	---	---	---	**177**	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
		---	---	---	---	---	---	---	---	---	---	**92 J**	---	**136 J**	---	---	---	---	---	---	---	---	---	50	150
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1130**	10	30
		257	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**74.4**	---	---	---	---	---	20	60
		---	---	---	---	---	---	**230**	---	---	---	---	---	---	---	---	---	---	---	---	---	**174**	---	50	150
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**48.4 J**	20	60
		---	---	---	---	**180**	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	50	150
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	20	60
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	750
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**30.6**	---	---	---	---	---	5	15
		---	---	---	---	---	**134 J**	---	---	---	---	---	---	---	---	---	---	---	---	**328**	---	---	---	50	150
	November-2023	**56**	---	---	---	---	---	---	---	---	---	---	**48**	---	---	---	---	---	---	---	---	---	---	5	15
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**25.3 J**	---	---	---	---	---	10	30
		---	---	---	**116 J**	---	**104 J**	---	---	**132 J**	---	---	---	---	---	---	---	---	---	**306**	---	---	**138 J**	50	150
		---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	750
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**167**	---	---	---	---	---	---	20	60
		---	---	**224**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	50	150
	January-2024	---	**142 J**	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	**534**	50	150
	February-2024	---	**63 J**	---	**59 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	50	150

--- = not applicable/available

J = Parameter was detected at a concentration greater than the laboratory's LOD, but less than the laboratory's LOQ. Concentration is considered estimated.

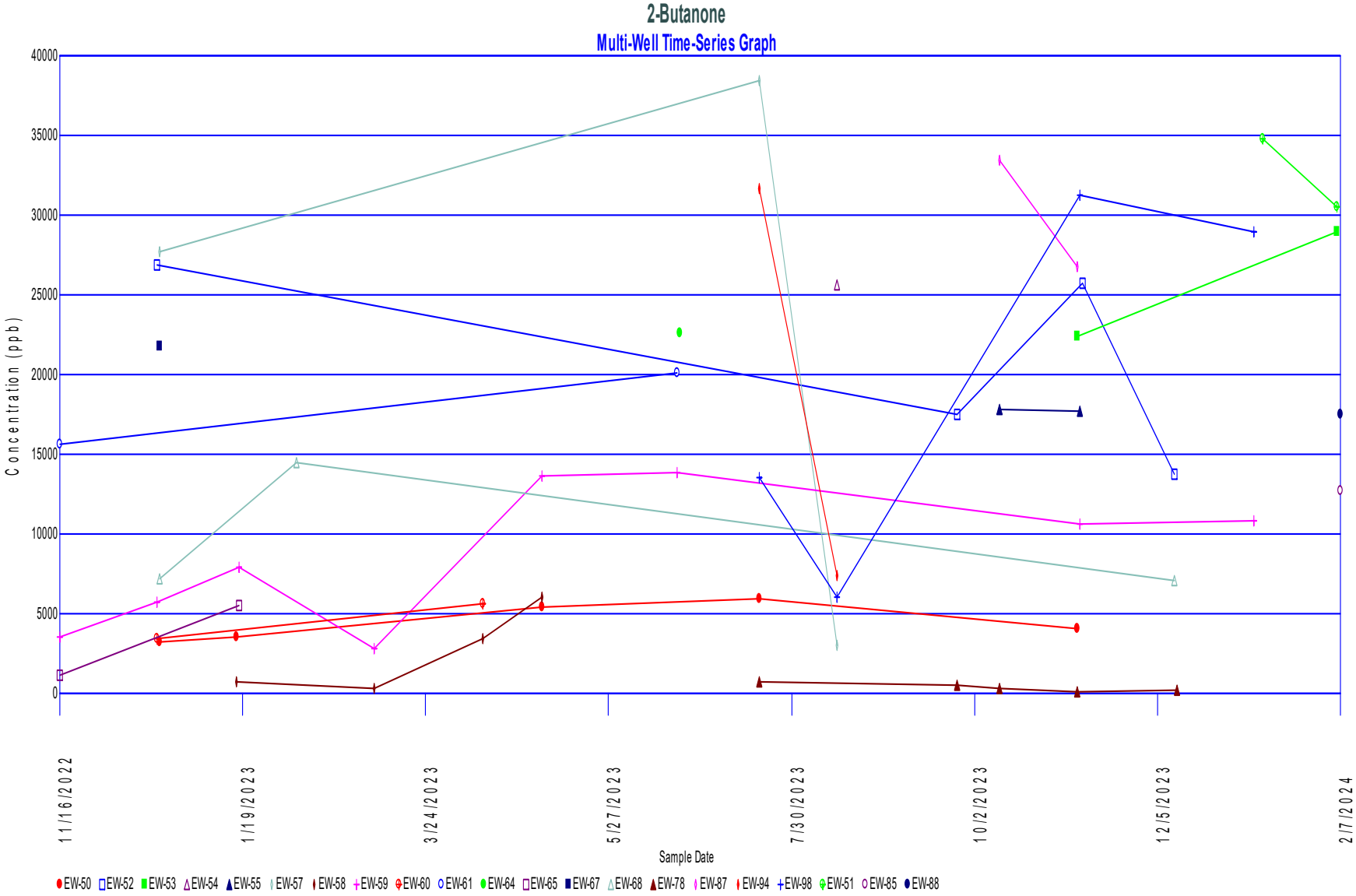
LOD = laboratory's Limit of Detection

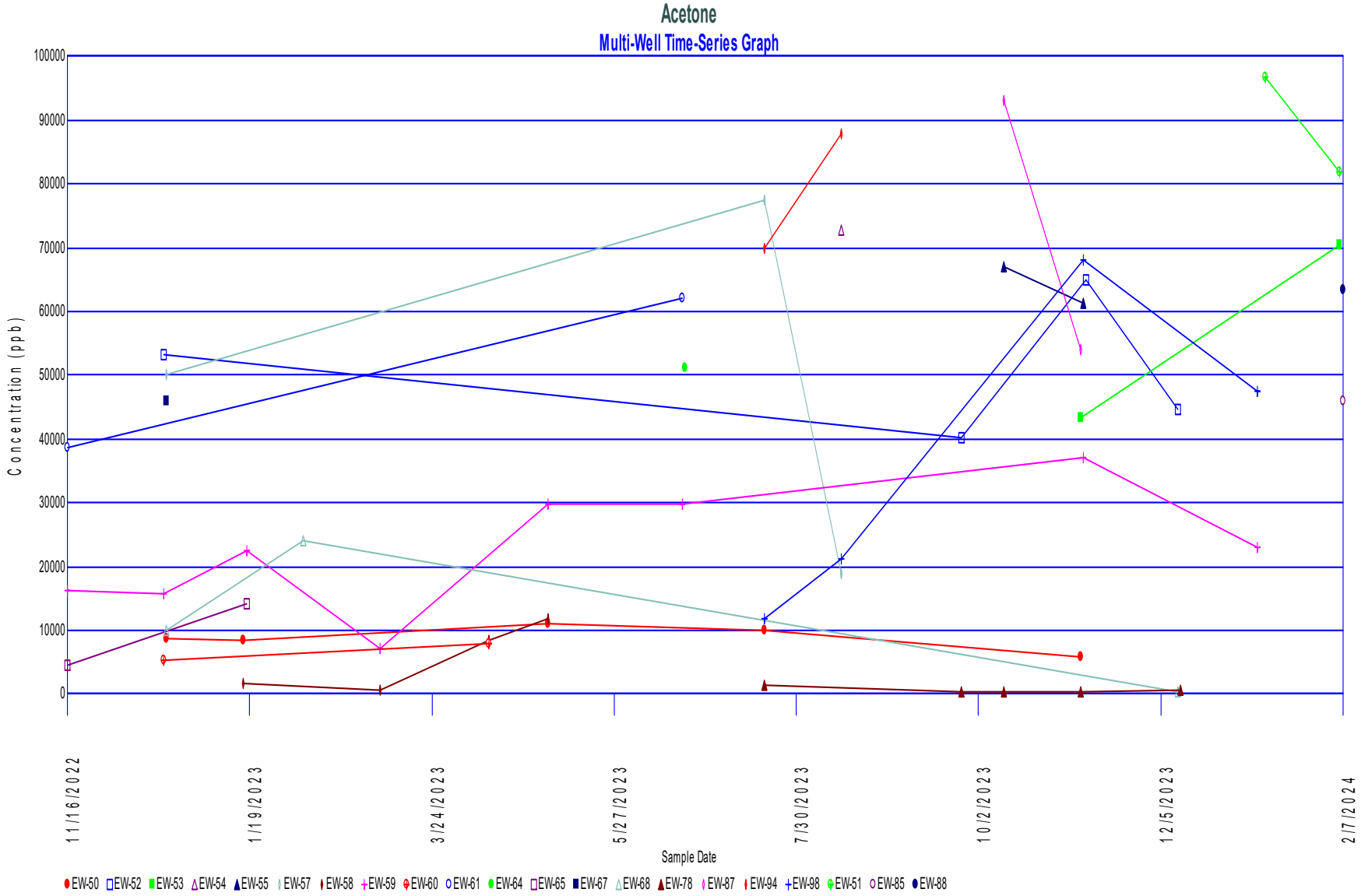
LOQ = laboratory's Limit of Quantitation

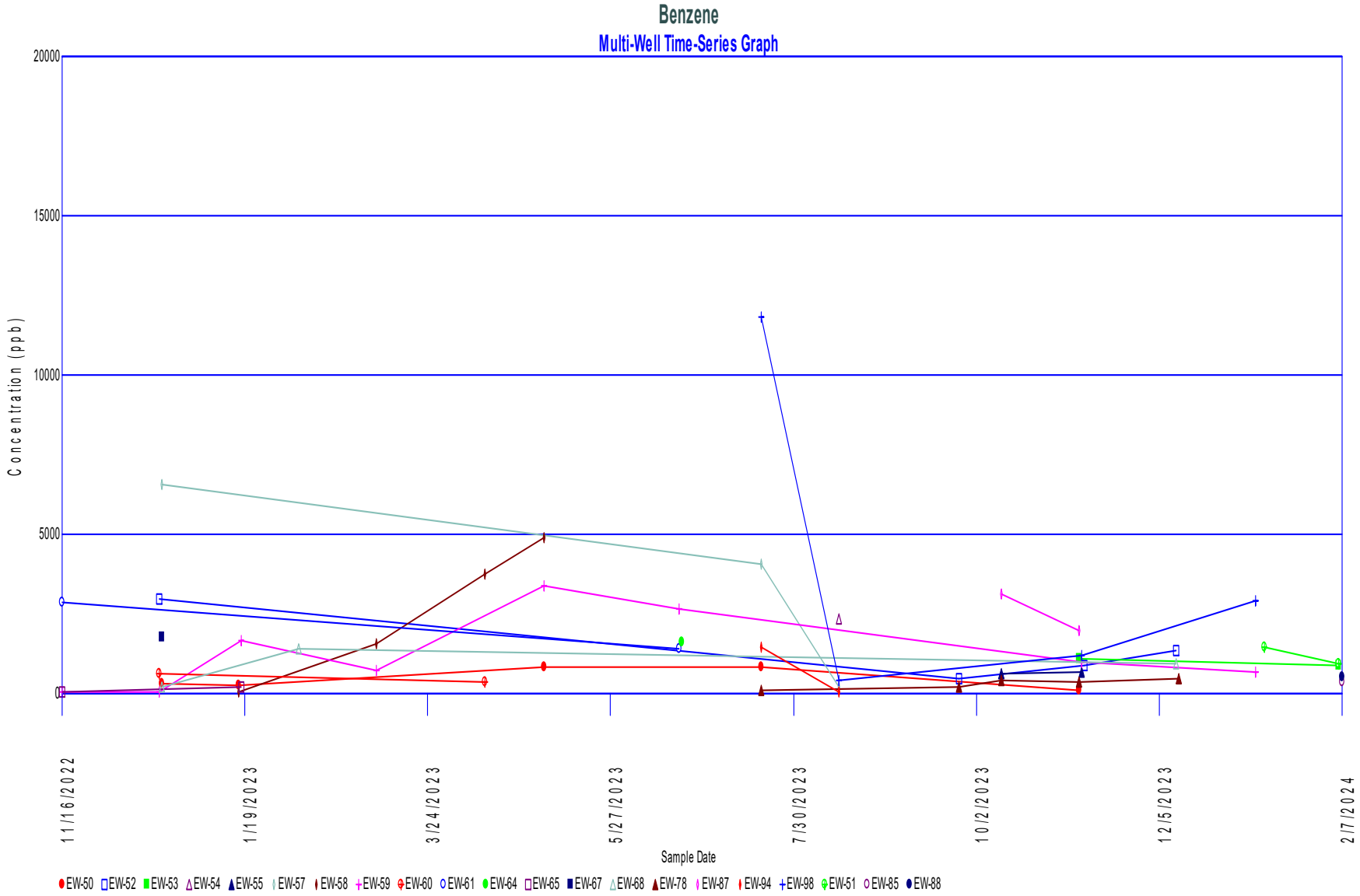
mg/L = milligrams per liter

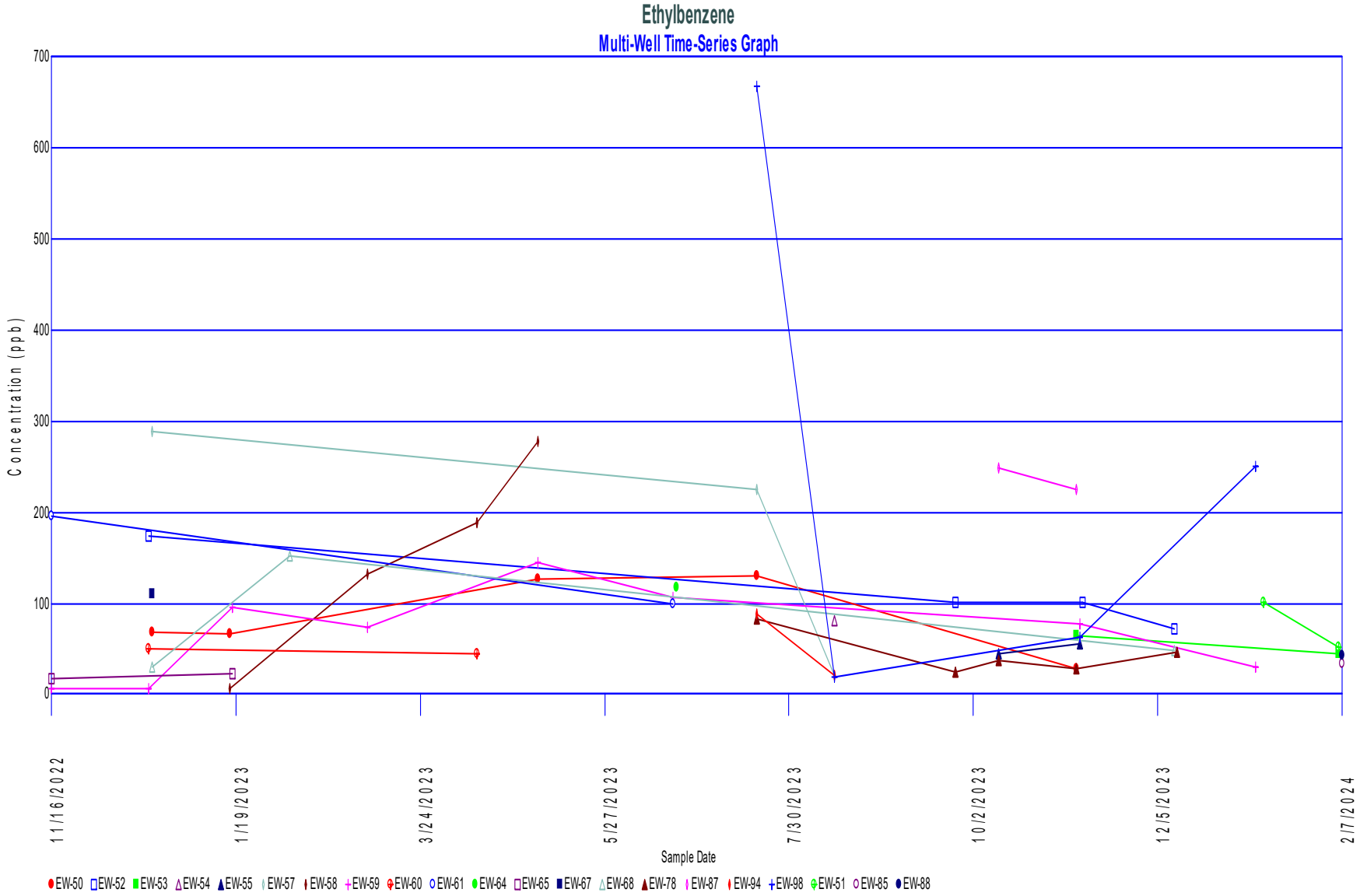
ND = Not Detected

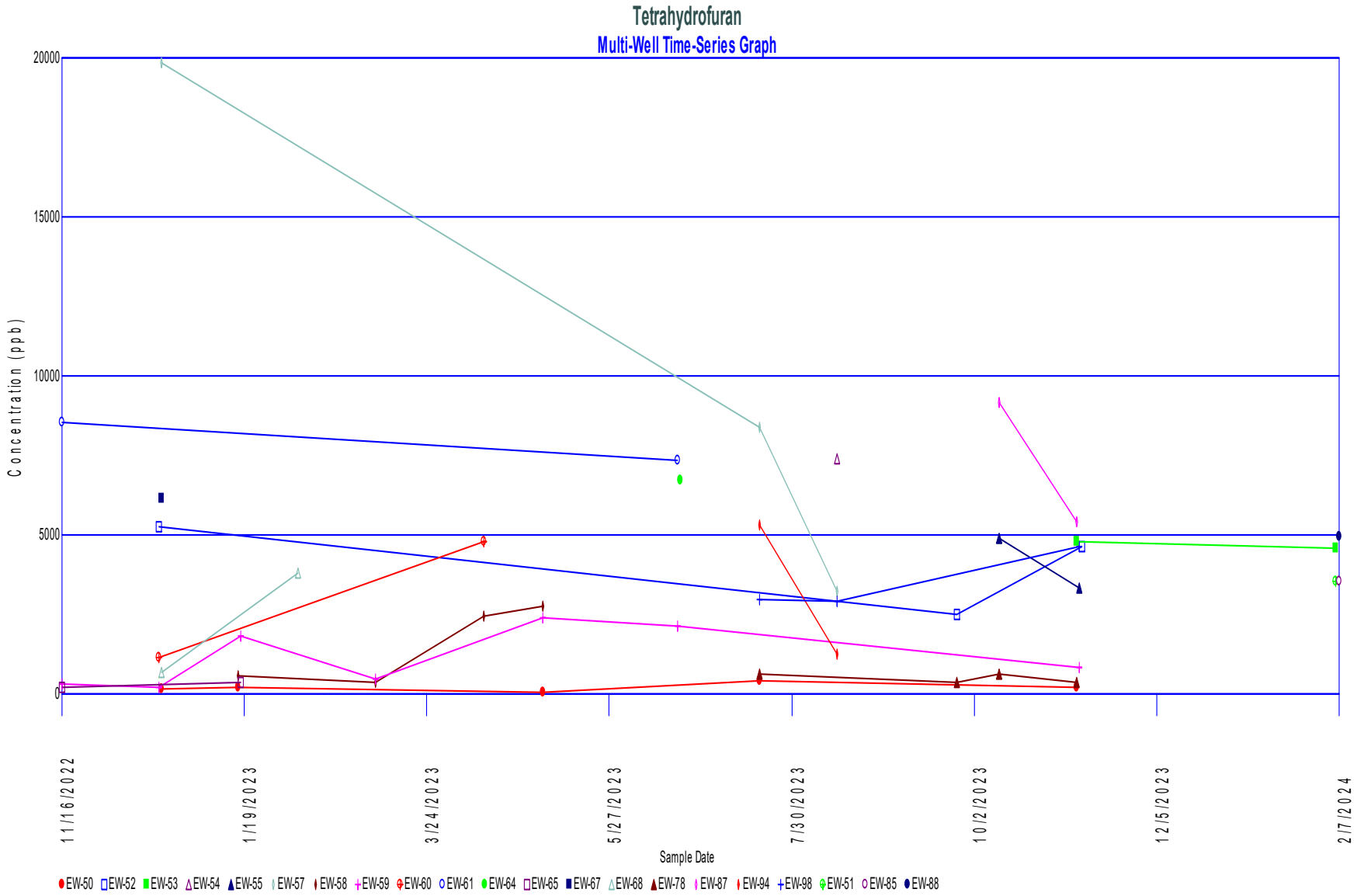
ug/L = micrograms per liter

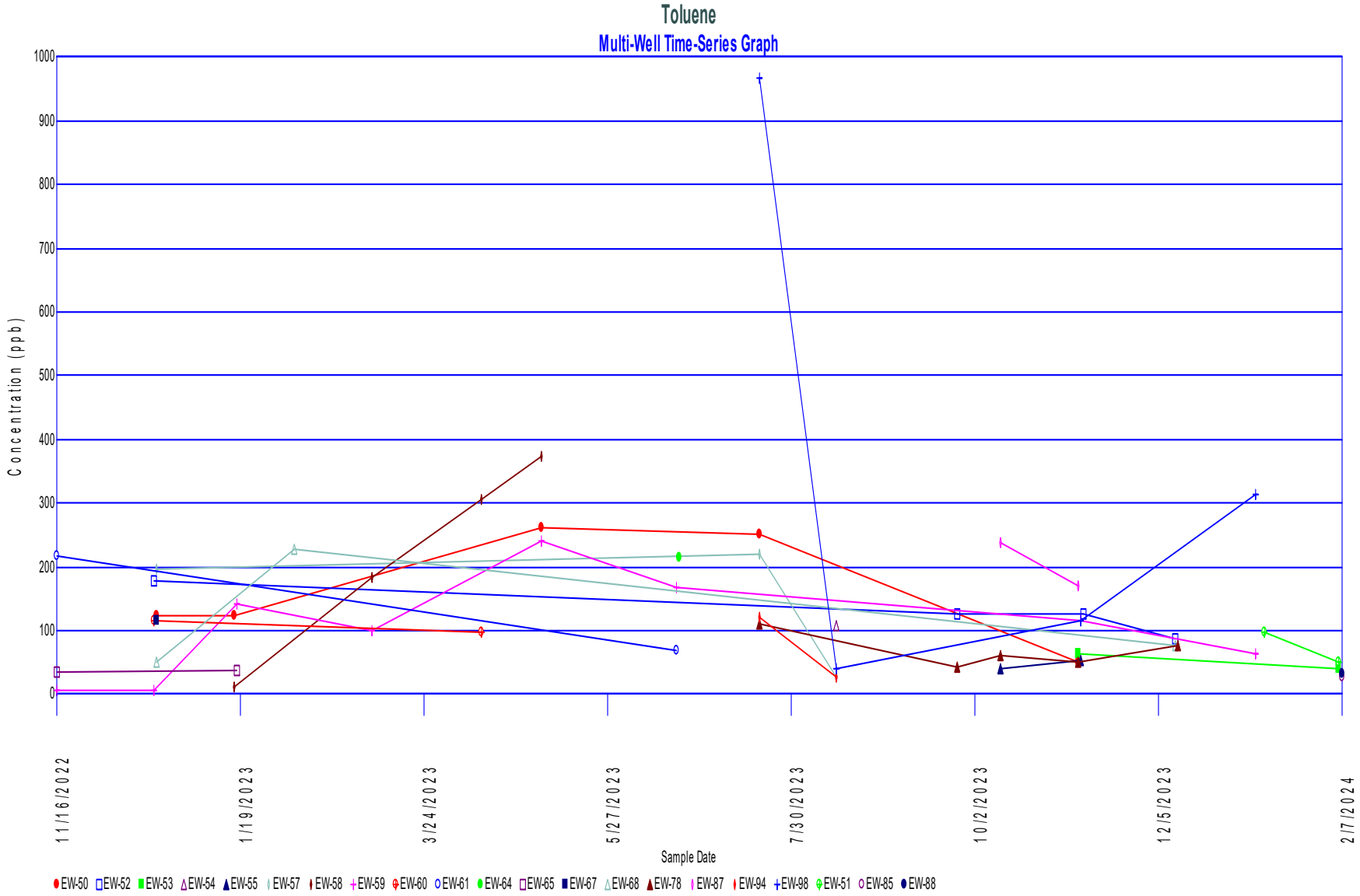

2-Butanone
Multi-Well Time-Series Graph
Concentration (ppb)
40000
35000
30000
25000
20000
15000
10000
5000
0
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88

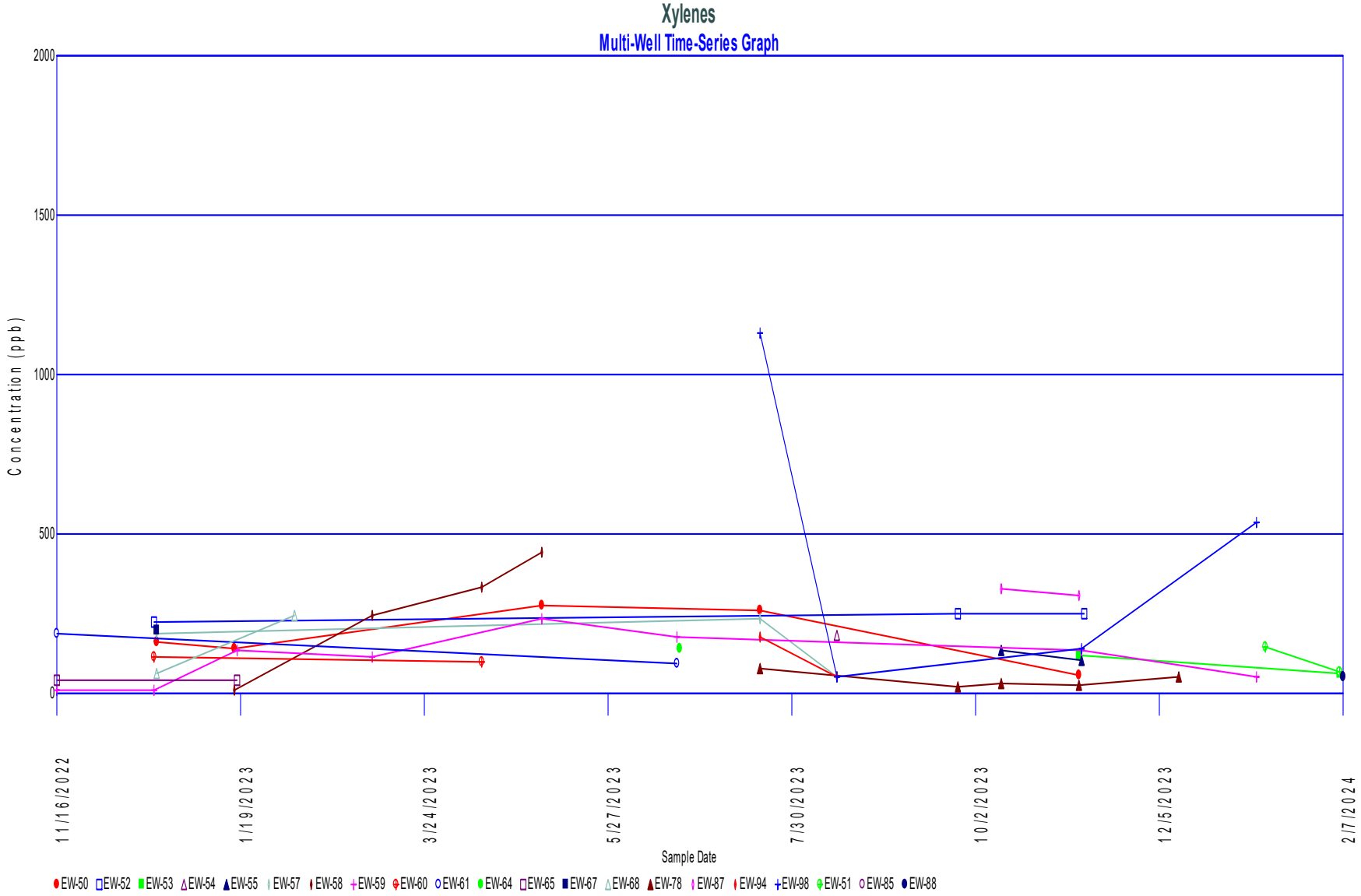

Acetone
Multi-Well Time-Series Graph
Concentration (ppb)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88


Benzene
Multi-Well Time-Series Graph
20000
15000
10000
5000
0
Concentration (ppb)
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88


Ethylbenzene
Multi-Well Time-Series Graph
Concentration (ppb)
700
600
500
400
300
200
100
0
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88


Tetrahydrofuran
Multi-Well Time-Series Graph
20000
15000
10000
5000
0
Concentration (ppb)
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88


Toluene
Multi-Well Time-Series Graph
Concentration (ppb)
1000
900
800
700
600
500
400
300
200
100
0
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88


Xylenes
Multi-Well Time-Series Graph
2000
1500
1000
500
0
Concentration (ppb)
11/16/2022
1/19/2023
3/24/2023
5/27/2023
7/30/2023
10/2/2023
12/5/2023
2/7/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88