March 2024
Monthly Compliance Report

Solid Waste Permit No. 588
Bristol Integrated Solid Waste Management Facility
2655 Valley Drive
Bristol, VA 24201
(276) 645-7233

SCS ENGINEERS

02218208.05-30 | April 10, 2024

15521 Midlothian Turnpike Suite 305
Midlothian, VA 23113
804-378-7440

Table of Contents

Table of Contents

Figures

Table of Contents

Section Page

Tables

Appendices

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 March 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 First Quarter surface emissions monitoring event on March 12, 2024. 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 outside of the active filling area.

No exceedances were detected during this quarterly monitoring event on the serpentine route, but two exceedances were detected at the surface cover pipe penetrations of EW-87 and EW-95. This monitoring event also represented the weekly monitoring event for that week. A quarterly SEM report documenting corrective actions and remonitoring results will be submitted to the VDEQ as part of the Semi-Annual Report. In addition, monitoring results were presented to the VDEQ in a letter dated March 20, 2023.

1.1.1.2 Weekly SEM

In addition to the standard regulatory quarterly surface emissions monitoring, SCS performed additional surface emissions monitoring on March 7, 2024; March 12, 2024; March 18, 2024; and March 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 March 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 March monitoring events on March 13, 2024; March 20, 2024; March 27, 2024; and April 3, 2024.

Table 1. Summary of March Surface Emissions Monitoring

Description	March 7, 2024	March 12, 2024	March 18, 2024	March 29, 2024
Number of Points Sampled	170	170	171	170
Number of Points in Serpentine Route	100	100	100	100
Number of Points at Surface Cover Penetrations	70	70	71	71
Number of Exceedances	3	2	1	1
Number of Serpentine Exceedances	0	0	0	0
Number of Pipe Penetration Exceedances	3	2	1	1

There were no serpentine exceedances detected during the March monitoring events. However, new exceedances were detected at pipe penetrations of four vertical extraction wells (EW-55, EW-76, W-82, and EW-95). 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 March, additional soil cover was placed throughout the SWP No. 588 landfill, including at some of these exceedance locations. In addition, new liquids dewatering pumps were placed at select 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-82 remained. In addition, the Facility is proposing additional corrective actions at the pipe penetration of EW-87, which has demonstrated inconsistent compliant readings over the past several months. Corrective actions taken at these locations 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 April 2024.

1.1.2 Leachate Collection Emissions

SCS Field Services (SCS-FS) visited the Bristol Landfill on March 4, 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	3/4/2024 12:00:31 PM	47.6	52.4	0.0	0.0	82.4	82.8	-6.35	-6.32	-13.44
Southern Cleanouts Gradient East	LC02	3/4/2024 12:02:21 PM	55.2	44.8	0.0	0.0	83.7	83.7	-5.96	-5.91	-11.27
Southern Cleanouts Leachate Center	LC03	3/4/2024 12:05:12 PM	23.7	18.9	10.9	46.6	85.4	85.4	-13.35	-13.35	-13.34
Southern Cleanouts Witness East	LC04	3/4/2024 12:07:25 PM	8.4	7.0	16.4	68.1	86.3	86.5	-13.60	-13.69	-13.54
Southern Cleanouts Leachate West	LC05	3/4/2024 12:09:42 PM	50.9	49.2	0.0	0.0	87.2	87.2	-6.25	-6.25	-13.42
Southern Cleanouts Gradient Center West	LC06	3/4/2024 12:10:45 PM	31.9	22.3	7.7	38.1	87.4	87.5	-12.35	-12.34	-13.63
Southern Cleanouts Leachate East	LC08	3/4/2024 12:12:40 PM	53.3	46.7	0.0	0.0	87.9	87.9	-6.21	-6.25	-13.97
Southern Cleanouts Gradient Center East	LC09	3/4/2024 12:15:21 PM	37.1	29.4	6.2	27.4	87.2	87.2	-12.34	-12.34	-13.46
Southern Cleanouts Leachate West	LC10	3/4/2024 12:16:33 PM	3.2	2.3	19.0	75.5	85.7	85.7	-13.01	-13.01	-14.98
Northern Cleanouts Leachate East	NC01	3/4/2024 10:27:05 AM	0.2	0.2	20.4	79.2	73.7	74.0	-13.35	-13.20	0.19
Northern Cleanouts Leachate Center	NC02	3/4/2024 10:28:05 AM	0.7	0.3	20.3	78.7	76.2	76.4	-13.39	-13.01	0.19
Northern Cleanouts Leachate West	NC03	3/4/2024 10:30:23 AM	0.3	0.2	20.4	79.2	80.5	80.5	-13.35	-13.20	0.19
Northern Cleanouts Witness East	NC04	3/4/2024 10:31:42 AM	32.4	31.3	6.6	29.7	82.1	82.2	-13.20	-13.01	0.19
Northern Cleanouts Witness Center	NC05	3/4/2024 10:33:25 AM	52.5	46.6	0.1	0.8	81.5	81.3	-12.91	-13.01	0.19
Northern Cleanouts Witness West	NC06	3/4/2024 10:34:40 AM	2.8	2.3	19.6	75.3	81.2	81.1	-13.05	-13.01	0.19
Northern Cleanouts Gradient East	NC07	3/4/2024 10:36:16 AM	50.5	49.4	0.2	0.0	81.4	81.6	-6.20	-6.19	0.19
Northern Cleanouts Gradient Center East	NC08	3/4/2024 10:37:30 AM	41.3	35.9	5.3	17.5	81.7	81.8	-6.14	-6.08	0.19
Northern Cleanouts Gradient Center West	NC09	3/4/2024 10:38:45 AM	55.3	44.3	0.4	0.1	82.2	82.3	-5.96	-5.91	0.19
Northern Cleanouts Gradient West	NC10	3/4/2024 10:40:58 AM	6.8	4.9	18.1	70.1	85.0	85.1	-6.59	-6.42	0.19

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 of gaskets on stainless steel wellheads
- Maintenance of defoaming system for landfill gas liquids
- Troubleshooting temperature sensors

- Maintenance of blower-flare systems
- Replacement of sample ports
- Maintenance of stormwater removal infrastructure

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.

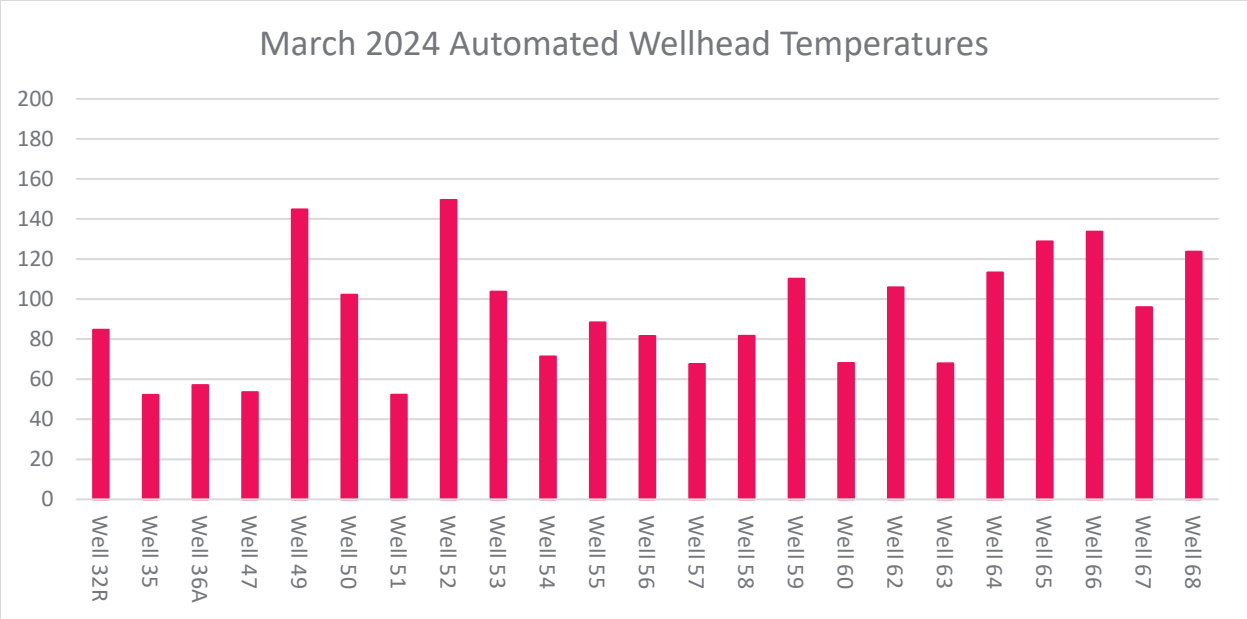
The City is providing average temperatures recorded by the sensors to VDEQ on a daily basis via email. Average daily temperatures recorded by the remote monitoring system during the month of January are included in Appendix C. In addition, SCS previously prepared semi-monthly status updates to satisfy 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 March 2024.

1.3.1 Automated Wellhead Temperature Measurements

SCS reviewed the automated hourly temperature measurements from March 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 March, 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-49 and EW-52 in March. The highest average temperature, 149.5°F, was measured at EW-52 (see Figure 1). The lower average LFG temperatures recorded by automated wellhead sensors continued in March, compared to averages between 150 to 160°F in the Fall of 2023.
- **Low average temperatures at certain wells:** Average temperatures between 52 and 57°F recorded at EW-35, EW-47, and EW-51 correlate to very low LFG flowrates through the wellheads; all less than 10 scfm in March. LFG flow was unable to be measured at EW-36A in March.

Figure 1. Average Automated Wellhead Temperatures



1.3.2 Comparison with Manual Temperature Measurements

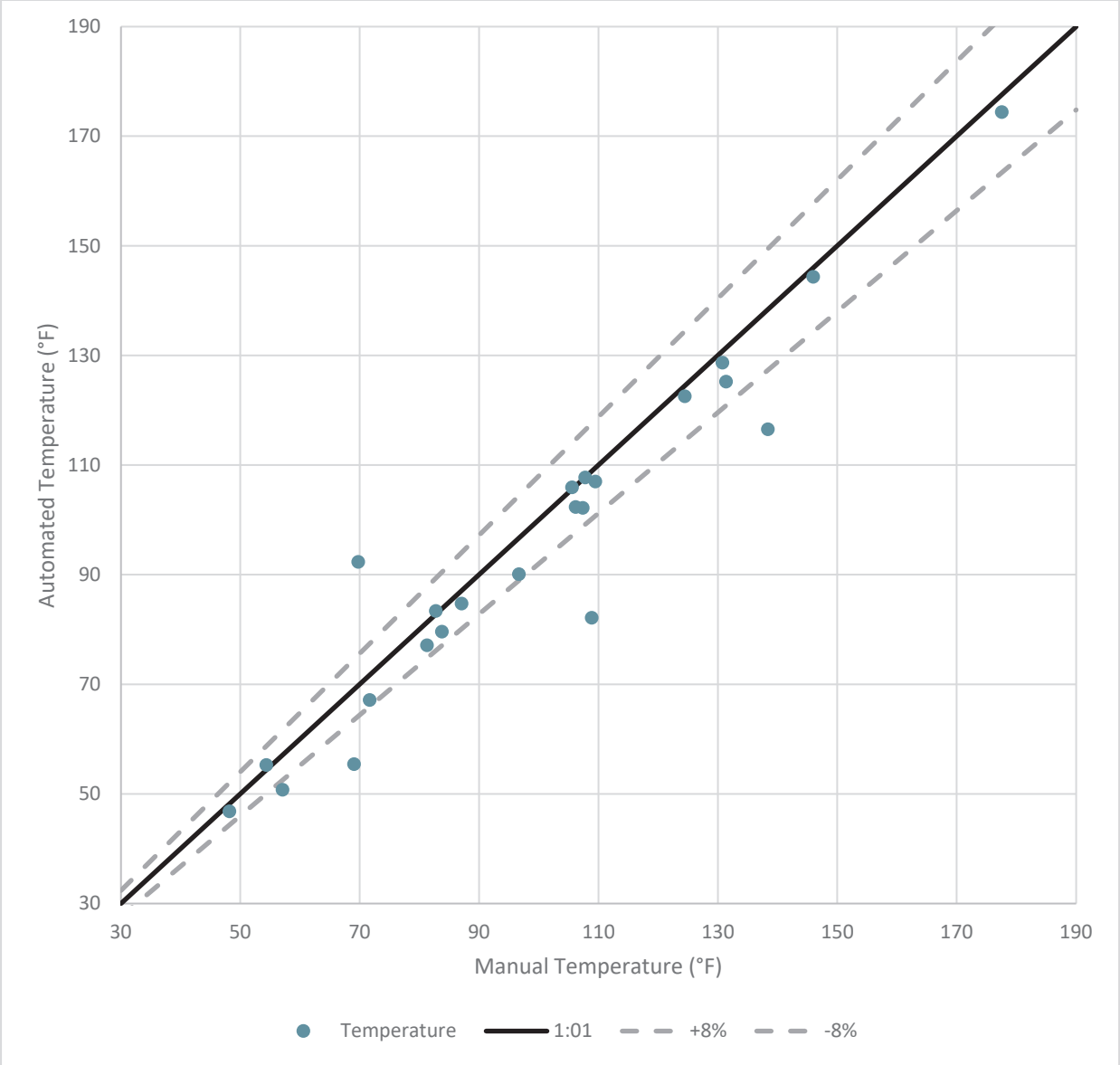
Per the approval issued by VDEQ on August 2, 2023, the Facility ceased dedicated daily manual temperature measurements in the Permit No. 588 Landfill. In lieu of these measurements, the City has agreed to compare instantaneous hourly automated temperature measurements with temperatures measured at each 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-47, 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. Field staff replaced parts on the temperature sensor at EW-36A during this reporting period.

At EW-54 the disparity between manual and automated temperature measurements may be attributed to low LFG flow rates, which were low in March (less than 4 cfm) during the month's wellfield monitoring events. SCS has historically noted challenges recording precise LFG temperatures at low flow rates when utilizing automated sensors.

The disparity between automated and manual temperature measurements at EW-58 and EW-64 continued to be more significant without evidence of low LFG flow rates. 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 March 4, 2024, 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-52, EW-54, EW-85, EW-88, and EW-97. Table 3 provides the status of all exceedances recorded during this monitoring period. A HOV request was submitted for EW-54, EW-77, EW-80, EW-83, EW-88, and EW-97 on March 5, 2024, which was subsequently approved on April 1, 2024.

Table 3. March Temperature Exceedance Summary

Well ID	Initial Exceedance Date	Last date/temperature measured	Duration of Exceedance	Status as of 3/31/24
EW-49	3/11/24	3/28/24 145.4°F	20 days	Ongoing, within 120-day timeline
EW-52	3/11/24	3/14/24 155.1°F	4 days	Resolved within 15 days
EW-54	2/26/24	3/7/24 107.0°F	11 days	Resolved within 15 days
EW-77	3/11/24	3/28/24 148.1°F	20 days	Ongoing, within 120-day timeline
EW-80	12/4/23	3/28/24 147.6°F	118 days	Ongoing, within 120-day timeline
EW-83	12/4/23	3/38/24 175.3°F	118 days	Ongoing, within 120-day timeline
EW-85	2/26/24	3/14/24 163.8°F	20 days	Resolved within 75 days
EW-85	3/25/24	3/28/24 154.6°F	4 days	Resolved within 15 days
EW-88	3/7/24	3/28/24 157.6°F	21 days	Resolved within 75 days
EW-97	2/26/24	3/11/24 144.8°F	15 days	Resolved within 15 days

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 3/31/24, the City is in possession of lab results for sampling on 2/21/24, 2/29/24, 3/7/24, 3/14/24, and 3/21/24 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		2/21/24	2/29/24	3/7/24	3/14/24	3/21/24
49	CO (ppmv)				ND	ND
	H2 (Vol. %)				1.48	1.43
54	CO (ppmv)		773			
	H2 (Vol. %)		29.4			
77	CO (ppmv)	192			802	1050
	H2 (Vol. %)	0.29			0.53	0.39
80	CO (ppmv)	ND	ND	ND	ND	ND
	H2 (Vol. %)	0.98	0.36	0.37	0.32	0.38
81	CO (ppmv)	372				
	H2 (Vol. %)	11.3				
83	CO (ppmv)	352	607	600	516	486

Sample Date		2/21/24	2/29/24	3/7/24	3/14/24	3/21/24
	H2 (Vol. %)	9.9	17	17.5	16.6	15
85	CO (ppmv)	735				
	H2 (Vol. %)	13.8				
88	CO (ppmv)	314	369	270		
	H2 (Vol. %)	8.54	9.97	7.45		
97	CO (ppmv)		297	321		
	H2 (Vol. %)		7.21	7.3		

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 3. CO and H_2 Concentration at EW-80

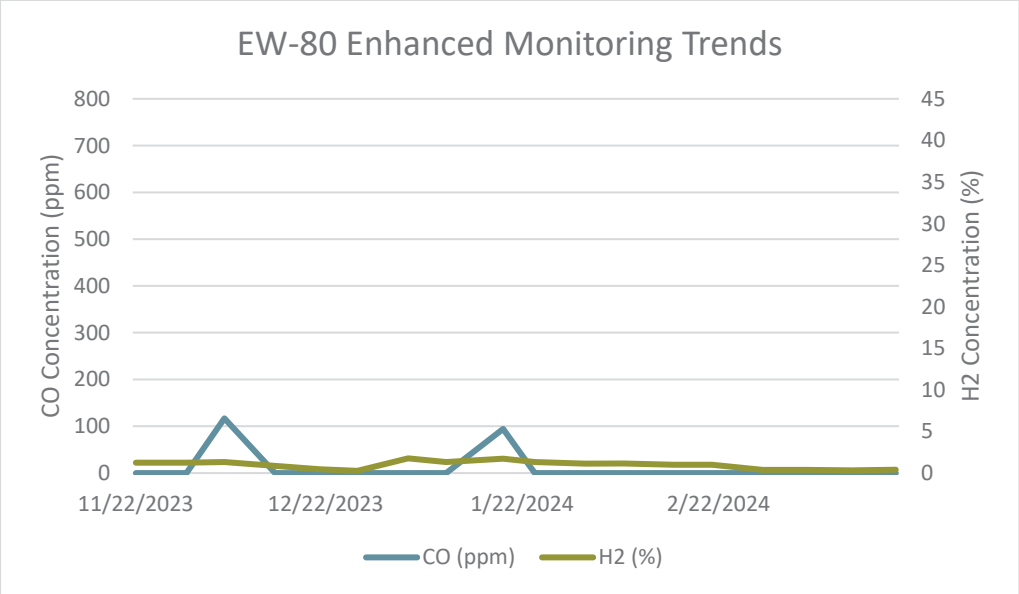
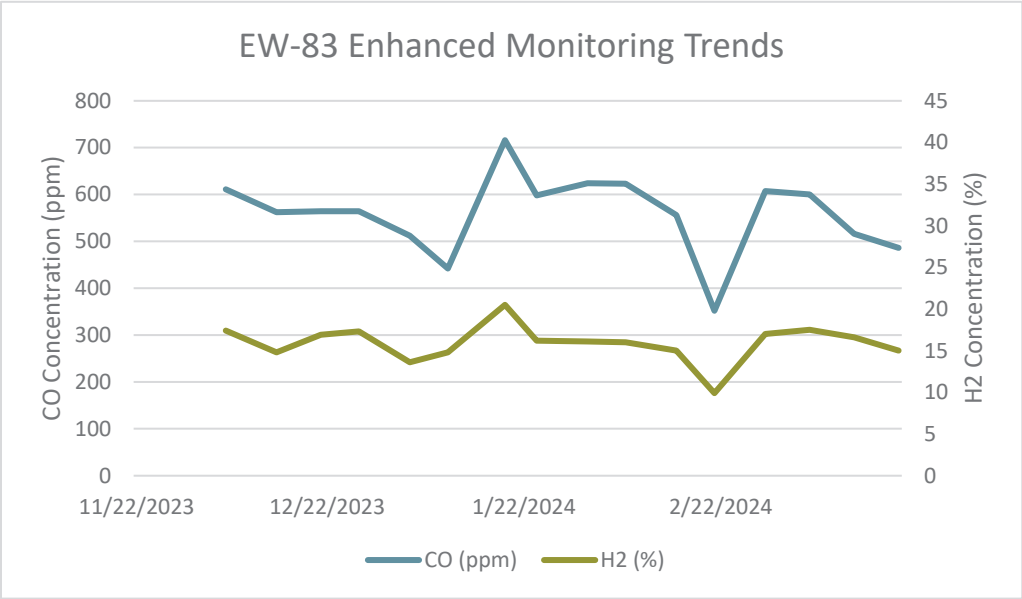


Figure 4. CO and H_2 Concentration at EW-83



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

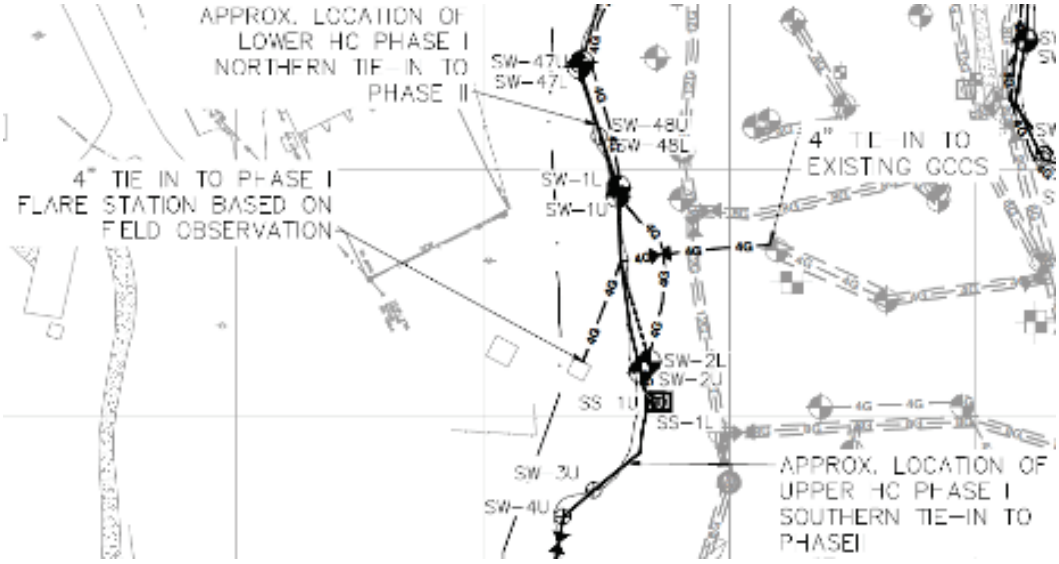
On behalf of the City and in an effort to capture emissions from the quarry sidewall, SCS designed a sidewall odor mitigation system (SOMS) during the month of October 2022. The design of this system was prepared and submitted to VDEQ on November 1, 2022.

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 5. 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

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

collectors indicates that the system is working as intended. Based on this dataset, 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 6. Phase 2 SOMS Wellhead Connections

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

Table 5. System Averages of Sidewall Wellhead Gas Quality

Record Date	Average CH4 [%]	Average CO2 [%]	Average O2 [%]	Average Bal Gas [%]
2/20/2024	3.6	6.2	17.7	72.5
3/(5-7)/2024	3.8	5.7	17.4	73.1
3/18/2024	3.2	4.9	18.8	73.1

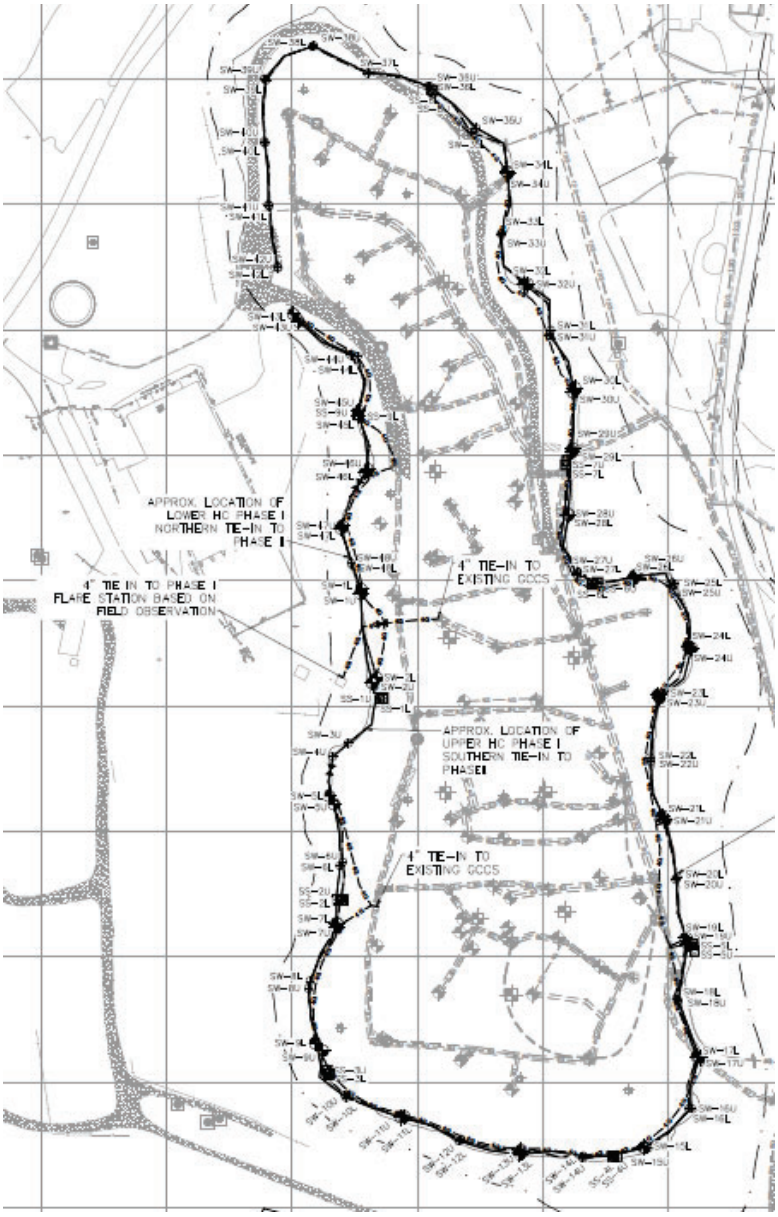
Isolation valves have been installed on the SOMS to allow for manipulation of flow routed to the supplemental flare, currently being leased. The flare was constructed by Perennial Energy Incorporated (PEI). In cases where in is practical given the layout of the overall system, the gas is being re-routed 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.

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 7. 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.

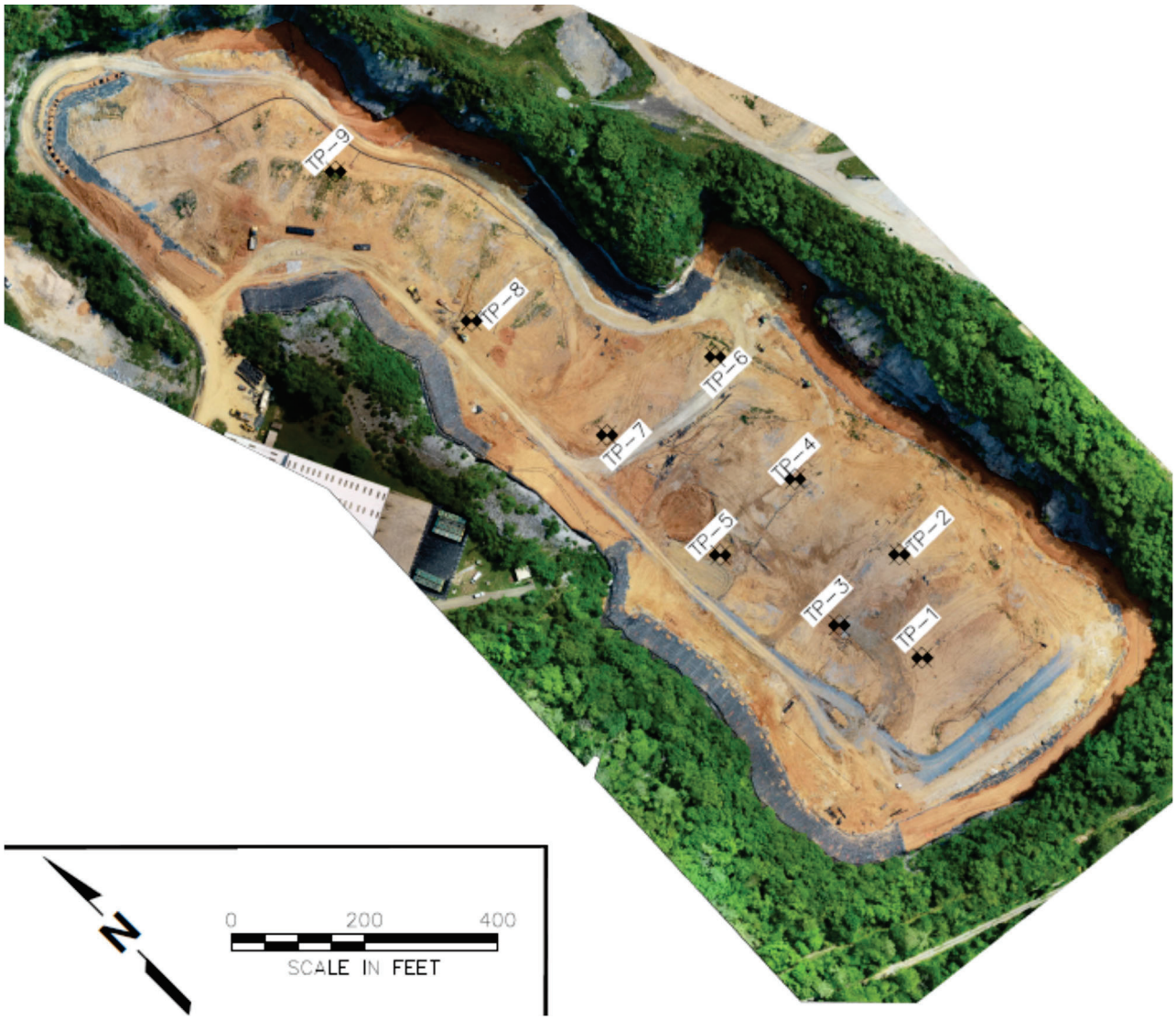
3.1 TEMPERATURE MONITORING SYSTEM DESIGN

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 8.

Figure 8. 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 March are shown in Appendix B. The average temperatures recorded for select months between March 2023 through March 2024 are shown in Figures 9 through 17 on the following pages.

Figure 9 shows daily average temperatures record by Temperature Probe 1 (TP-1) during the months of March 2023, June 2023, September 2023, December 2023, and March 2024. Based on the data, temperatures fluctuated from March 2023 to September 2023. Temperatures have stayed generally consistent based on measurements collected between September 2023 and March 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 9. TP-1 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

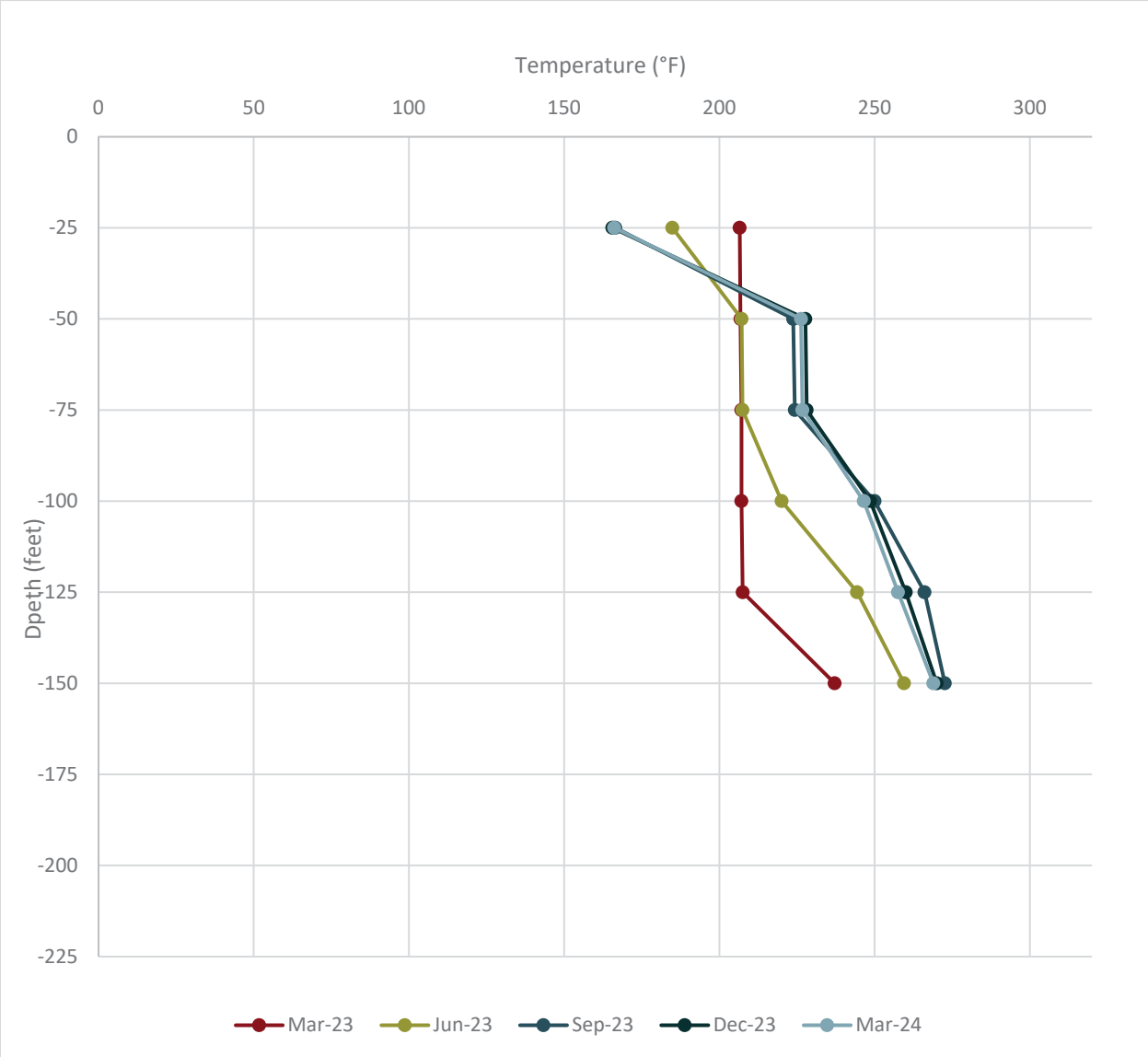


Figure 10 shows daily average temperatures in Temperature Probe 2 (TP-2) during the months of March 2023, June 2023, September 2023, December 2023, and March 2024. Based on the data, temperatures have been consistent during the last year, with a modest increase at 25 ft. and a modest decrase at deeper depths between December 2023 and March 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 10. TP-2 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

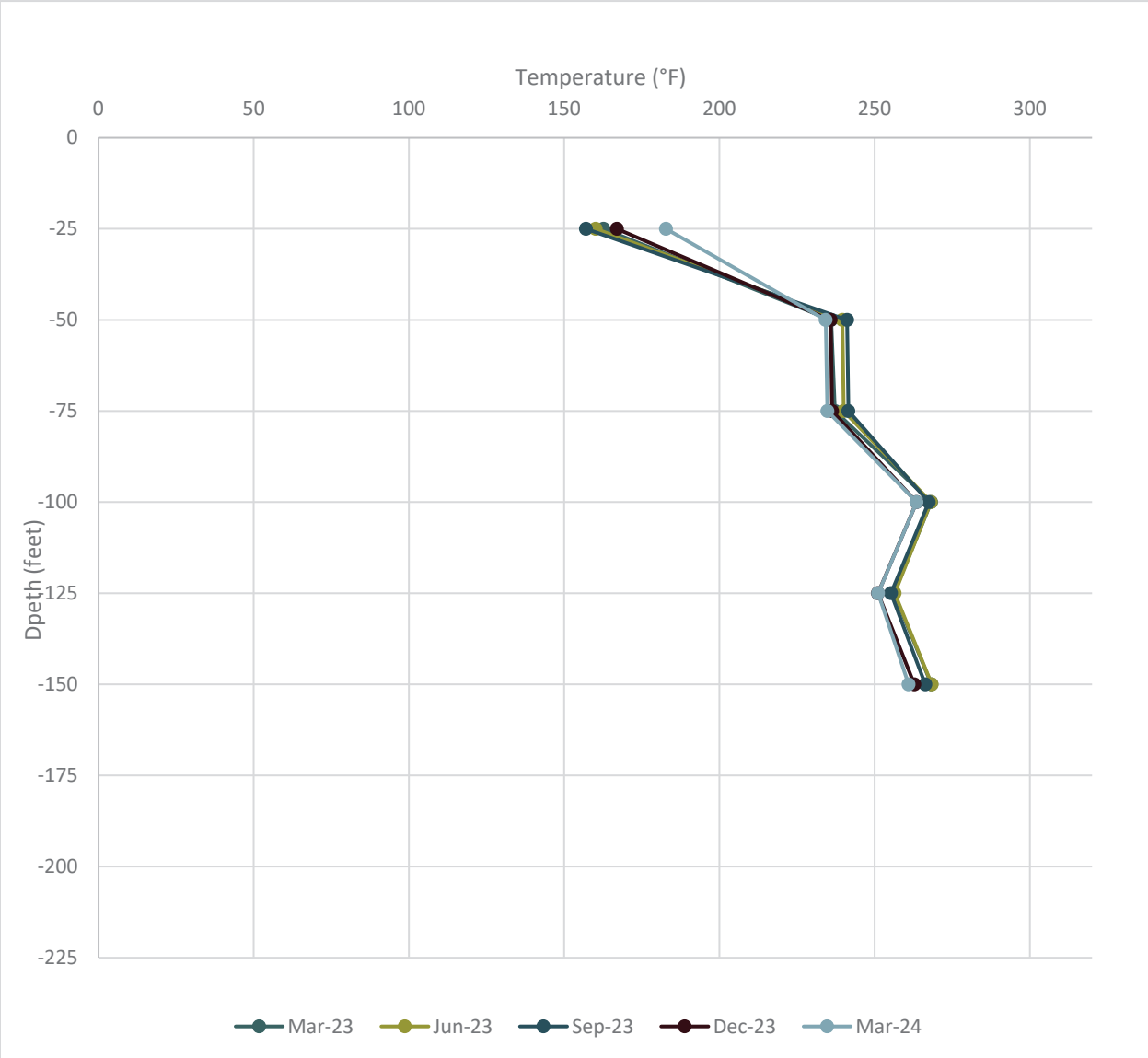


Figure 11 shows daily average temperatures in Temperature Probe 3 (TP-3) during the months of March 2023, June 2023, September 2023, December 2023, and March 2024. Based on the data, temperatures have been generally consistent below the 125-foot depth during the last year.

Temperatures above the 125-foot depth were consistent between March 2023 to September 2023. Temperatures then fluctuated between September 2023 to December 2023 to where they have been consistent between the months of December of 2023 and March 2024, with a modest decrease deeper in the waste.

Figure 11. TP-3 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

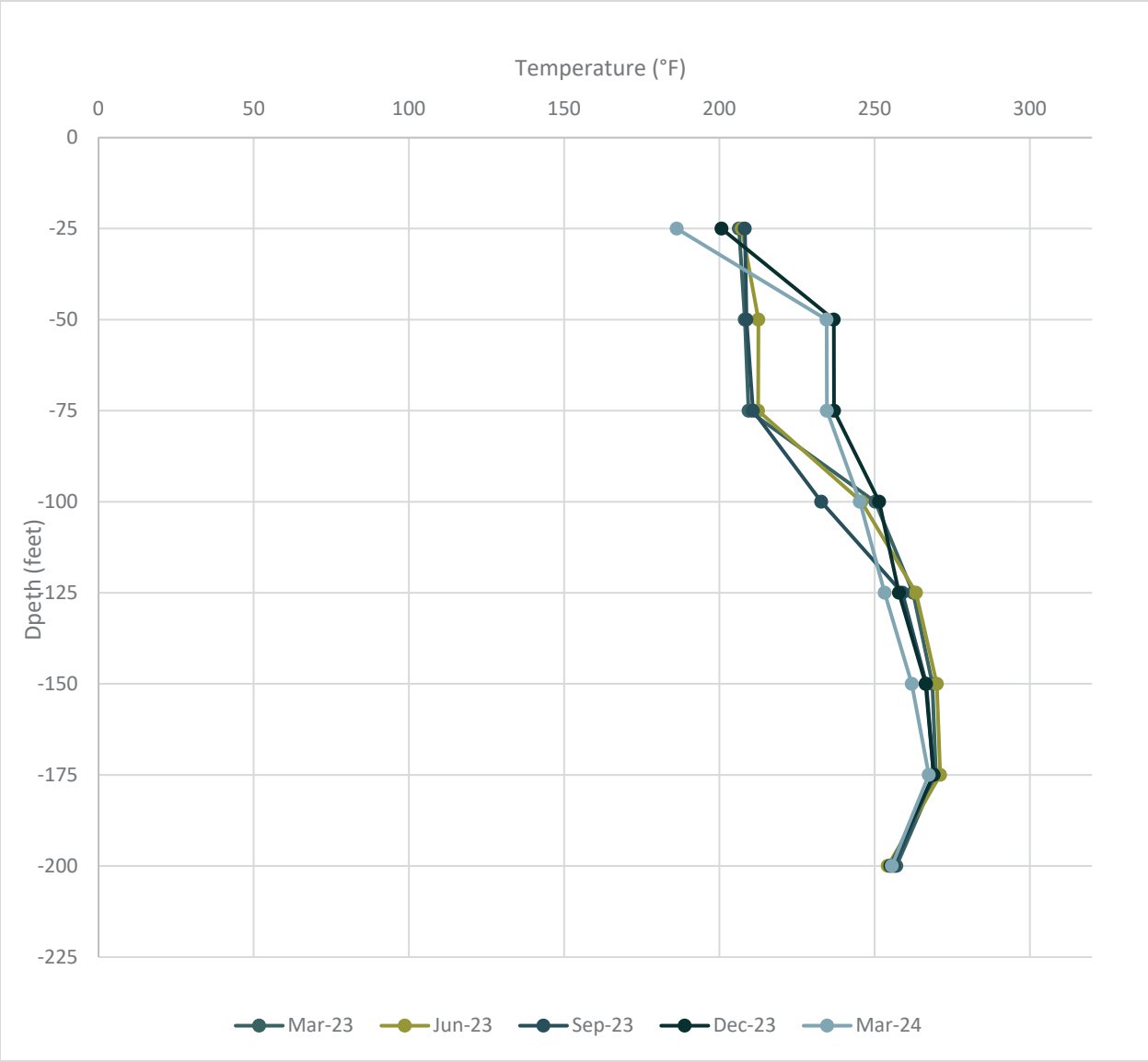


Figure 12 shows daily average temperatures in Temperature Probe 4 (TP-4) during the months of March 2023, June 2023, September 2023, December 2023, and March 2024. The temperatures during this time have been somewhat inconsistent, rising at some depths and lowering at others.

Figure 12. TP-4 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

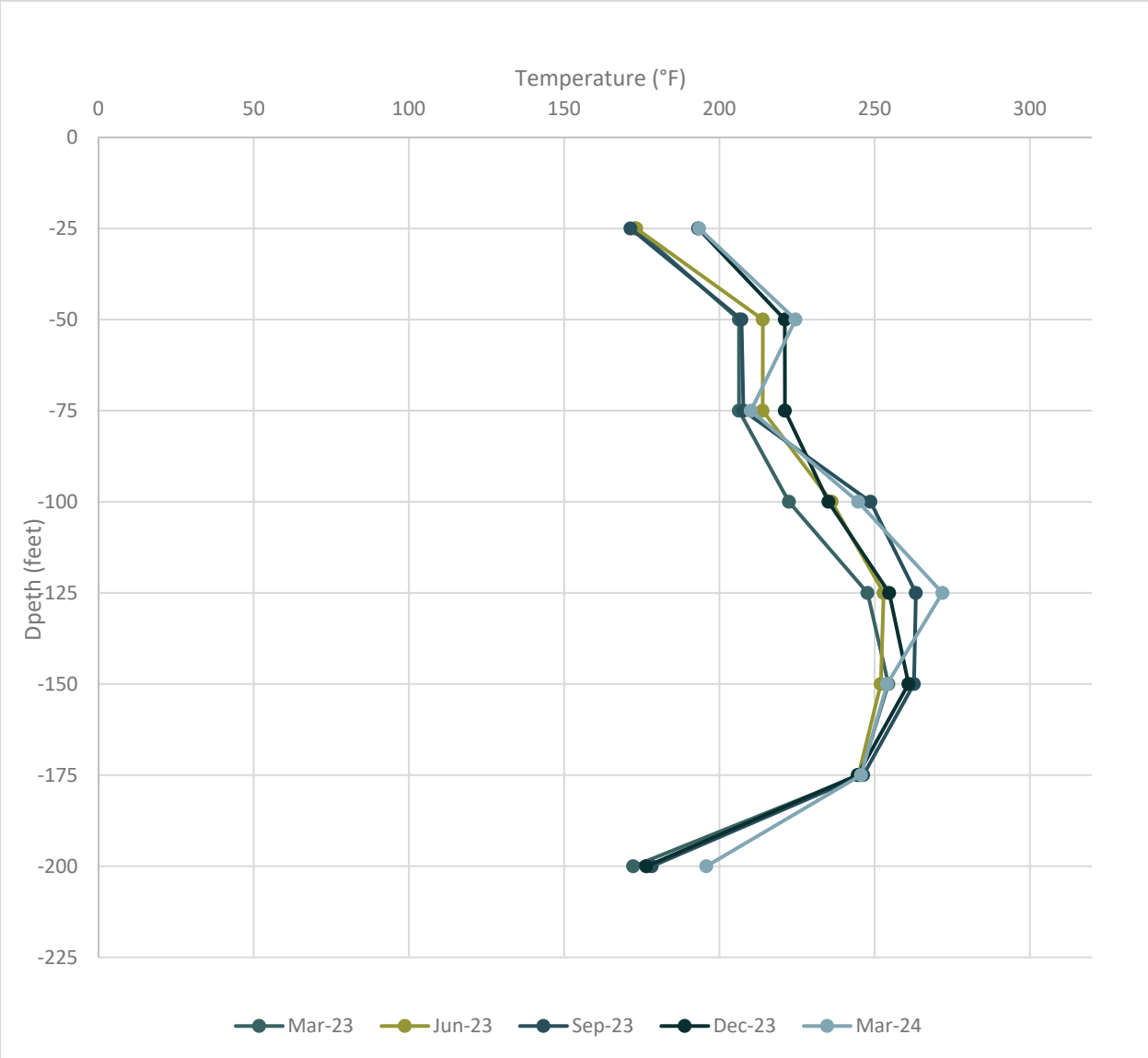


Figure 13 shows daily average temperatures in Temperature Probe 5 (TP-5) during the months of March 2023, June 2023, September 2023, and December 2023. Temperature Probe 5 did not record data during the month of March 2024 due to a dead battery. Based on the data, temperatures have been consistent with fluctuations at the 25-foot depth.

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. The battery for the temperature probe was dead and replaced in early April.

Figure 13. TP-5 Average Temperatures for the Months of March 2023, June 2023, September 2023, and December 2023

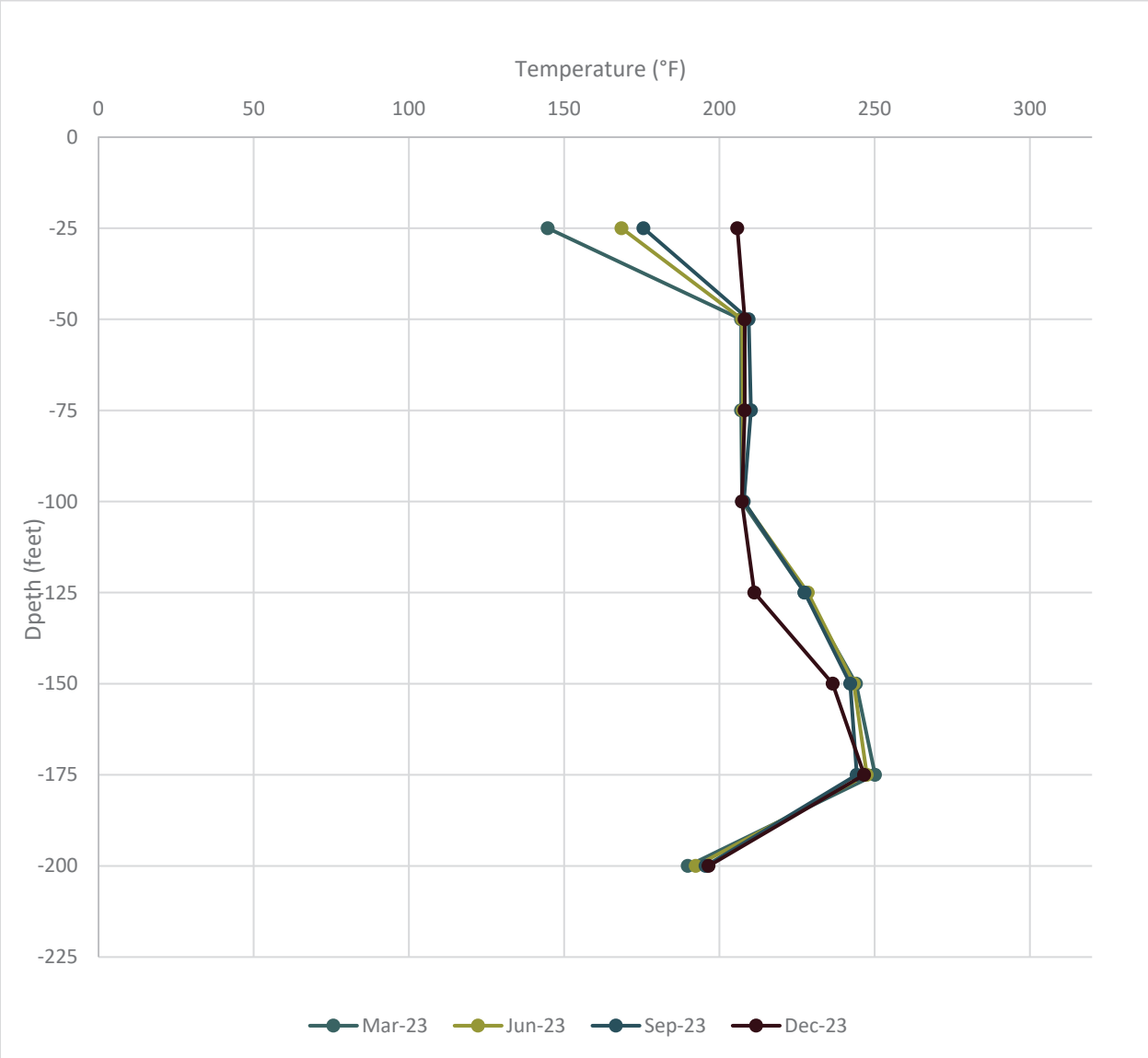


Figure 14 shows daily average temperatures in Temperature Probe 6 (TP-6) during the months of March 2023, June 2023, September 2023, December 2023, and Mach 2024. Based on the data, temperatures have been generally consistent with temperature fluctuations occurring at the 25-foot depth. There was an increase at the 25-foot and 125-foot level in March 2024, and a decrease in temperature at intermediate depths.

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 14. TP-6 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

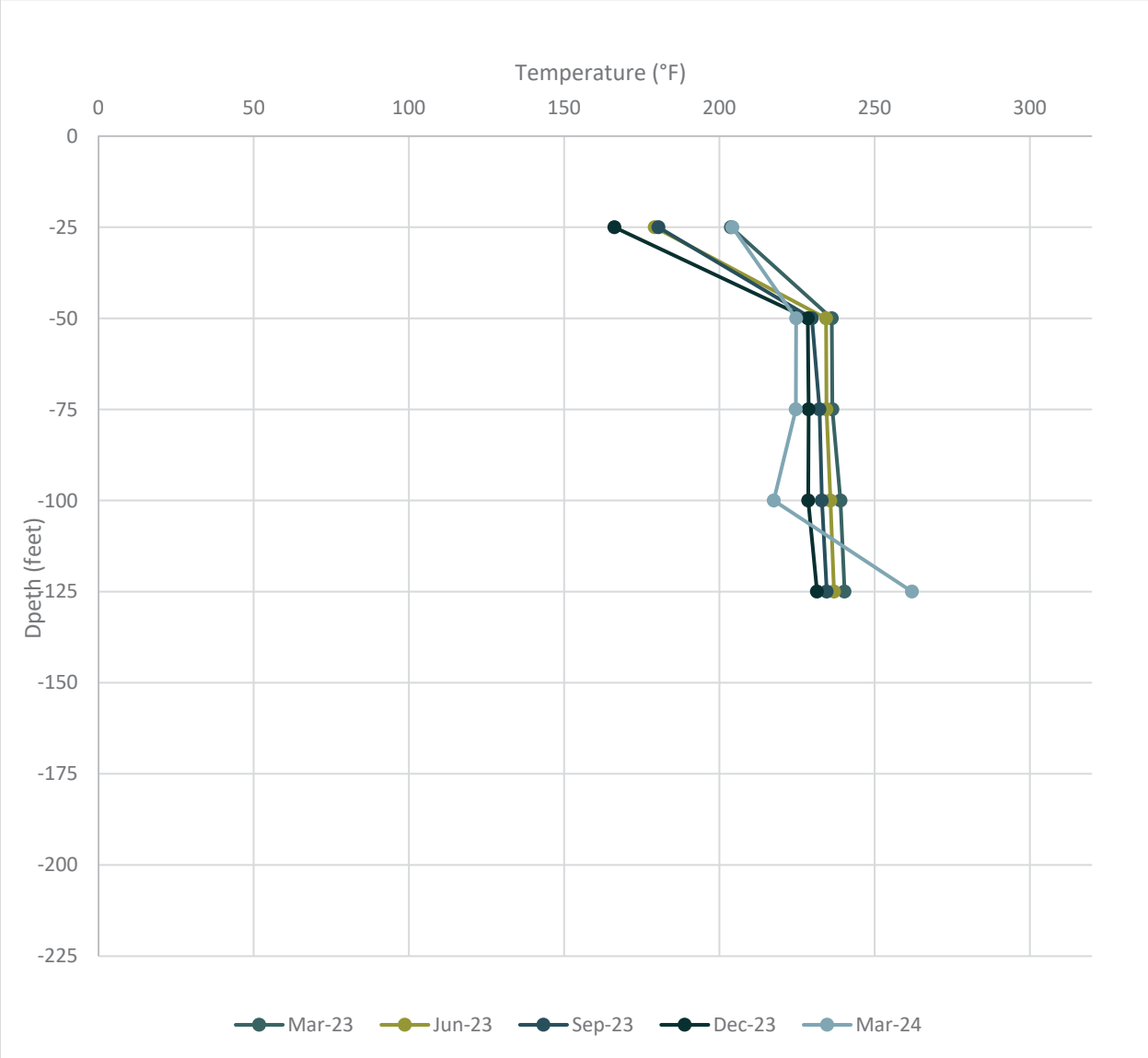


Figure 15 shows daily average temperatures in Temperature Probe 7 (TP-7) during the months of March 2023, June 2023, September 2023, December 2023, and Mach 2024. Based on the data, temperatures have fluctuated greatly over the last year, with temperatures at depth dropping. Observations of adjacent 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 15. TP-7 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

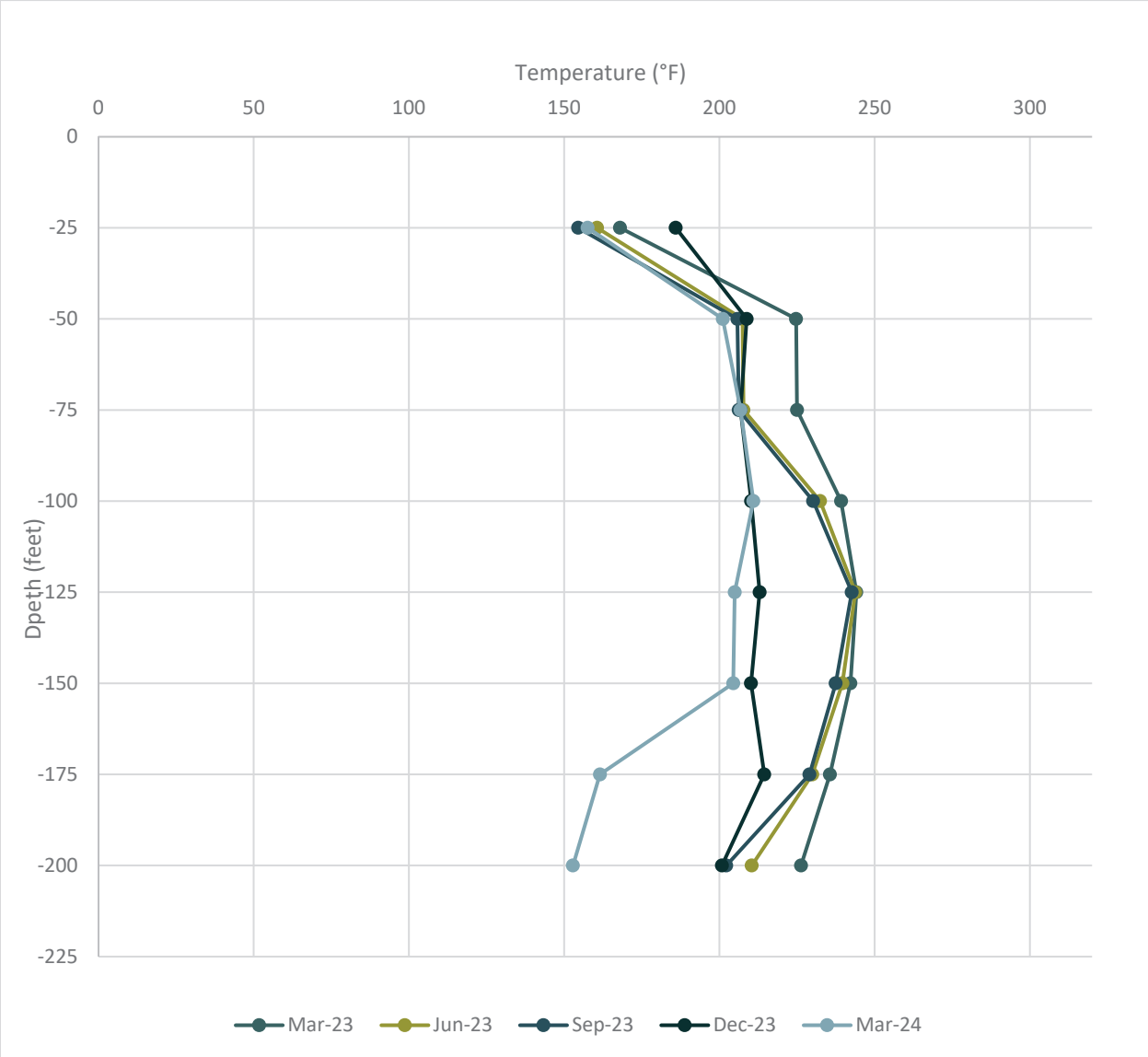


Figure 16 shows daily average temperatures in Temperature Probe 8 (TP-8) during the months of March 2023, June 2023, September 2023, December 2023, and Mach 2024. Based on the data, temperatures increased throughout 2023. The rate of increase appears to have slowed between September 2023 and March 2024. At some depths average temperatures decreased in March 2024.

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

Figure 16. TP-8 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 2024

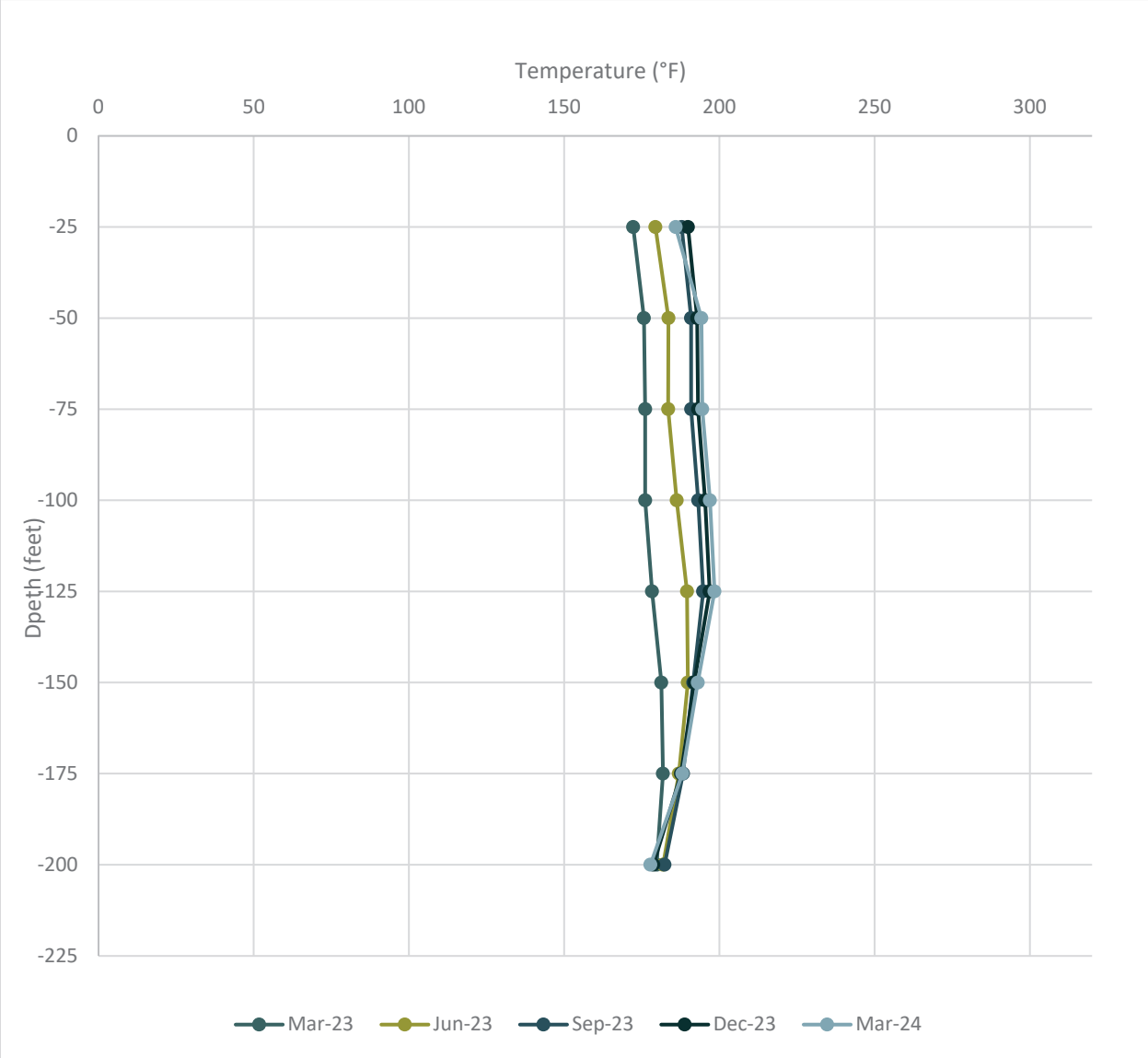
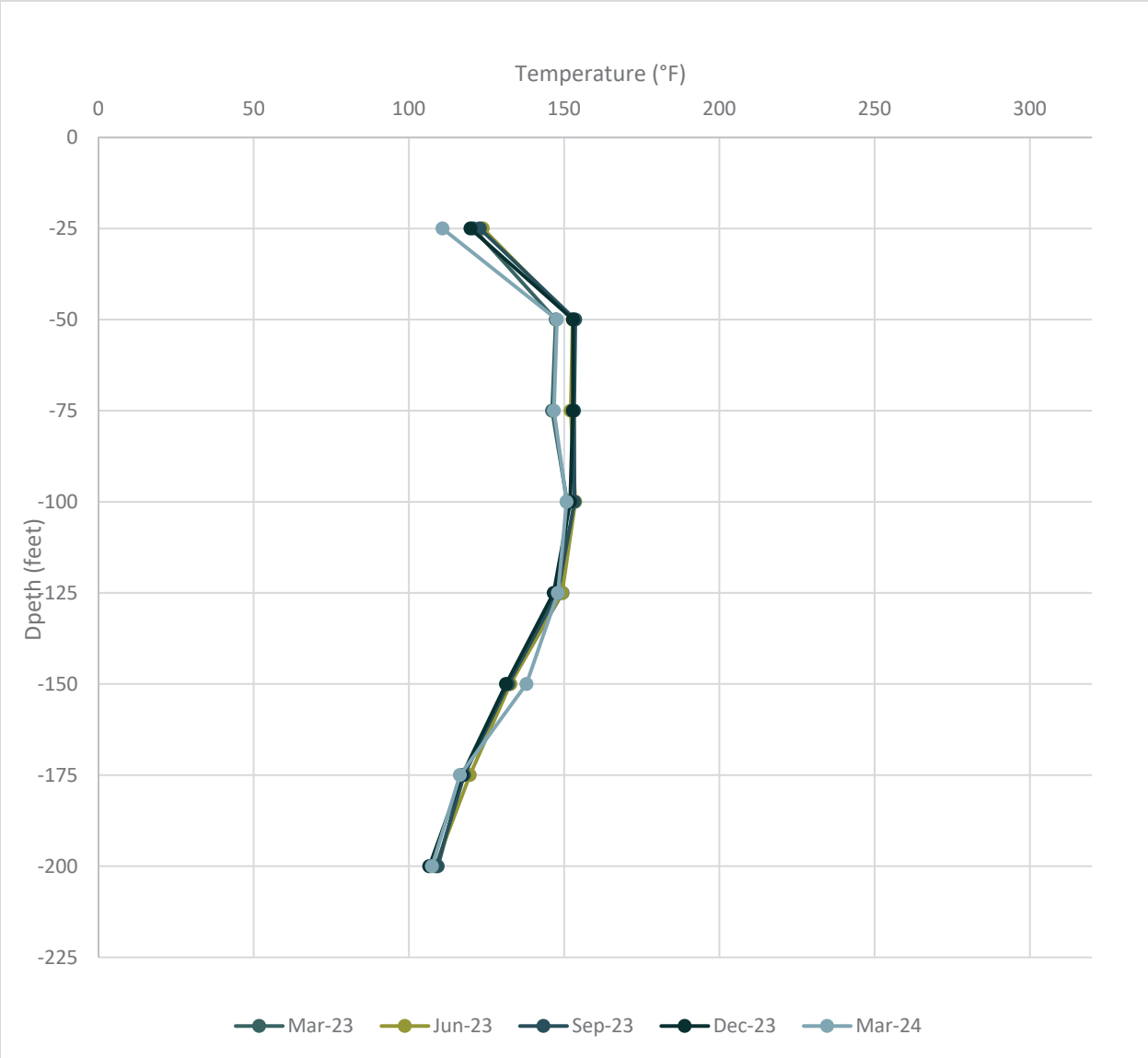


Figure 17 shows daily average temperatures in Temperature Probe 9 (TP-9) during the months of March 2023, June 2023, September 2023, December 2023, and Mach 2024. Based on the data, temperatures have been consistent during the last year.

Figure 17. TP-9 Average Temperatures for the Months of March 2023, June 2023, September 2023, December 2023, and March 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

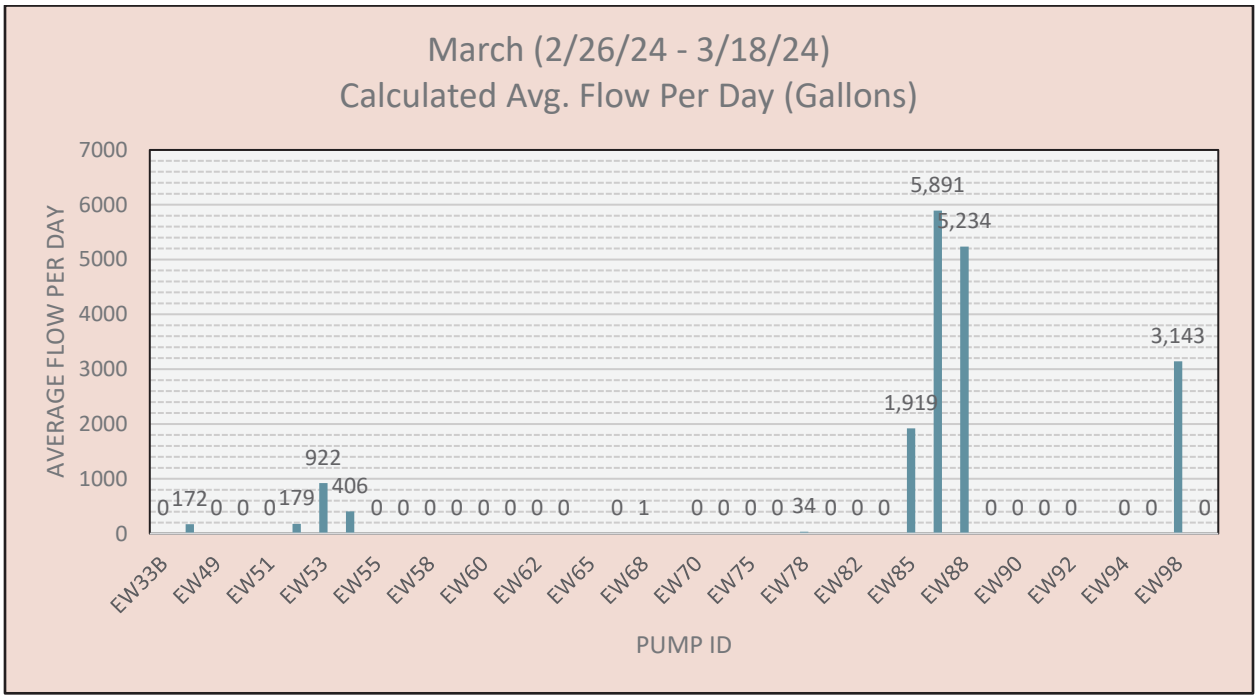
The City is taking steps to improve the extraction of leachate from the waste mass and collect analytical data on leachate characteristics. The following sections detail steps taken to achieve these goals.

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 26th – March 18th.

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 March are shown in Figure 18.

Figure 18. 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-87 and EW-88 removed the most liquid in March, according to the stroke counter data. Several pumps recorded few or no strokes during March. Several pumps have been sent to the manufacturer for repair due to experienced significant wear and tear from ETLF

conditions. The City ordered additional pumps to replace these units, which arrived in late March 2024. Two of the new pumps were installed in EW-87 and EW-94.

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 March 2024 pump maintenance occurred on March 5, 2024; March 11, 2024; March 18, 2024; and March 25, 2024 The SWP No. 588 Landfill's float-style pumps are bump-checked daily, and Blackhawk piston drive rods are cleaned routinely each week.

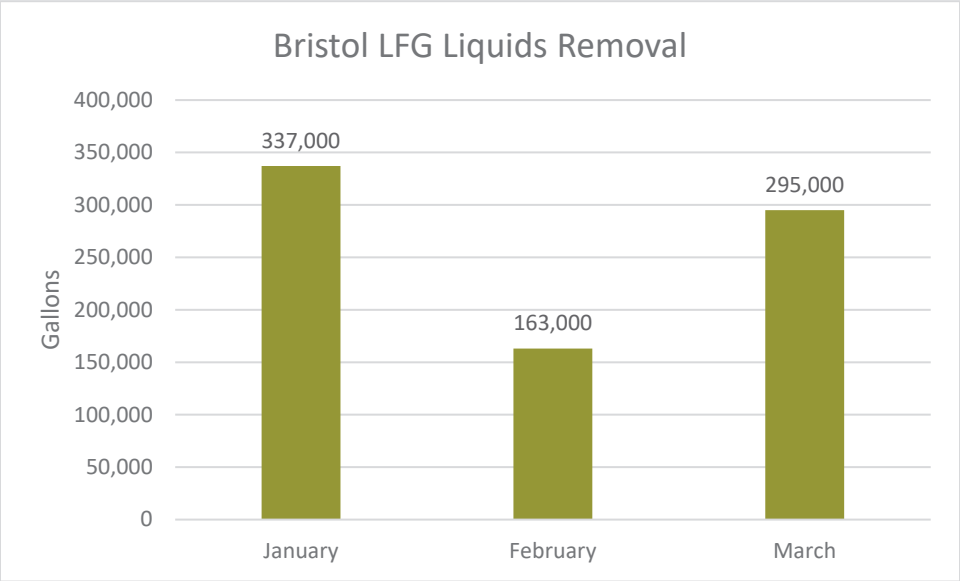
During the construction of the LFGCCS expansion outlined in Sections 1.4 and 2.1, multiple types of leachate extraction pumps were installed. In addition the pumps deployed during that expansion, the City has installed QED "high temperature" pumps and deployed them in the wellfield. The City and SCS 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 March, the total liquids flow recorded by the SWP No. 588 primary landfill gas liquids flowmeter was 295,000 gallons.

The progress in landfill gas liquids removal over the last three months is depicted in Figure 19. 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 19. 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 March 5, 2024, SCS collected leachate samples from two Dual Phase LFG extraction wells (EW--88 and EW-98). 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-50, EW-53, EW-60, EW-65, EW-68, EW-74, EW-78, EW-85, and EW-89.
- Pump was not running and the well appeared dry at the time of monitoring for the following wells: EW-75 and EW-90.
- Pump was disconnected at the time of monitoring for the following wells: EW-49, EW-51, EW-52, EW-54, EW-57, EW-59, EW-61, EW-62, EW-64, EW-67, EW-81, EW-83, EW-87, EW-91, EW-92, EW-94, EW-96, and EW-100.
- There was no sample port at the time of monitoring for the following well: EW-36A. The City and SCS-FS are coordinating to get sample port installed on this well.

- Sample port was damaged at the time of monitoring for the following well: EW-55. The City and SCS-FS are coordinating to get sample port repaired or replaced 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.

- Wells EW-70 and EW-82 were not accessible during the monitoring event.

The samples were delivered to Enthalpy Analytical (Enthalpy) in Richmond, Virginia and ALS for analysis. The Enthalpy's Virginia Division of Consolidated Laboratory Services (VELAP) certification is 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.

At the time of preparation of this report, laboratory analytical results were not available for the March 2024 volatile fatty acids (VFA) analyses. The March 2024 VFA analytical results will be provided in the April 2024 Monthly Compliance Report.

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 March 2024 monitoring event. The laboratory analysis reports for the March 2024 monitoring event trip blanks are included in **Appendix F**. The March 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.

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

4.2.4 Laboratory Analytical Results

The analytical results for the March 2024 leachate samples collected from extraction wells EW-88 and EW-98 are summarized in **Table 6**. The associated COAs are included in **Appendix F**. Parameter results from March 2024 and previous monitoring events (November 2022 – February 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**.

[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.

Table 6. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-88	EW-98	LOD	LOQ
Parameter	**March 2024 Concentration**			
Ammonia as N (mg/L)	**2280**	**968**	146	200
Biological Oxygen Demand (mg/L)	**40600**	**7680**	0.2	2
Chemical Oxygen Demand (mg/L)	---	**14400**	2000	2000
	75500	---	10000	10000
Nitrate as N (mg/L)	ND	ND	0.75	1.75
Nitrite as N (mg/L)	ND	**0.25 J**	0.25	1.25
Total Kjeldahl Nitrogen (mg/L)	---	**1030**	50	125
	2980	---	100	250
Total Recoverable Phenolics (mg/L)	**46.6**	**12.8**	3	5
SEMI-VOLATILE ORGANIC COMPOUND (ug/L)				
Anthracene	---	ND	20	40
	ND	---	80	160
TOTAL METALS (mg/L)				
Arsenic	---	**0.12**	0.001	0.002
	0.23	---	0.0025	0.005
Barium	---	**1.03**	0.002	0.01
	1.54	---	0.005	0.025
Cadmium	---	ND	0.0002	0.002
	ND	---	0.0005	0.005
Chromium	---	**0.0759**	0.0008	0.002
	0.414	---	0.002	0.005
TOTAL METALS (mg/L)				
Copper	---	**0.00115 J**	0.0006	0.002
	0.00184 J	---	0.0015	0.005
Lead	---	ND	0.002	0.002
	0.02	---	0.005	0.005
Mercury	---	**0.00124**	0.0004	0.0004
	ND	---	0.001	0.001
Nickel	---	**0.02232**	0.002	0.002
	0.08678	---	0.005	0.005
Selenium	---	ND	0.0017	0.002
	0.00627	---	0.00425	0.005
Silver	---	ND	0.00012	0.002
	ND	---	0.0003	0.005
Zinc	---	**0.0342**	0.005	0.01
	2.09	---	0.0125	0.025
VOLATILE ORGANIC COMPOUNDS (ug/L)				

Table 6. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-88	EW-98	LOD	LOQ
Parameter	March 2024 Concentration			
2-Butanone (MEK)	**11700**	---	150	500
	---	**25200**	1500	5000
Acetone	**50800**	**57600**	3500	5000
Benzene	**226**	**8910**	20	50
Ethylbenzene	**25 J**	**710**	20	50
Tetrahydrofuran	**3320**	**8710**	500	500
Toluene	**73**	**916**	25	50
Xylenes, Total	ND	**1360**	50	150

--- = not applicable
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 March 13, 2024, the flight was completed and the topographic data collected. The topographic data collected is shown on Sheet 4 in Appendix E.

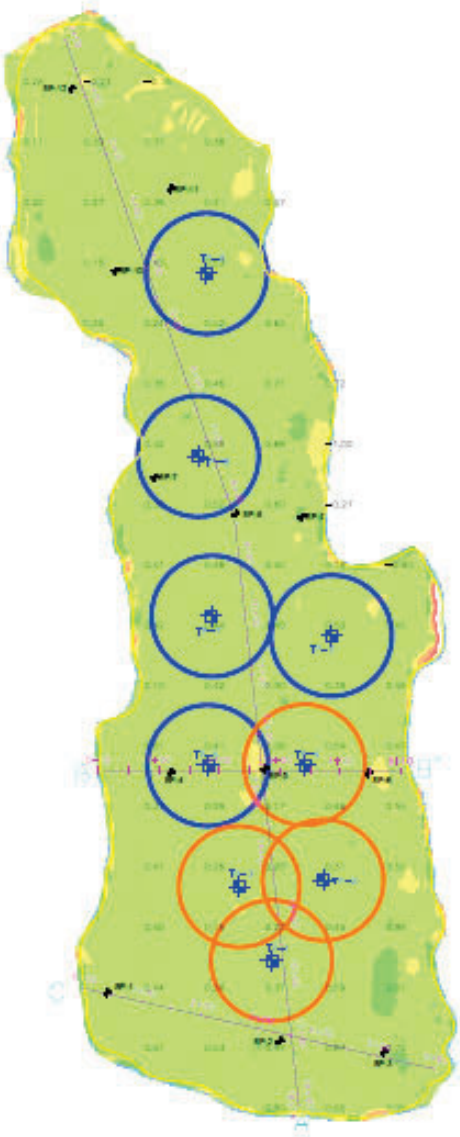
The topography within the landfill footprint was compared to topographic data collected by SCS using photogrammetric methods on February 15, 2024. A drawing depicting the February 15, 2024 topography is included as Sheet 3 in Appendix E.

Based on a comparison of the topographic data collected on those two dates, the data shows a fill of 13,950 cubic yards throughout the entire site due to flyover error adjustments for the month of

February from high winds onsite during the drone survey event. These error adjustments during flight have caused the data to read a consistent fill between the months of February and March, showing an inaccurate surface depiction of settlement. During that same time period, calculations indicate approximately 1,830 cubic yards was cut during this time on the landfill. This resulted in a net volume increase of approximately 12,120 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 20. 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 20. 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.

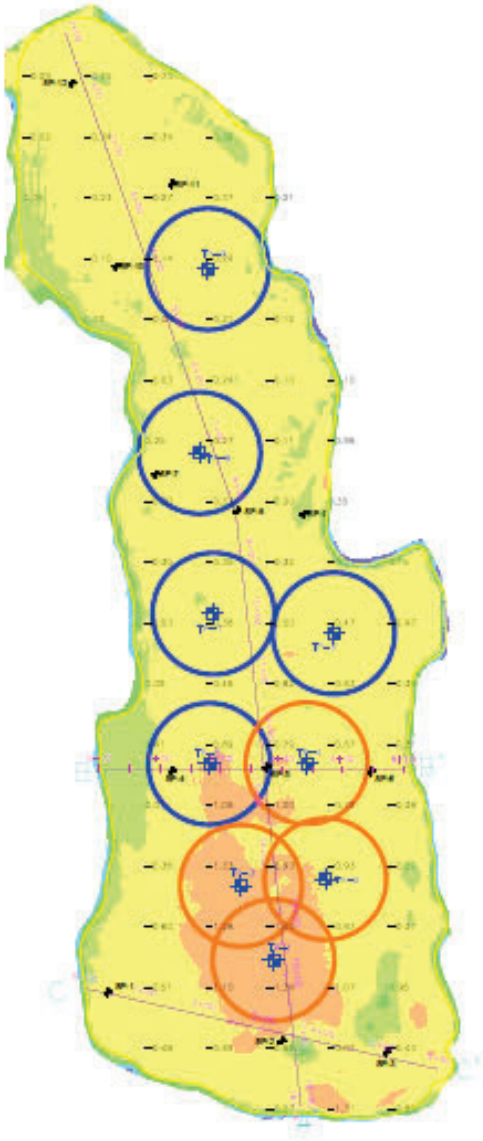
The circles shown are offset from the probes for clarity only and do not necessarily indicate temperatures measured at locations away from the probe. Probes with a blue circle around them typically have an average temperature less than 200°F across the full depth of the probe. Probes with an orange circle 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.

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 increase was approximately 0.40 feet. This data is impacted by imprecise flyover survey data from the month of February.

SCS also compared the topographic data collected in March to the topographic data collected on December 20, 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 7,710 cubic yards. During that same time period calculations indicate approximately 5,330 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 21. 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 21. 3-Month Elevation Change Map



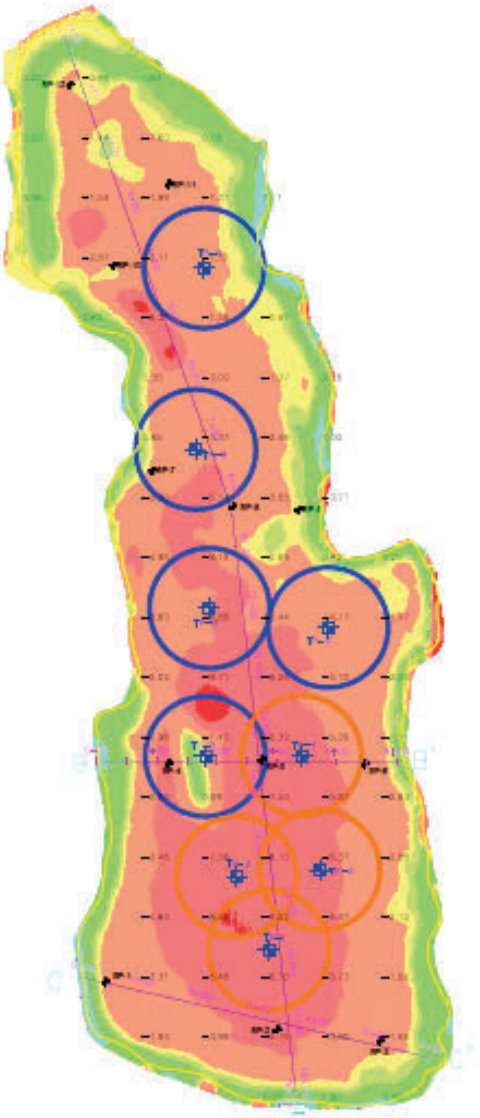
Based on the area of the landfill and the net volume change, the average elevation decrease was approximately 0.26 feet.

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 March to the drone topographic data collected on March 9, 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 78,070 cubic yards. During that same time period approximately 13,540 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 91,610 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 22. 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 22. 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.

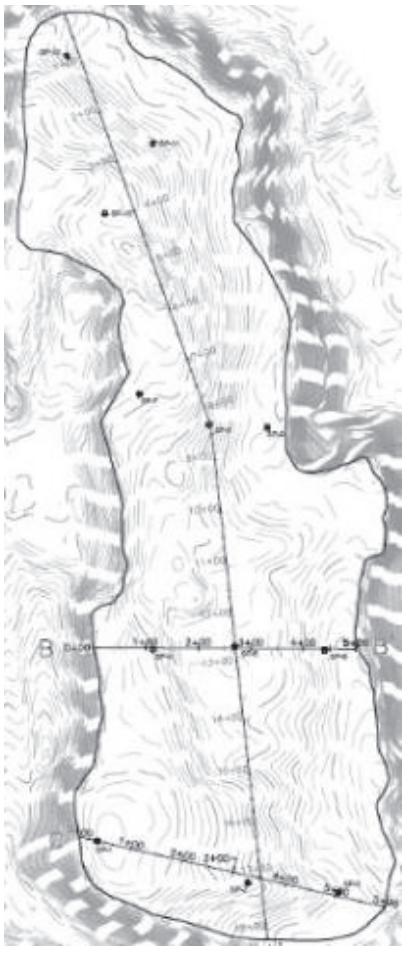
Based on the landfill area and the net volume change, the average elevation decrease was approximately 2.6 feet.

SCS will collect topographic data covering the landfill surface again in April using photogrammetric methods via UAV. This data will be compared to the data collected in April 2023, January 2024, and March 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 23 and on Sheet 1 in Appendix E.

Figure 23. 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; February 6, 2024, and March 13, 2024. The surveyed coordinates[5] and elevation changes of the settlement plates are shown in Table 7.

Table 7. Elevation and Strain Data at Settlement Plate Locations

Settlement Plate	Northing	Easting	Elevation on March 13, 2024	Elevation Change Since February 6, 2024	Strain[6] Since February 6, 2024	Elevation Change Since Installation	Strain/Year
SP-1	3,397,887.1	10,412,079.7	1,830.3	-0.1	-0.2%	-4.1	-1.9%
SP-2	3,397,810.1	10,412,365.9	1,801.4	-0.4	-0.2%	-9.1	-2.2%
SP-3[7]	3,397,787.5	10,412,537.9	N/A	N/A	N/A	N/A	N/A
SP-4[8]	3,398,250.5	10,412,187.7	1,807.6	-0.5	-0.3%	-9.9	-3.0%
SP-5	3,398,255.7	10,412,339.0	1,792.4	-0.4	-0.2%	-8.4	-1.6%
SP-6	3,398,249.0	10,412,510.2	1,774.5	-0.1	-0.1%	-3.1	-0.6%
SP-7[9]	3,398,734.8	10,412,158.4	1,825.2	-0.2	-0.2%	-3.5	-1.8%
SP-8	3,398,678.6	10,412,290.8	1,801.8	-0.3	-0.1%	-5.6	-1.3%
SP-9[10]	3,398,673.4	10,412,400.9	N/A	N/A	N/A	N/A	N/A
SP-10	3,399,080.0	10,412,092.9	1,837.9	-0.2	-0.1%	-2.3	-0.6%
SP-11	3,399,216.3	10,412,183.6	1,815.1	-0.2	-0.1%	-1.2	-0.7%
SP-12	3,399,382.0	10,412,019.6	1,810.0	-0.1	-0.1%	-0.7	-0.6%

Settlement Plates 1, 2, 4, and 5 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.

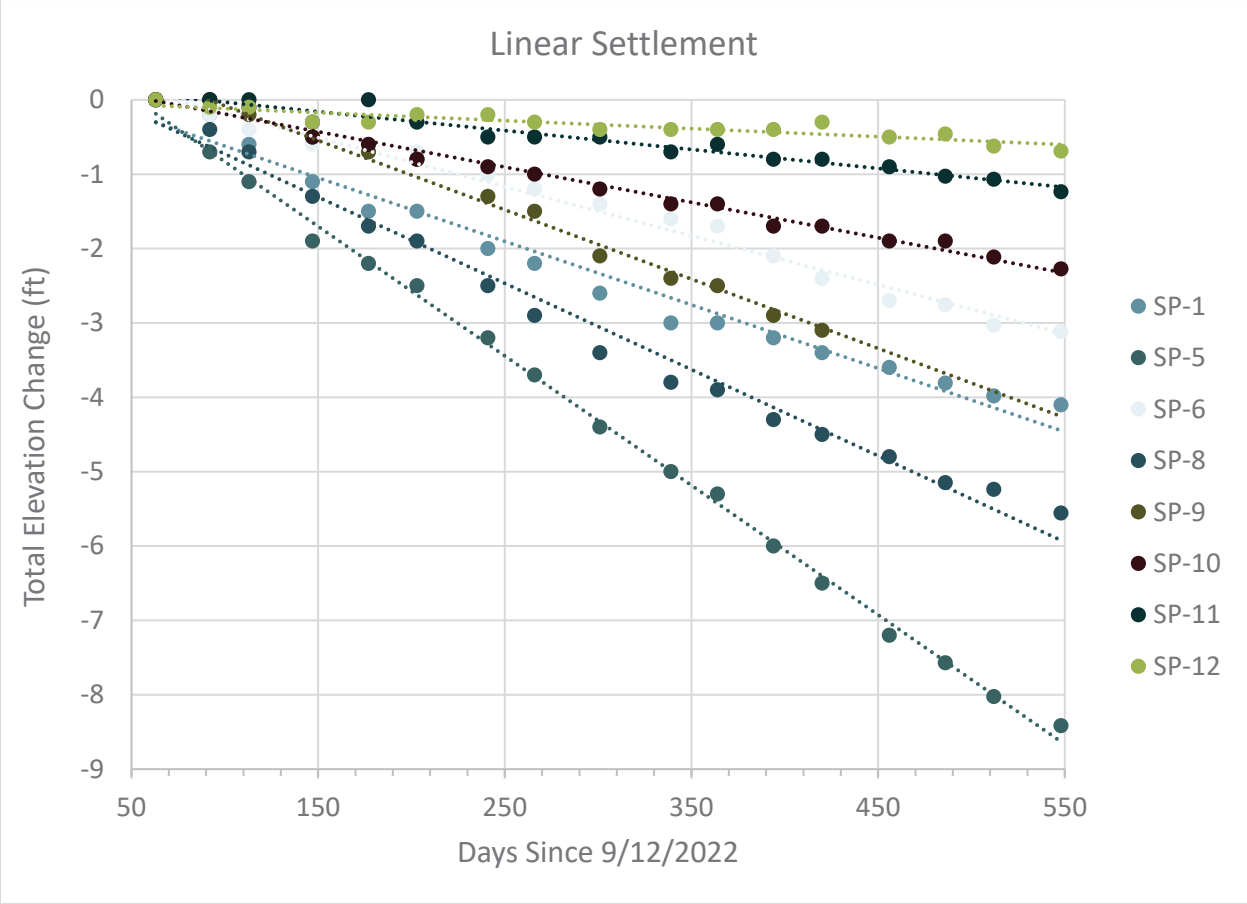
The change in elevation at Settlement Plates 10, 11, and 12 was lower and more representative of typical settlement at municipal landfills with waste of similar depth. Settlement Plate 3 was damaged and unable to be measured during September 2023, October 2023, November 2023, December 2023, January 2024,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

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

water and was unable to be read for the months of December 2023, January 2024, February 2024, and March 2024.

Figure 24 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.

Figure 24. Linear Settlement



The settlement plates will be surveyed again during the month of April 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 discussed the appropriate schedule for EVOH deployment with VDEQ given the significant settlement the site is experiencing. An amendment to the Consent Decree was subsequently issued which requires the EVOH deployment no later than December 1, 2026. The amended Consent Decree also requires regular settlement assessments, and the EVOH deployment may occur earlier if settlement rates appear acceptable.

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

SCS will prepare regular settlement assessments for VDEQ per the amended Consent Decree. EVOH deployment will commence, with VDEQ's concurrence, if the latest assessment shows acceptable settlement rates. The amended consent decree requires installation of the EVOH cover system by December 1, 2026.

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 March, approximately 149,000 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 March, those actions include:

- Ongoing basis: Ten 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

- Updated the public on the approval of the deadline extension for putting an EVOH geomembrane over the 588 Quarry Landfill due to ongoing settlement

- **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 March 24th 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.

Appendix A

Surface Emissions Monitoring Summary Letters

March 8, 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 – March 7, 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 March 7, 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	3
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	3

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	3/7/24 Event	3/7/24 Event Result	Comments
EW-87	12/21/23	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-52	2/8/24	1-Month Retest	Passed	Exceedance Resolved
EW-66	2/20/24	2nd 10-Day Retest	Passed	Requires 1-Month Retest
Tag 29	2/20/24	N/A	Passed	Requires 1-Month Retest
EW-67	2/29/24	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
Staff Professional
SCS Engineers

Quinn Bernier, PE
Project Professional
SCS Engineers

QFB/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 - MARCH 7, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	2.3 PPM	OK			Start Serpentine Route
2	2.8 PPM	OK			
3	0.9 PPM	OK			
4	0.9 PPM	OK			
5	0.9 PPM	OK			
6	0.9 PPM	OK			
7	1.1 PPM	OK			
8	0.9 PPM	OK			
9	0.9 PPM	OK			
10	0.9 PPM	OK			
11	0.9 PPM	OK			
12	0.9 PPM	OK			
13	0.8 PPM	OK			
14	49.9 PPM	OK			
15	2.6 PPM	OK			
16	1.7 PPM	OK			
17	2.5 PPM	OK			
18	1.7 PPM	OK			
19	0.8 PPM	OK			
20	1.7 PPM	OK			
21	0.9 PPM	OK			
22	3.5 PPM	OK			
23	0.9 PPM	OK			
24	2.2 PPM	OK			
25	1 PPM	OK			
26	0.9 PPM	OK			
27	3.1 PPM	OK			
28	5.3 PPM	OK			
29	10.7 PPM	OK			
30	2.2 PPM	OK			
31	8.4 PPM	OK			
32	2.9 PPM	OK			
33	4.7 PPM	OK			
34	2 PPM	OK			
35	2.6 PPM	OK			
36	7.9 PPM	OK			
37	2.3 PPM	OK			
38	0.8 PPM	OK			
39	0.7 PPM	OK			
40	0.7 PPM	OK			
41	0.6 PPM	OK			
42	0.6 PPM	OK			
43	0.7 PPM	OK			
44	0.6 PPM	OK			
45	0.6 PPM	OK			
46	0.6 PPM	OK			
47	0.6 PPM	OK			
48	0.6 PPM	OK			
49	0.6 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 7, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
50	0.6 PPM	OK			
51	0.6 PPM	OK			
52	0.5 PPM	OK			
53	0.5 PPM	OK			
54	2.4 PPM	OK			
55	5.4 PPM	OK			
56	2.2 PPM	OK			
57	1.1 PPM	OK			
58	0.7 PPM	OK			
59	0.6 PPM	OK			
60	0.5 PPM	OK			
61	1.4 PPM	OK			
62	12.7 PPM	OK			
63	1.9 PPM	OK			
64	3.3 PPM	OK			
65	1.3 PPM	OK			
66	0.5 PPM	OK			
67	0.6 PPM	OK			
68	19 PPM	OK			
69	10.9 PPM	OK			
70	7.3 PPM	OK			
71	2.3 PPM	OK			
72	6.9 PPM	OK			
73	9.1 PPM	OK			
74	3.2 PPM	OK			
75	10.7 PPM	OK			
76	8.9 PPM	OK			
77	252 PPM	OK			
78	91.4 PPM	OK			
79	8 PPM	OK			
80	16.1 PPM	OK			
81	115 PPM	OK			
82	2.1 PPM	OK			
83	3.6 PPM	OK			
84	1.9 PPM	OK			
85	0.8 PPM	OK			
86	0.8 PPM	OK			
87	0.5 PPM	OK			
88	0.4 PPM	OK			
89	0.5 PPM	OK			
90	0.5 PPM	OK			
91	0.4 PPM	OK			
92	88.6 PPM	OK			
93	3.2 PPM	OK			
94	24.4 PPM	OK			
95	12.9 PPM	OK			
96	3.7 PPM	OK			
97	5.3 PPM	OK			
98	3 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 7, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
99	2.5 PPM	OK			
100	1.2 PPM	OK			End Serpentine Route
101	104 PPM	OK			EW-35
102	281 PPM	OK			EW-52
103	9.9 PPM	OK			TP-4
104	38.4 PPM	OK			EW-60
105	103 PPM	OK			EW-48
106	6 PPM	OK			TP-6
107	0.6 PPM	OK			EW-61
108	0.5 PPM	OK			EW-50
109	3.6 PPM	OK			EW-67
110	2.5 PPM	OK			EW-47
111	5.8 PPM	OK			EW-54
112	1721 PPM	HIGH_ALRM			EW-55
113	4.4 PPM	OK			EW-92
114	28.1 PPM	OK			EW-91
115	5.9 PPM	OK			EW-96
116	6.6 PPM	OK			TP-2
117	4.7 PPM	OK			EW-66
118	2.4 PPM	OK			EW-58
119	13.5 PPM	OK			EW-57
120	1.7 PPM	OK			TP-1
121	12.9 PPM	OK			EW-59
122	10.7 PPM	OK			EW-100
123	4 PPM	OK			EW-56
124	4.5 PPM	OK			EW-97
125	2 PPM	OK			EW-41
126	7.7 PPM	OK			EW-53
127	1.2 PPM	OK			TP-3
128	37.2 PPM	OK			EW-51
129	438 PPM	OK			EW-39
130	1.4 PPM	OK			TP-5
131	221 PPM	OK			EW-68
132	409 PPM	OK			EW-87
133	19.1 PPM	OK			EW-38
134	3.6 PPM	OK			TP-7
135	0.9 PPM	OK			EW-49
136	0.5 PPM	OK			EW-83
137	0.2 PPM	OK			EW-65
138	0.5 PPM	OK			EW-81
139	0.3 PPM	OK			TP-8
140	0.4 PPM	OK			EW-64
141	0.2 PPM	OK			EW-63
142	0.1 PPM	OK			EW-42
143	1472 PPM	HIGH_ALRM			EW-76
144	4.8 PPM	OK			TP-9
145	0.7 PPM	OK			EW-62
146	1.1 PPM	OK			EW-29R

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 7, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
147	0.8 PPM	OK			EW-74
148	0.3 PPM	OK			EW-32R
149	0.5 PPM	OK			EW-69
150	0.3 PPM	OK			EW-71
151	0.4 PPM	OK			EW-72
152	0.3 PPM	OK			EW-73
153	3.2 PPM	OK			EW-78
154	0.8 PPM	OK			EW-36A
155	0.4 PPM	OK			EW-85
156	0.2 PPM	OK			EW-88
157	103 PPM	OK			EW-89
158	2.9 PPM	OK			EW-93
159	0.7 PPM	OK			EW-94
160	1.1 PPM	OK			EW-98
161	2.6 PPM	OK			EW-99
162	787 PPM	HIGH_ALRM			EW-95
163	30.7 PPM	OK			EW-90
164	0.9 PPM	OK			EW-86
165	1.1 PPM	OK			EW-84
166	0.8 PPM	OK			EW-80
167	0.1 PPM	OK			EW-79
168	0.2 PPM	OK			EW-77
169	0 PPM	OK			EW-33B
170	0.2 PPM	OK			EW-75

Number of locations sampled:	170
Number of exceedance locations:	3

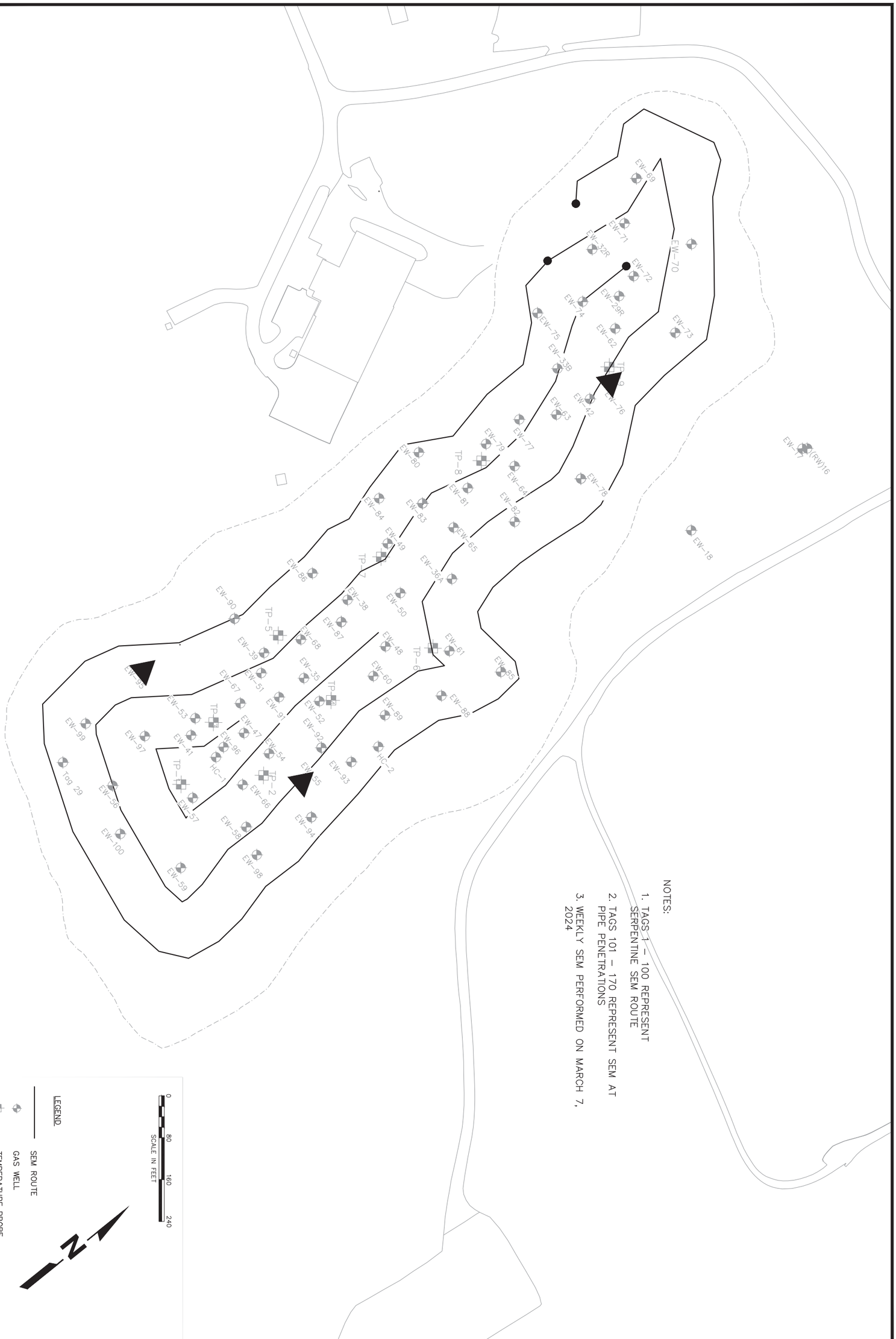
NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 170 represent SEM at Pipe Penetrations
Weather Conditions: Sunny 67°F Wind: 6 MPH NE

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

3/7/2024	8:34	ZERO	0.0	PPM
3/7/2024	8:38	SPAN	502.0	PPM

Background Reading:

3/7/2024	8:48	Upwind	1.6	PPM
3/7/2024	9:03	Downwind	1.2	PPM



NOTES:

1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
2. TAGS 101 – 170 REPRESENT SEM AT PIPE PENETRATIONS
3. WEEKLY SEM PERFORMED ON MARCH 7, 2024

LEGEND

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

SCALE IN FEET: 0, 80, 160, 240

N

DRAWING NO.	1 of 1
SCALE:	AS SHOWN
DATE:	3/8/24
FILE:	02218208.04

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: LSN	CHK. BY: DBK	APP. BY:

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

SHEET TITLE
WEEKLY SEM ROUTE

PROJECT TITLE
SURFACE EMISSIONS MONITORING SOLID WASTE PERMIT #588

NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		

March 20, 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 – March 12, 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 March 12, 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	3/12/24 Event	3/12/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-66	2/20/24	N/A	Passed	Requires 1-Month Retest
Tag 29	2/20/24	N/A	Passed	Requires 1-Month Retest
EW-67	2/29/24	N/A	Passed	Requires 1-Month Retest
EW-55	3/7/24	10-Day Retest	Passed	Requires 1-Month Retest
EW-76	3/7/24	10-Day Retest	Passed	Requires 1-Month Retest
EW-95	3/7/24	10-Day Retest	Failed	Requires 2nd 10-Day 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
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 - MARCH 12, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	32.7 PPM	OK			Start Serpentine Route
2	18.2 PPM	OK			
3	2.6 PPM	OK			
4	1.1 PPM	OK			
5	1.1 PPM	OK			
6	1.2 PPM	OK			
7	1.1 PPM	OK			
8	1.2 PPM	OK			
9	1.4 PPM	OK			
10	1.2 PPM	OK			
11	1 PPM	OK			
12	1.1 PPM	OK			
13	14.7 PPM	OK			
14	12.3 PPM	OK			
15	7.6 PPM	OK			
16	2.1 PPM	OK			
17	4.2 PPM	OK			
18	1.3 PPM	OK			
19	2.9 PPM	OK			
20	1.4 PPM	OK			
21	1 PPM	OK			
22	1 PPM	OK			
23	1 PPM	OK			
24	1 PPM	OK			
25	1 PPM	OK			
26	0.9 PPM	OK			
27	7.2 PPM	OK			
28	4.7 PPM	OK			
29	120 PPM	OK			
30	58.6 PPM	OK			
31	18.4 PPM	OK			
32	25.5 PPM	OK			
33	221 PPM	OK			
34	7.3 PPM	OK			
35	12.2 PPM	OK			
36	9.4 PPM	OK			
37	2.1 PPM	OK			
38	1.6 PPM	OK			
39	1.7 PPM	OK			
40	1.7 PPM	OK			
41	1 PPM	OK			
42	0.7 PPM	OK			
43	0.6 PPM	OK			
44	0.7 PPM	OK			
45	0.6 PPM	OK			
46	0.6 PPM	OK			
47	0.7 PPM	OK			
48	0.7 PPM	OK			
49	0.7 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 12, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
50	0.8 PPM	OK			
51	1 PPM	OK			
52	1.2 PPM	OK			
53	10.1 PPM	OK			
54	0.8 PPM	OK			
55	0.9 PPM	OK			
56	0.8 PPM	OK			
57	0.9 PPM	OK			
58	1.6 PPM	OK			
59	1.5 PPM	OK			
60	4 PPM	OK			
61	0.9 PPM	OK			
62	1.4 PPM	OK			
63	1.6 PPM	OK			
64	35.8 PPM	OK			
65	10.7 PPM	OK			
66	4.4 PPM	OK			
67	28.4 PPM	OK			
68	0.5 PPM	OK			
69	0.4 PPM	OK			
70	0.4 PPM	OK			
71	8.8 PPM	OK			
72	29.9 PPM	OK			
73	12.8 PPM	OK			
74	0.7 PPM	OK			
75	0.6 PPM	OK			
76	51.2 PPM	OK			
77	1.3 PPM	OK			
78	342 PPM	OK			
79	2.6 PPM	OK			
80	15 PPM	OK			
81	3.7 PPM	OK			
82	1.1 PPM	OK			
83	2.2 PPM	OK			
84	1.8 PPM	OK			
85	1 PPM	OK			
86	0.6 PPM	OK			
87	0.6 PPM	OK			
88	0.8 PPM	OK			
89	0.6 PPM	OK			
90	0.5 PPM	OK			
91	5 PPM	OK			
92	12.7 PPM	OK			
93	30.3 PPM	OK			
94	7.7 PPM	OK			
95	13.2 PPM	OK			
96	0.3 PPM	OK			
97	0.3 PPM	OK			
98	0.6 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 12, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
99	0.6 PPM	OK			
100	5.2 PPM	OK			End Serpentine Route
101	155 PPM	OK			EW-35
102	194 PPM	OK			EW-52
103	1.6 PPM	OK			TP-4
104	96.9 PPM	OK			EW-60
105	18.9 PPM	OK			EW-48
106	1.6 PPM	OK			TP-6
107	0.8 PPM	OK			EW-61
108	3.8 PPM	OK			EW-50
109	6.2 PPM	OK			EW-67
110	0.6 PPM	OK			EW-47
111	0.3 PPM	OK			EW-54
112	267 PPM	OK			EW-55
113	10.7 PPM	OK			EW-92
114	10.6 PPM	OK			EW-91
115	0.5 PPM	OK			EW-96
116	0.3 PPM	OK			TP-2
117	0.4 PPM	OK			EW-66
118	0.2 PPM	OK			EW-58
119	11.5 PPM	OK			EW-57
120	29.3 PPM	OK			TP-1
121	1.8 PPM	OK			EW-59
122	61.3 PPM	OK			EW-100
123	92.2 PPM	OK			EW-56
124	1.5 PPM	OK			EW-97
125	0.8 PPM	OK			EW-41
126	0.9 PPM	OK			EW-53
127	9.3 PPM	OK			TP-3
128	9.3 PPM	OK			EW-51
129	3.1 PPM	OK			EW-39
130	2.6 PPM	OK			TP-5
131	2.1 PPM	OK			EW-68
132	1913 PPM	HIGH_ALRM			EW-87
133	31.7 PPM	OK			EW-38
134	477 PPM	OK			TP-7
135	2.5 PPM	OK			EW-49
136	1.5 PPM	OK			EW-83
137	1 PPM	OK			EW-65
138	0.5 PPM	OK			EW-81
139	2.6 PPM	OK			TP-8
140	0.6 PPM	OK			EW-64
141	3 PPM	OK			EW-63
142	0.4 PPM	OK			EW-42
143	6 PPM	OK			EW-76
144	0.7 PPM	OK			TP-9
145	0.3 PPM	OK			EW-62
146	0.1 PPM	OK			EW-29

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 12, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
147	0.3 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	0.2 PPM	OK			EW-72
152	0.1 PPM	OK			EW-73
153	0 PPM	OK			EW-78
154	0.9 PPM	OK			EW-36A
155	0 PPM	OK			EW-85
156	0.2 PPM	OK			EW-88
157	0.4 PPM	OK			EW-89
158	0.2 PPM	OK			EW-93
159	0.1 PPM	OK			EW-94
160	0 PPM	OK			EW-98
161	1.3 PPM	OK			EW-99
162	1762 PPM	HIGH_ALRM			EW-95
163	224 PPM	OK			EW-90
164	2.6 PPM	OK			EW-86
165	0.7 PPM	OK			EW-84
166	1.6 PPM	OK			EW-80
167	0.2 PPM	OK			EW-79
168	0.2 PPM	OK			EW-77
169	0.5 PPM	OK			EW-33B
170	0.3 PPM	OK			EW-75

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

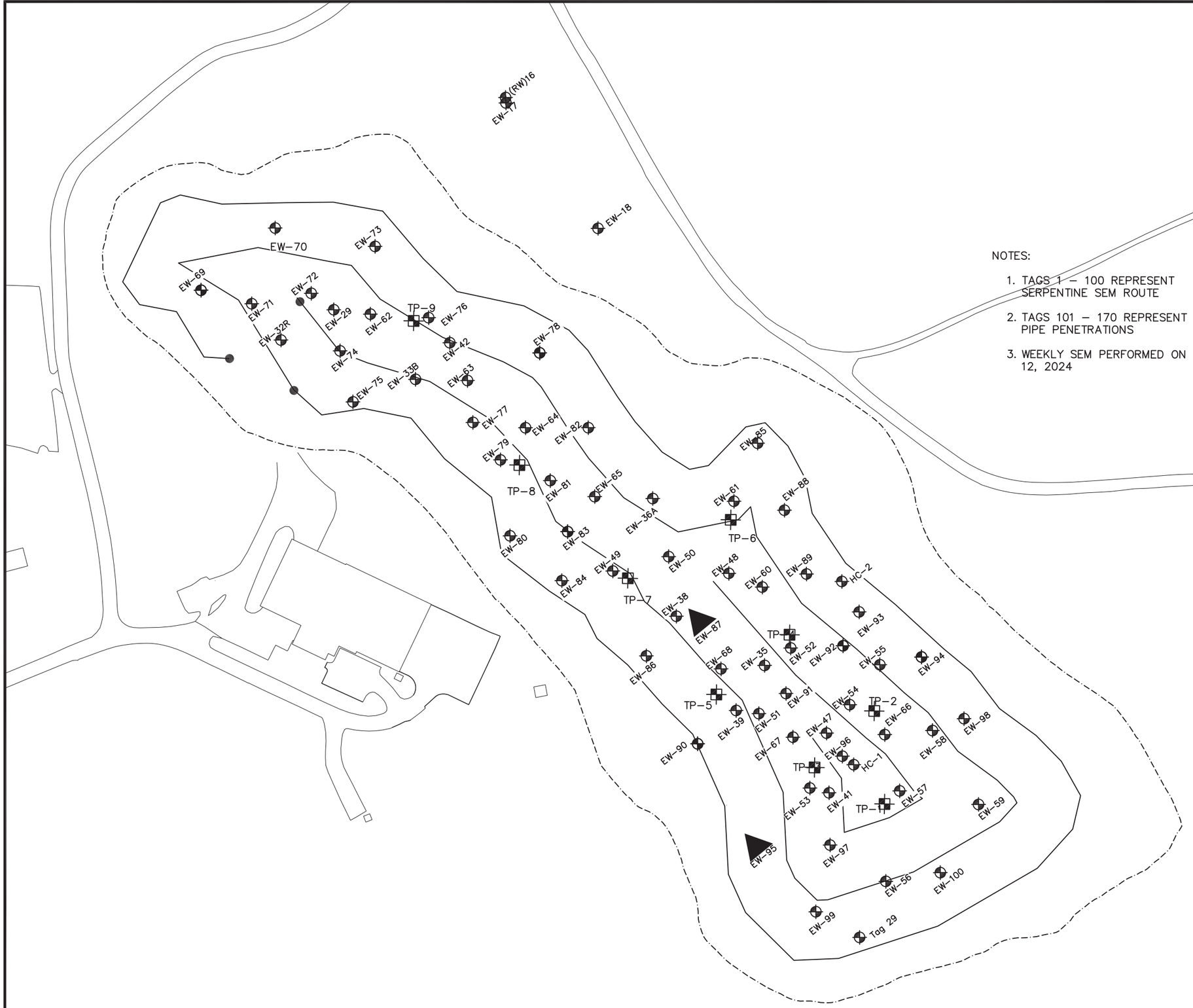
NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 170 represent SEM at Pipe Penetrations
Weather Conditions: Sunny 48°F Wind: 6 MPH E

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

3/12/2024	9:48	ZERO	0.1	PPM
3/12/2024	9:49	SPAN	502.0	PPM

Background Reading:

3/12/2024	9:50	Upwind	2.2	PPM
3/12/2024	9:57	Downwind	2.8	PPM



NOTES:

1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
2. TAGS 101 – 170 REPRESENT SEM AT PIPE PENETRATIONS
3. WEEKLY SEM PERFORMED ON MARCH 12, 2024

0 80 160 240
SCALE IN FEET

N

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.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

PROJ. NO.	DWN. BY:	CHK. BY:	QA/QC REV BY:	APP. BY:
02218208.04	LSN	DBK		
DSN. BY: LSN				

FILE: 02218208.04
DATE: 3/12/24
SCALE: AS SHOWN
DRAWING NO. 1 of 1

March 27, 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 – March 18, 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 March 18, 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	1
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	1

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	3/18/24 Event	3/18/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-66	2/20/24	1-Month Retest	Passed	Exceedance Resolved
Tag 29	2/20/24	1-Month Retest	Passed	Exceedance Resolved
EW-67	2/29/24	N/A	Passed	Requires 1-Month Retest
EW-55	3/7/24	N/A	Passed	Requires 1-Month Retest
EW-76	3/7/24	N/A	Passed	Requires 1-Month Retest
EW-95	3/7/24	2nd 10-Day Retest	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
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 - MARCH 18, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	1.4 PPM	OK			Start Serpentine Route
2	0.1 PPM	OK			
3	0 PPM	OK			
4	0 PPM	OK			
5	0.8 PPM	OK			
6	0.8 PPM	OK			
7	0.8 PPM	OK			
8	0.7 PPM	OK			
9	0.8 PPM	OK			
10	0.8 PPM	OK			
11	0.7 PPM	OK			
12	0.9 PPM	OK			
13	0.8 PPM	OK			
14	1.1 PPM	OK			
15	0.8 PPM	OK			
16	0.8 PPM	OK			
17	1.4 PPM	OK			
18	1.2 PPM	OK			
19	3.1 PPM	OK			
20	0.8 PPM	OK			
21	0.9 PPM	OK			
22	1 PPM	OK			
23	1.1 PPM	OK			
24	4.9 PPM	OK			
25	6.5 PPM	OK			
26	15.9 PPM	OK			
27	3.4 PPM	OK			
28	389 PPM	OK			
29	20.6 PPM	OK			
30	6.8 PPM	OK			
31	75.3 PPM	OK			
32	61.8 PPM	OK			
33	52.1 PPM	OK			
34	4.7 PPM	OK			
35	3.9 PPM	OK			
36	1.5 PPM	OK			
37	5.3 PPM	OK			
38	1 PPM	OK			
39	1.1 PPM	OK			
40	0.8 PPM	OK			
41	0.6 PPM	OK			
42	0.6 PPM	OK			
43	0.6 PPM	OK			
44	0.6 PPM	OK			
45	0.5 PPM	OK			
46	0.5 PPM	OK			
47	0.5 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 18, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
48	0.6 PPM	OK			
49	0.6 PPM	OK			
50	0.6 PPM	OK			
51	0.6 PPM	OK			
52	0.6 PPM	OK			
53	0.5 PPM	OK			
54	0.6 PPM	OK			
55	0.6 PPM	OK			
56	0.5 PPM	OK			
57	0.7 PPM	OK			
58	0.7 PPM	OK			
59	0.8 PPM	OK			
60	0.4 PPM	OK			
61	0.8 PPM	OK			
62	0.5 PPM	OK			
63	1.1 PPM	OK			
64	1.5 PPM	OK			
65	16.4 PPM	OK			
66	81.9 PPM	OK			
67	1.1 PPM	OK			
68	5.2 PPM	OK			
69	1.8 PPM	OK			
70	5.7 PPM	OK			
71	9.1 PPM	OK			
72	1.3 PPM	OK			
73	0.8 PPM	OK			
74	1.4 PPM	OK			
75	0.5 PPM	OK			
76	0.6 PPM	OK			
77	0.9 PPM	OK			
78	0.9 PPM	OK			
79	1.7 PPM	OK			
80	1.1 PPM	OK			
81	0.4 PPM	OK			
82	0.4 PPM	OK			
83	0.3 PPM	OK			
84	0.3 PPM	OK			
85	0.3 PPM	OK			
86	1.4 PPM	OK			
87	1.1 PPM	OK			
88	0.2 PPM	OK			
89	0.2 PPM	OK			
90	0.3 PPM	OK			
91	0.4 PPM	OK			
92	0.5 PPM	OK			
93	0.4 PPM	OK			
94	0.4 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 18, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
95	0.4 PPM	OK			
96	1.1 PPM	OK			
97	1.5 PPM	OK			
98	0.3 PPM	OK			
99	1.4 PPM	OK			
100	1.1 PPM	OK			End Serpentine Route
101	0.1 PPM	OK			EW-69
102	0.1 PPM	OK			EW-71
103	0.3 PPM	OK			EW-32R
104	0.1 PPM	OK			EW-72
105	0.1 PPM	OK			EW-29
106	0.9 PPM	OK			EW-82
107	0.1 PPM	OK			EW-74
108	0.2 PPM	OK			EW-33B
109	0.4 PPM	OK			EW-63
110	0.2 PPM	OK			EW-77
111	2 PPM	OK			EW-79
112	0.2 PPM	OK			TP-8
113	0.2 PPM	OK			EW-64
114	0.3 PPM	OK			EW-81
115	0.6 PPM	OK			EW-65
116	0.3 PPM	OK			EW-83
117	0.7 PPM	OK			EW-80
118	0.4 PPM	OK			EW-84
119	1.6 PPM	OK			EW-49
120	3.1 PPM	OK			TP-7
121	0.5 PPM	OK			EW-50
122	10.6 PPM	OK			EW-60
123	1604 PPM	HIGH_ALRM	36.59934	-82.14782	EW-87
124	9.3 PPM	OK			EW-48
125	81.1 PPM	OK			EW-38
126	27.1 PPM	OK			EW-86
127	1.1 PPM	OK			TP-4
128	150 PPM	OK			EW-52
129	98.8 PPM	OK			EW-35
130	42.6 PPM	OK			EW-39
131	4.6 PPM	OK			EW-90
132	25.4 PPM	OK			TP-5
133	182 PPM	OK			EW-68
134	242 PPM	OK			EW-51
135	198 PPM	OK			EW-91
136	18.2 PPM	OK			EW-92
137	0.6 PPM	OK			EW-55
138	1.1 PPM	OK			EW-54
139	0.4 PPM	OK			TP-2
140	140 PPM	OK			EW-66

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 18, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
141	0.8 PPM	OK			EW-47
142	277 PPM	OK			EW-67
143	4.5 PPM	OK			EW-96
144	2.9 PPM	OK			TP-3
145	3.4 PPM	OK			EW-53
146	2.2 PPM	OK			EW-41
147	1.6 PPM	OK			EW-97
148	151 PPM	OK			EW-95
149	7.7 PPM	OK			EW-99
150	37.8 PPM	OK			EW-56
151	3.2 PPM	OK			EW-100
152	1.1 PPM	OK			EW-59
153	3.1 PPM	OK			TP-1
154	1.7 PPM	OK			EW-57
155	0.5 PPM	OK			EW-58
156	0.3 PPM	OK			EW-98
157	1.3 PPM	OK			EW-94
158	1 PPM	OK			EW-93
159	78.3 PPM	OK			EW-89
160	0.8 PPM	OK			EW-88
161	14.7 PPM	OK			EW-85
162	0.2 PPM	OK			EW-61
163	0.3 PPM	OK			TP-6
164	0.4 PPM	OK			EW-36A
165	0.5 PPM	OK			EW-82
166	0 PPM	OK			EW-78
167	0 PPM	OK			EW-42
168	10.4 PPM	OK			EW-76
169	0 PPM	OK			TP-9
170	0 PPM	OK			EW-73
171	0 PPM	OK			EW-75

Number of locations sampled:	171
Number of exceedance locations:	1

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 18, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments

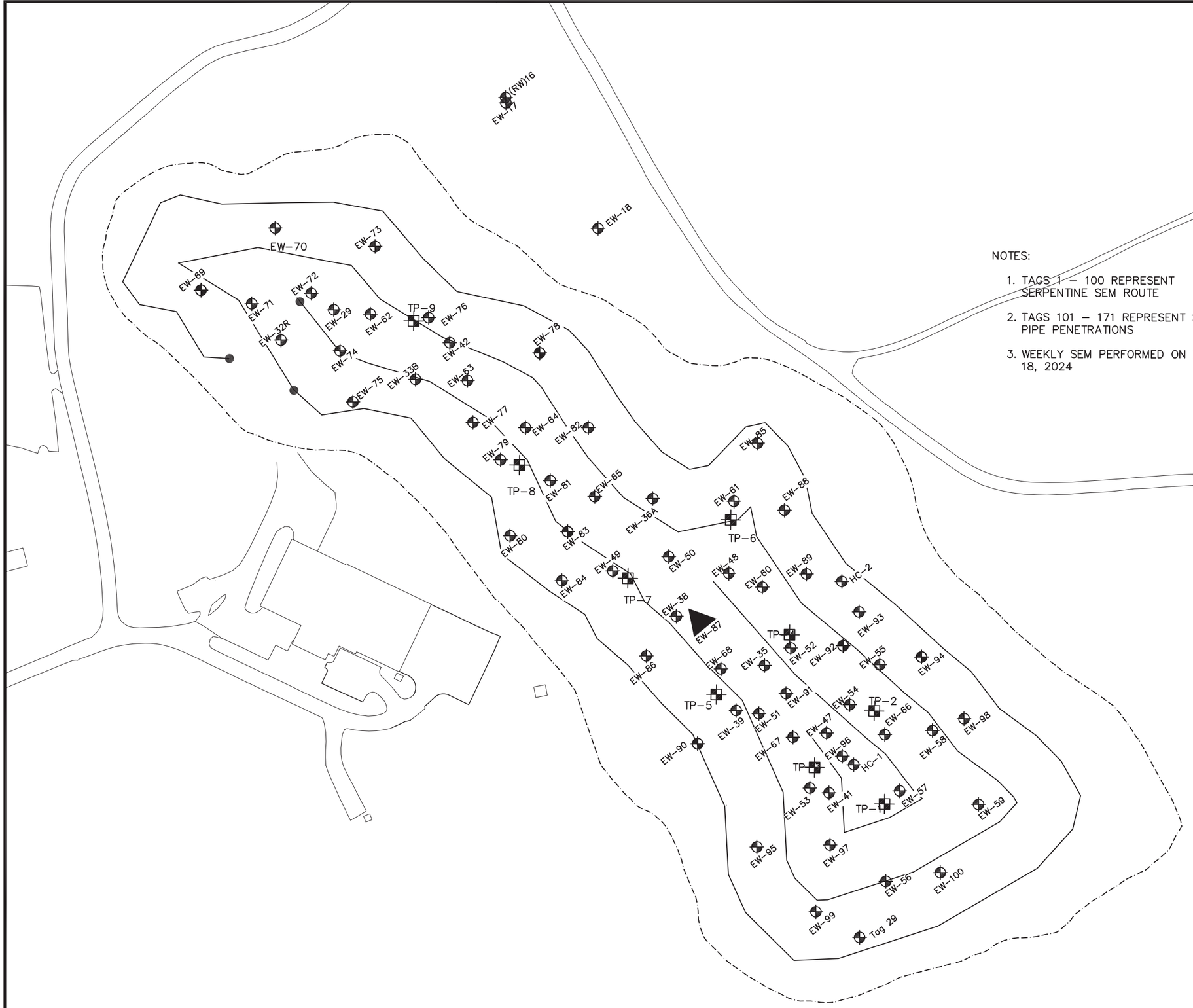
NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 171 represent SEM at Pipe Penetrations
Weather Conditions: Sunny 43°F Wind: 12 MPH E

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

3/18/2024	10:32	ZERO	0.1	PPM
3/18/2024	10:37	SPAN	501.0	PPM

Background Reading:

3/18/2024	11:02	Upwind	0.0	PPM
3/18/2024	11:03	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 MARCH 18, 2024

0 80 160 240
SCALE IN FEET

N

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.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

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

FILE: 02218208.04

DATE: 3/18/24

SCALE: AS SHOWN

DRAWING NO.

1 of 1

April 3, 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 – March 29, 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 March 29, 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	1
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	1

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	3/29/24 Event	3/29/24 Event Result	Comments
EW-87	12/21/23	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-67	2/29/24	1-Month Retest	Passed	Exceedance Resolved
EW-55	3/7/24	N/A	Passed	Requires 1-Month Retest
EW-76	3/7/24	N/A	Passed	Requires 1-Month Retest
EW-95	3/7/24	N/A	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
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 - MARCH 29, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
1	3.3 PPM	OK			Start Serpentine Route
2	17.8 PPM	OK			
3	1.6 PPM	OK			
4	1.5 PPM	OK			
5	1.5 PPM	OK			
6	1.5 PPM	OK			
7	1.6 PPM	OK			
8	1.5 PPM	OK			
9	1.5 PPM	OK			
10	1.5 PPM	OK			
11	1.5 PPM	OK			
12	1.5 PPM	OK			
13	1.4 PPM	OK			
14	1.4 PPM	OK			
15	281.0 PPM	OK			
16	7.9 PPM	OK			
17	10.9 PPM	OK			
18	1.5 PPM	OK			
19	1.5 PPM	OK			
20	1.7 PPM	OK			
21	4.0 PPM	OK			
22	1.6 PPM	OK			
23	1.6 PPM	OK			
24	1.7 PPM	OK			
25	2.6 PPM	OK			
26	1.5 PPM	OK			
27	1.3 PPM	OK			
28	1.1 PPM	OK			
29	1.2 PPM	OK			
30	1.3 PPM	OK			
31	18.0 PPM	OK			
32	6.4 PPM	OK			
33	3.3 PPM	OK			
34	117.0 PPM	OK			
35	22.1 PPM	OK			
36	59.5 PPM	OK			
37	48.6 PPM	OK			
38	4.8 PPM	OK			
39	14.9 PPM	OK			
40	2.9 PPM	OK			
41	2.5 PPM	OK			
42	1.6 PPM	OK			
43	1.5 PPM	OK			
44	1.3 PPM	OK			
45	1.2 PPM	OK			
46	1.1 PPM	OK			
47	1.0 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 29, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
48	1.1 PPM	OK			
49	1.0 PPM	OK			
50	1.0 PPM	OK			
51	1.0 PPM	OK			
52	1.0 PPM	OK			
53	1.0 PPM	OK			
54	1.0 PPM	OK			
55	1.0 PPM	OK			
56	1.1 PPM	OK			
57	1.7 PPM	OK			
58	1.5 PPM	OK			
59	2.0 PPM	OK			
60	1.2 PPM	OK			
61	3.0 PPM	OK			
62	1.1 PPM	OK			
63	1.3 PPM	OK			
64	3.2 PPM	OK			
65	2.1 PPM	OK			
66	1.3 PPM	OK			
67	3.0 PPM	OK			
68	1.3 PPM	OK			
69	1.2 PPM	OK			
70	6.3 PPM	OK			
71	2.5 PPM	OK			
72	36.3 PPM	OK			
73	2.6 PPM	OK			
74	1.9 PPM	OK			
75	9.2 PPM	OK			
76	241.0 PPM	OK			
77	16.2 PPM	OK			
78	2.1 PPM	OK			
79	1.6 PPM	OK			
80	1.1 PPM	OK			
81	3.5 PPM	OK			
82	1.2 PPM	OK			
83	3.6 PPM	OK			
84	0.9 PPM	OK			
85	1.0 PPM	OK			
86	1.2 PPM	OK			
87	2.1 PPM	OK			
88	0.8 PPM	OK			
89	0.8 PPM	OK			
90	0.8 PPM	OK			
91	1.4 PPM	OK			
92	1.5 PPM	OK			
93	59.5 PPM	OK			
94	21.3 PPM	OK			

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 29, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
95	48.8 PPM	OK			
96	1.0 PPM	OK			
97	1.1 PPM	OK			
98	0.8 PPM	OK			
99	2.2 PPM	OK			
100	10.9 PPM	OK			End Serpentine Route
101	36.7 PPM	OK			EW-35
102	141.0 PPM	OK			EW-52
103	7.1 PPM	OK			TP-4
104	114.0 PPM	OK			EW-60
105	38.2 PPM	OK			EW-48
106	0.9 PPM	OK			TP-6
107	0.9 PPM	OK			EW-61
108	1.1 PPM	OK			EW-50
109	176.0 PPM	OK			EW-67
110	1.1 PPM	OK			EW-47
111	2.1 PPM	OK			EW-54
112	4.7 PPM	OK			EW-55
113	3.4 PPM	OK			EW-92
114	156.0 PPM	OK			EW-91
115	2.2 PPM	OK			EW-96
116	1.0 PPM	OK			TP-2
117	0.8 PPM	OK			EW-66
118	0.8 PPM	OK			EW-58
119	0.9 PPM	OK			EW-57
120	1.7 PPM	OK			TP-1
121	1.0 PPM	OK			EW-59
122	8.1 PPM	OK			EW-100
123	5.5 PPM	OK			EW-56
124	2.4 PPM	OK			EW-97
125	1.4 PPM	OK			EW-41
126	2.0 PPM	OK			EW-53
127	3.1 PPM	OK			TP-3
128	189.0 PPM	OK			EW-51
129	3.5 PPM	OK			EW-39
130	3.8 PPM	OK			TP-5
131	19.7 PPM	OK			EW-68
132	48.0 PPM	OK			EW-87
133	3.1 PPM	OK			EW-38
134	27.4 PPM	OK			TP-7
135	1.1 PPM	OK			EW-49
136	0.8 PPM	OK			EW-83
137	0.9 PPM	OK			EW-65
138	0.9 PPM	OK			EW-81
139	1.0 PPM	OK			TP-8
140	0.8 PPM	OK			EW-64

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 29, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments
141	0.6 PPM	OK			EW-63
142	0.6 PPM	OK			EW-42
143	0.6 PPM	OK			EW-76
144	0.6 PPM	OK			TP-9
145	0.5 PPM	OK			EW-62
146	0.5 PPM	OK			EW-29R
147	0.4 PPM	OK			EW-74
148	1.0 PPM	OK			EW-32R
149	0.5 PPM	OK			EW-69
150	0.4 PPM	OK			EW-71
151	0.4 PPM	OK			EW-72
152	0.4 PPM	OK			EW-73
153	0.3 PPM	OK			EW-78
154	6653.0 PPM	HIGH_ALRM	36.60038	-82.14767	EW-82
155	2.1 PPM	OK			EW-36A
156	1.3 PPM	OK			EW-85
157	1.1 PPM	OK			EW-88
158	339.0 PPM	OK			EW-89
159	3.7 PPM	OK			EW-93
160	1.3 PPM	OK			EW-94
161	0.6 PPM	OK			EW-98
162	2.8 PPM	OK			EW-99
163	141.0 PPM	OK			EW-95
164	225.0 PPM	OK			EW-90
165	13.4 PPM	OK			EW-86
166	1.0 PPM	OK			EW-84
167	1.4 PPM	OK			EW-80
168	0.4 PPM	OK			EW-79
169	0.3 PPM	OK			EW-77
170	0.3 PPM	OK			EW-33B
171	0.3 PPM	OK			EW-75

Number of locations sampled:	171
Number of exceedance locations:	1

EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS
WEEKLY MONITORING EVENT - MARCH 29, 2024
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA

ID #	Methane Concentration	Compliance	GPS Coordinates Lat.	Long.	Comments

NOTES:
Points 1 through 100 represent serpentine SEM route.
Points 101 through 171 represent SEM at Pipe Penetrations
Weather Conditions: Mostly Sunny 55°F Wind: 10 MPH SW

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

3/29/2024	9:52	ZERO	0.1	PPM
3/29/2024	9:54	SPAN	501.0	PPM

Background Reading:

3/29/2024	9:56	Upwind	2.5	PPM
3/29/2024	9:58	Downwind	2.1	PPM

NOTES:

1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
2. TAGS 101 – 171 REPRESENT SEM AT PIPE PENETRATIONS
3. WEEKLY SEM PERFORMED ON MARCH 29, 2024

0 80 160 240
SCALE IN FEET

N

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.
15521 MIDLOTHIAN TNPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

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

FILE: 02218208.04
DATE: 3/29/24
SCALE: AS SHOWN
DRAWING NO. 1 of 1

Appendix B

In-Waste Temperatures on Select Days in March

Appendix B Figures

Figure B - 1 Average Temperatures Recorded by TP-1 on March 6, 2024

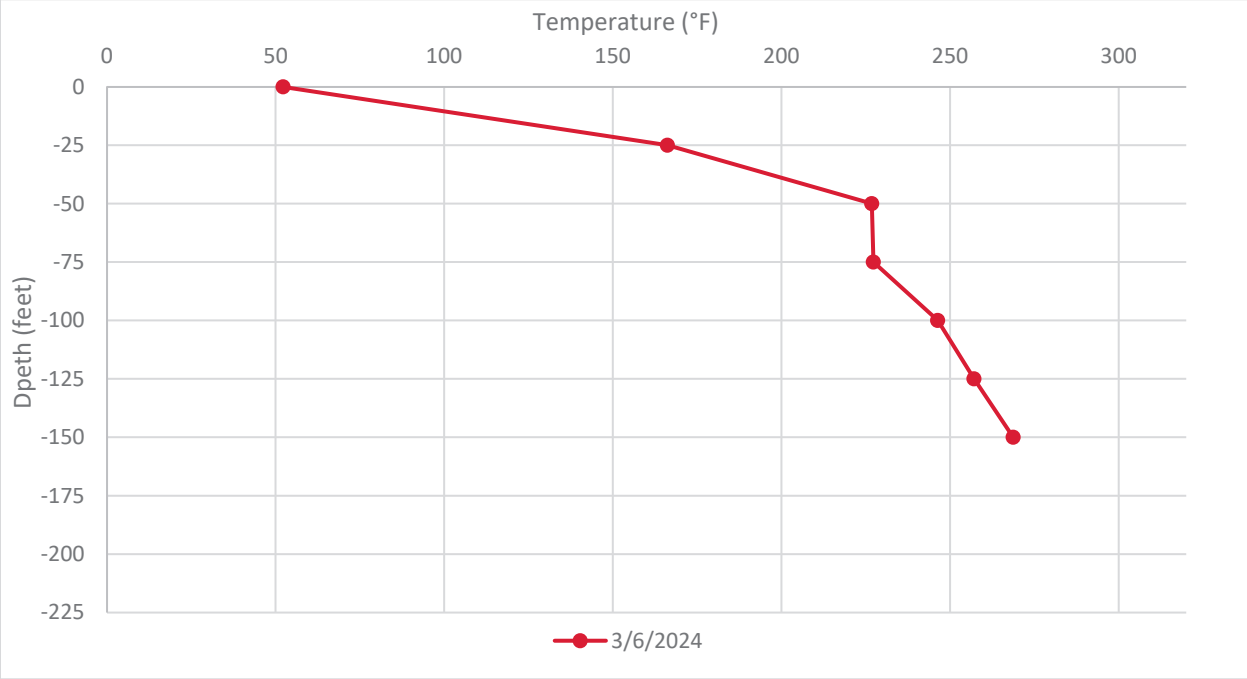


Figure B - 2 Average Temperatures Recorded by TP-1 on March 13, 2024

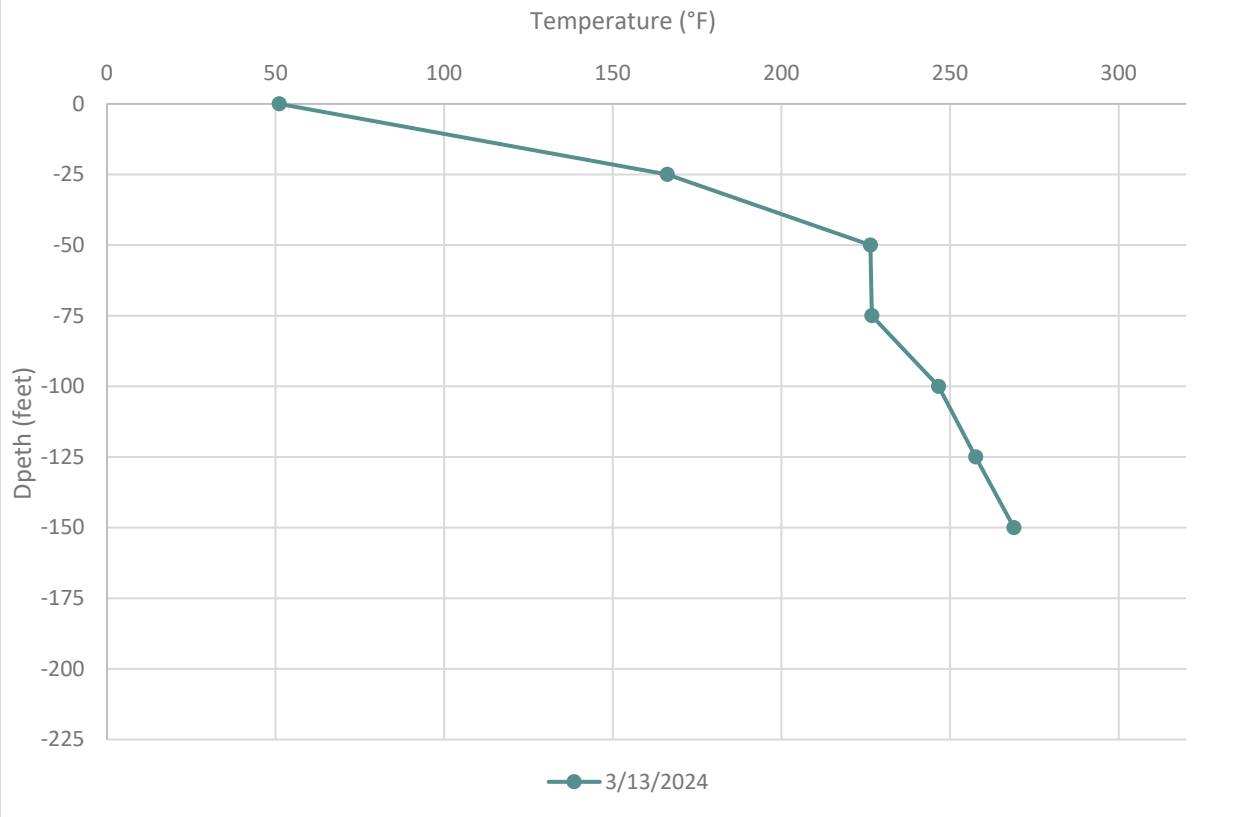


Figure B - 3 Average Temperatures Recorded by TP-1 on March 20, 2024

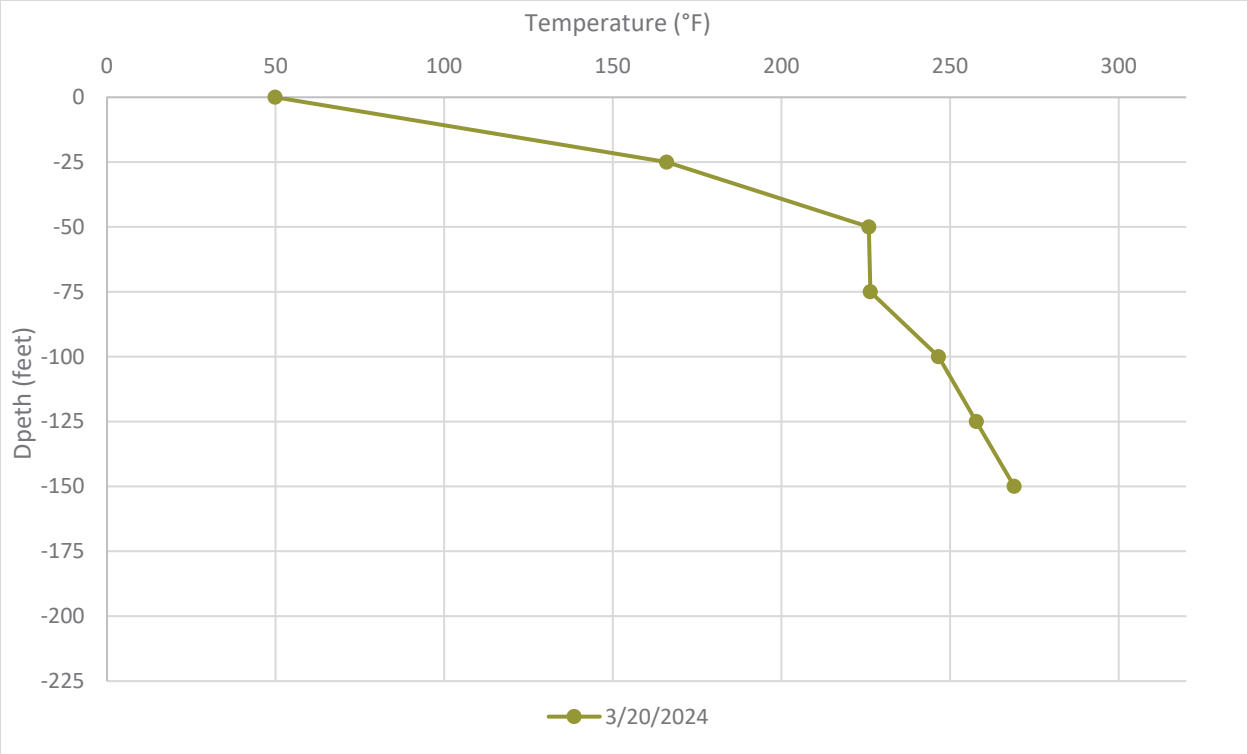


Figure B - 4 Average Temperatures Recorded by TP-1 on March 27, 2024

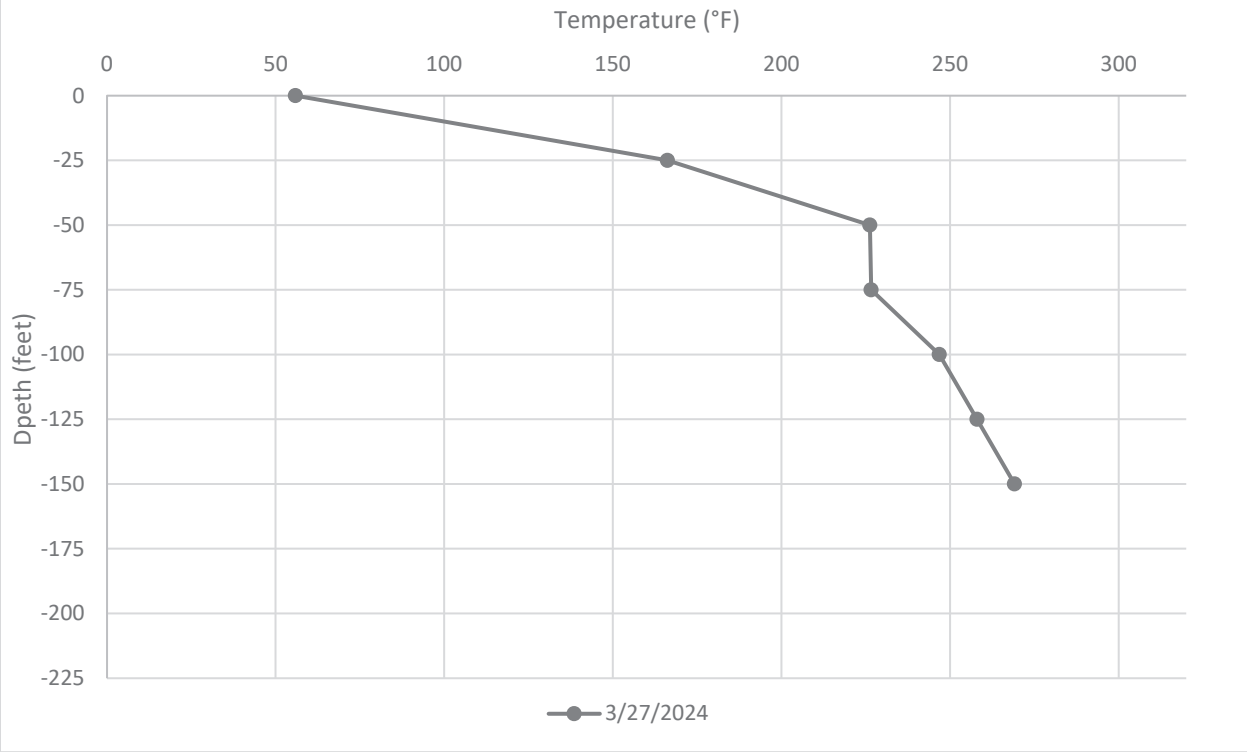


Figure B - 5 Average Temperatures Recorded by TP-2 on March 6, 2024

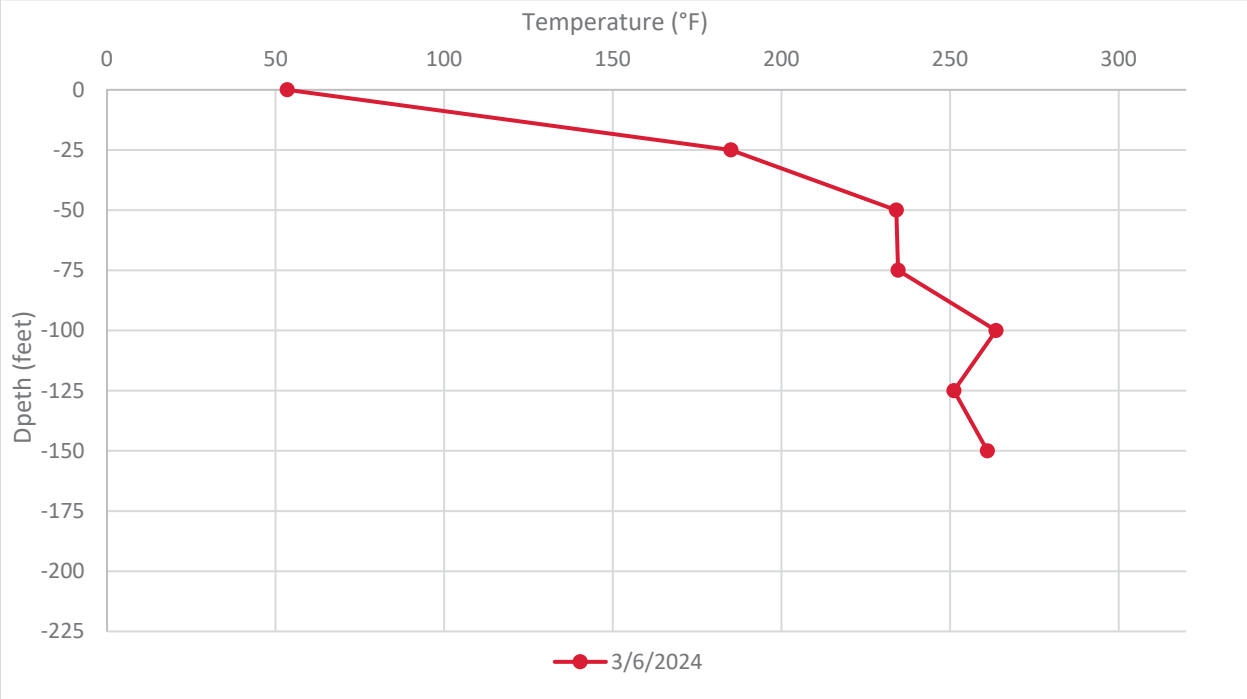


Figure B - 6 Average Temperatures Recorded by TP-2 on March 13, 2024

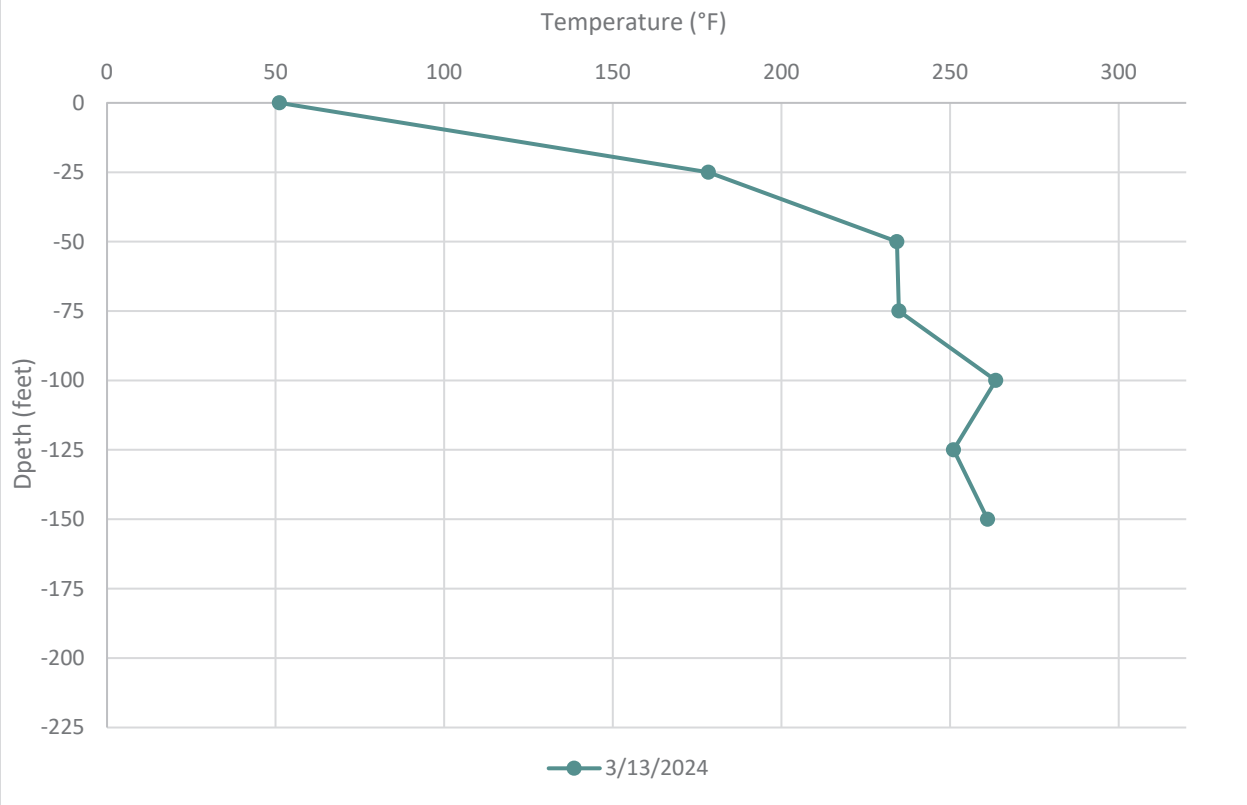


Figure B - 7 Average Temperatures Recorded by TP-2 on March 20, 2024

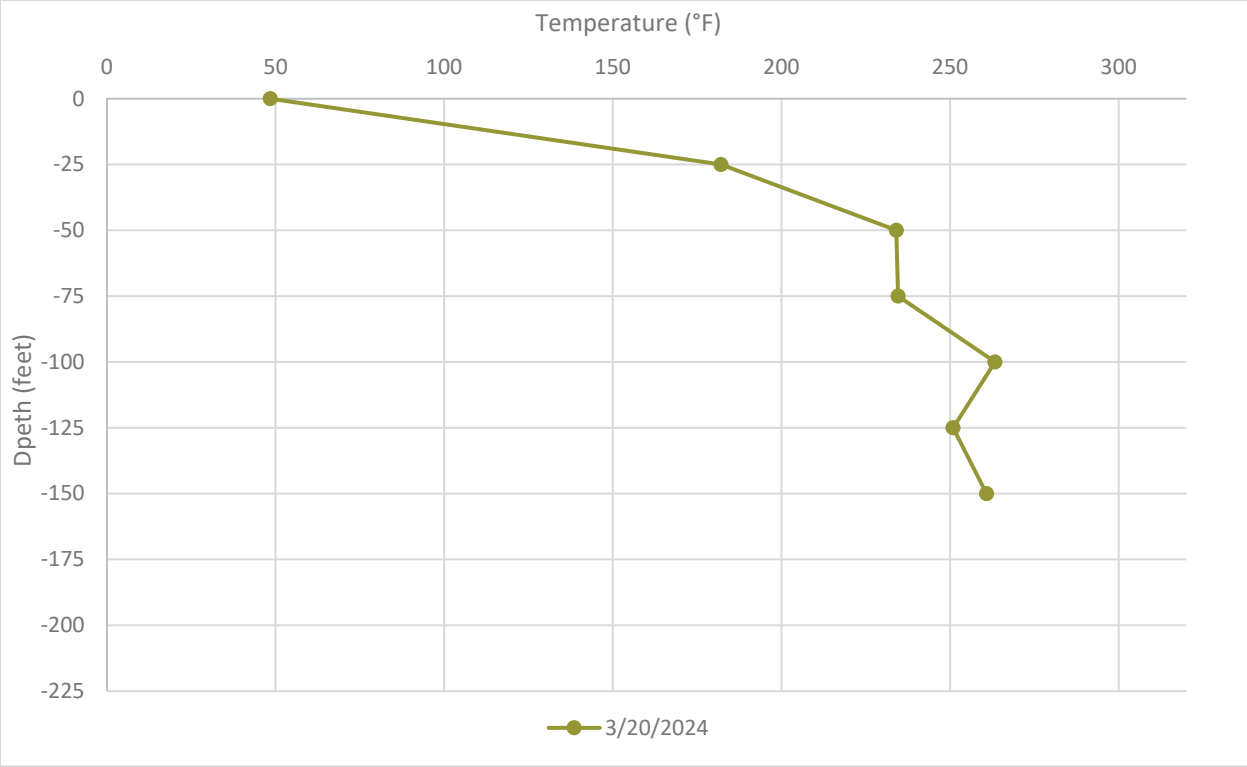


Figure B - 8 Average Temperatures Recorded by TP-2 on March 27, 2024

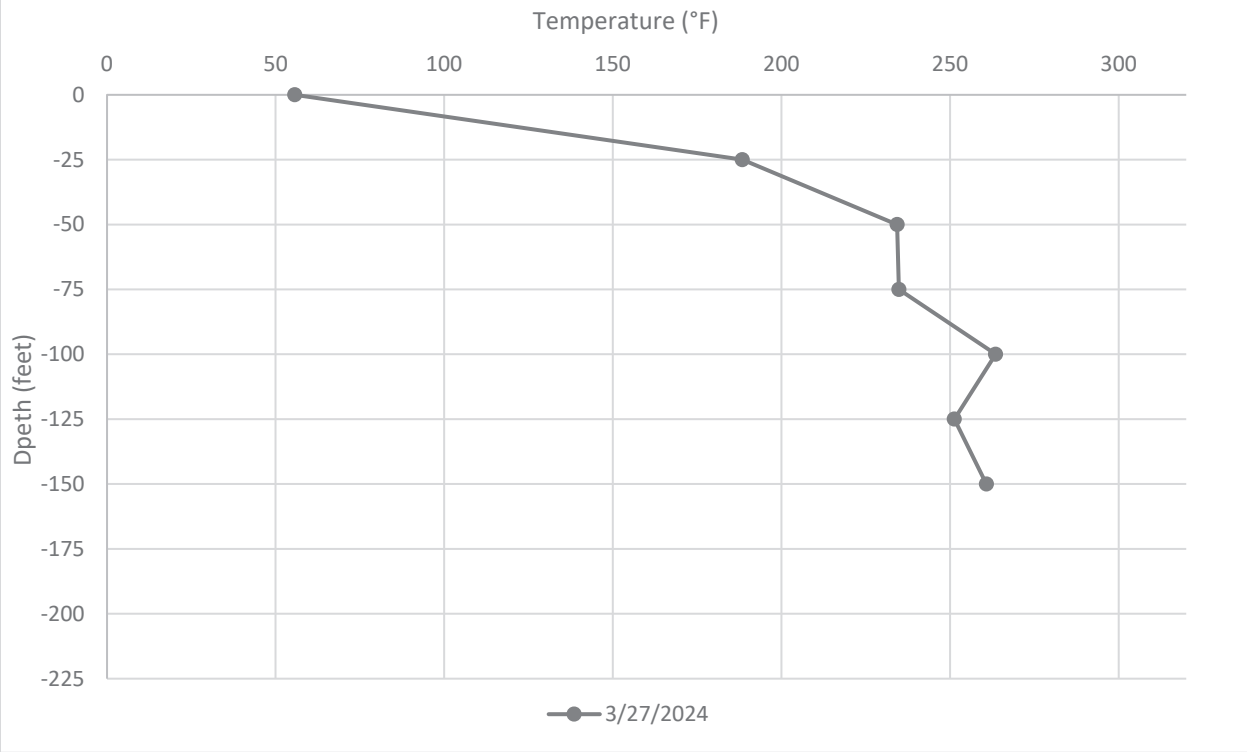


Figure B - 9 Average Temperatures Recorded by TP-3 on March 6, 2024

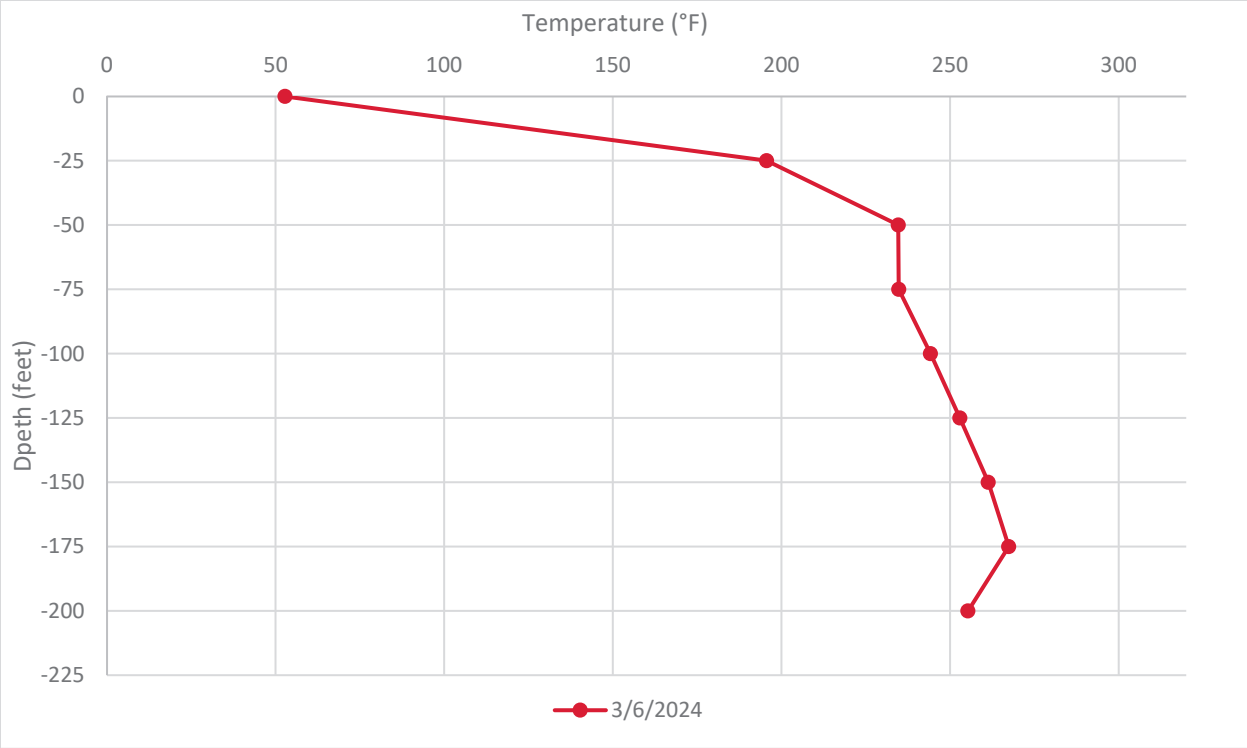


Figure B - 10 Average Temperatures Recorded by TP-3 on March 13, 2024

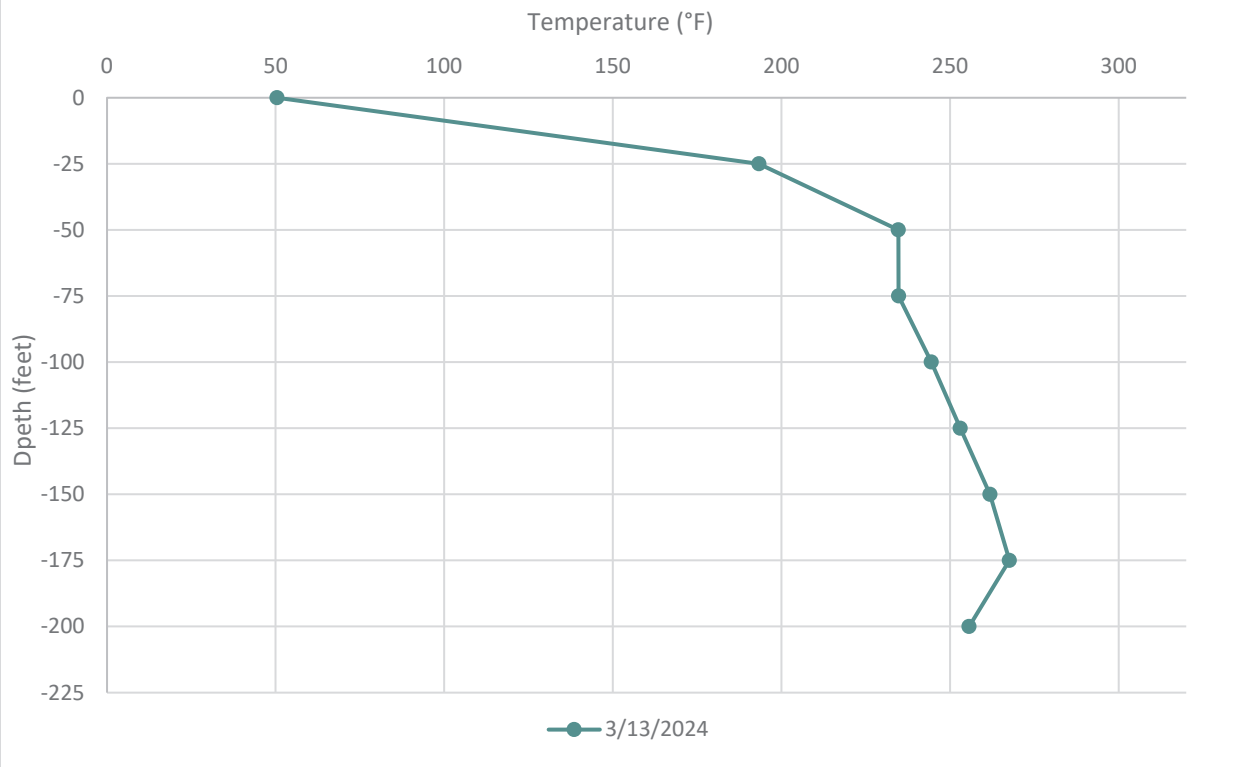


Figure B - 11 Average Temperatures Recorded by TP-3 on March 20, 2024

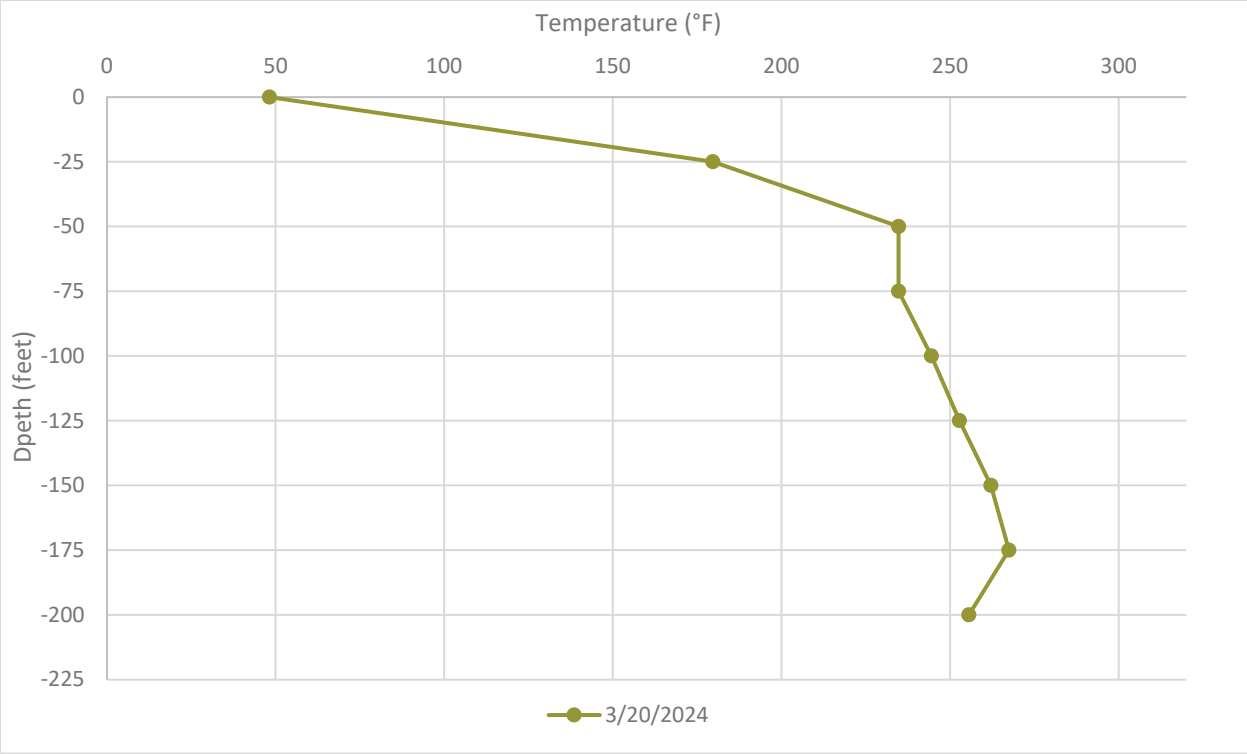


Figure B - 12 Average Temperatures Recorded by TP-3 on March 27, 2024

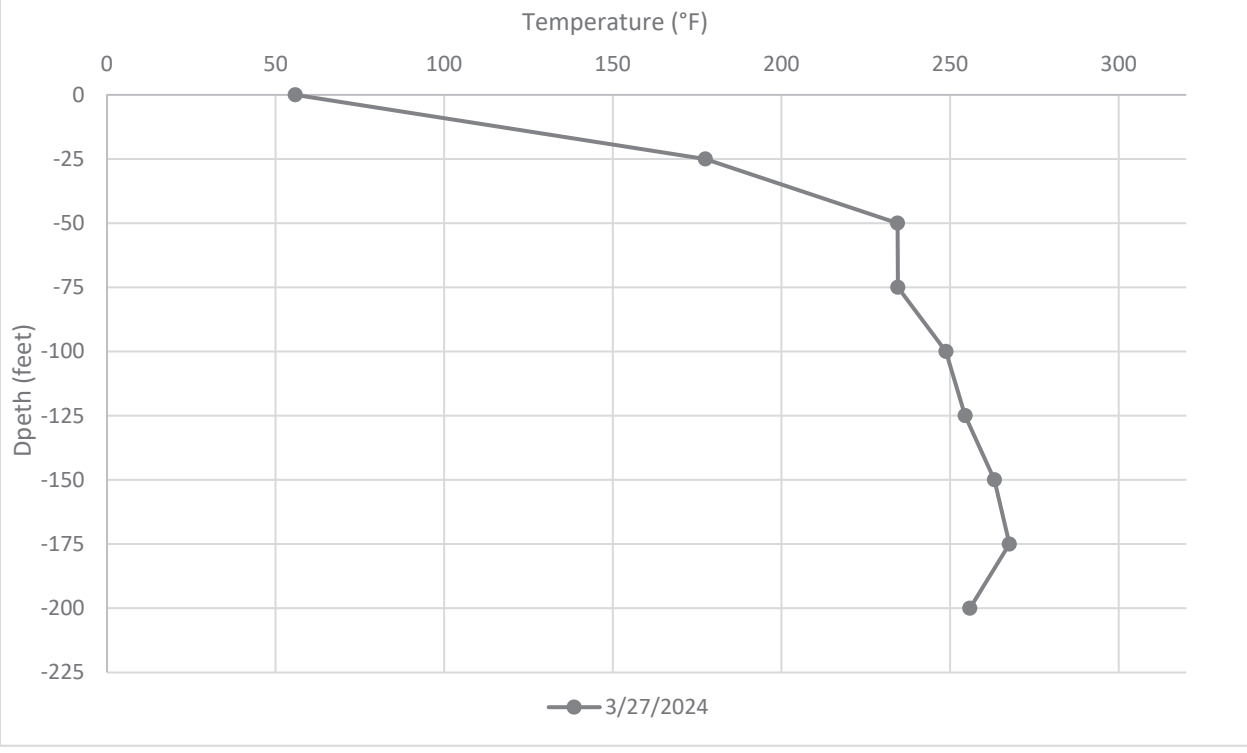


Figure B - 13 Average Temperatures Recorded by TP-4 on March 6, 2024

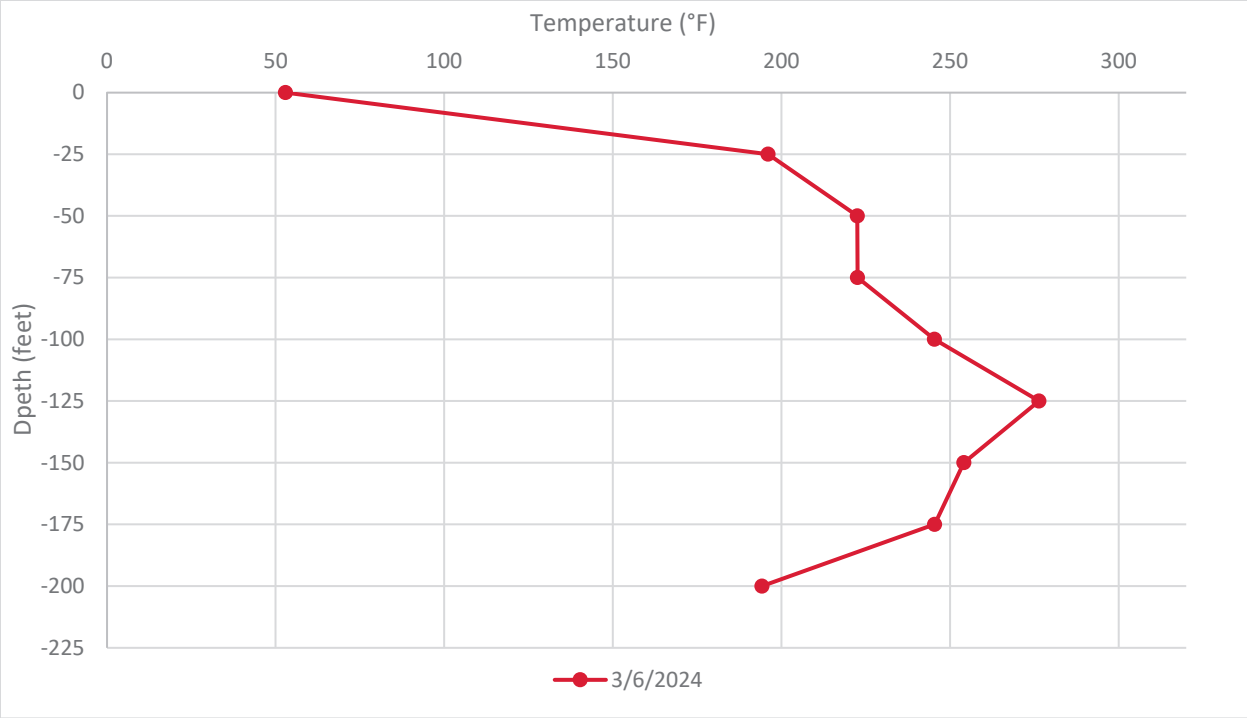


Figure B - 14 Average Temperatures Recorded by TP-4 on March 13, 2024

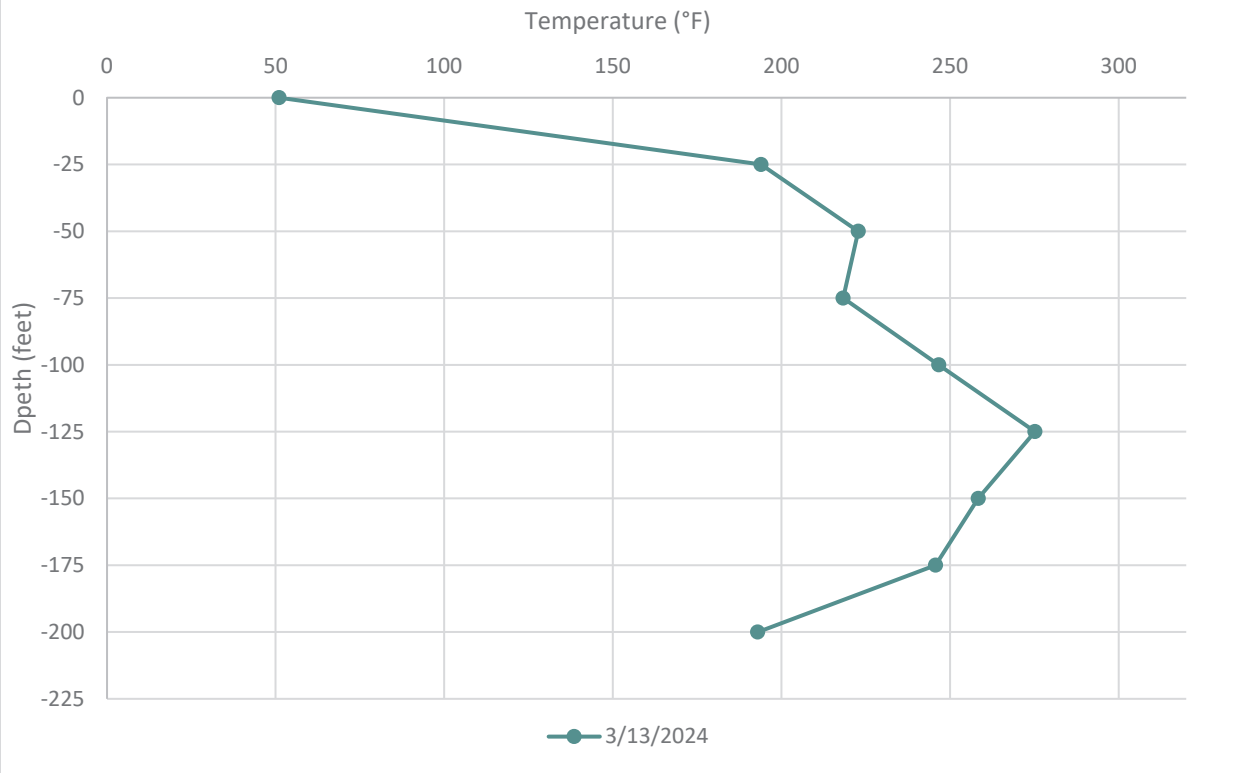


Figure B - 15 Average Temperatures Recorded by TP-4 on March 20, 2024

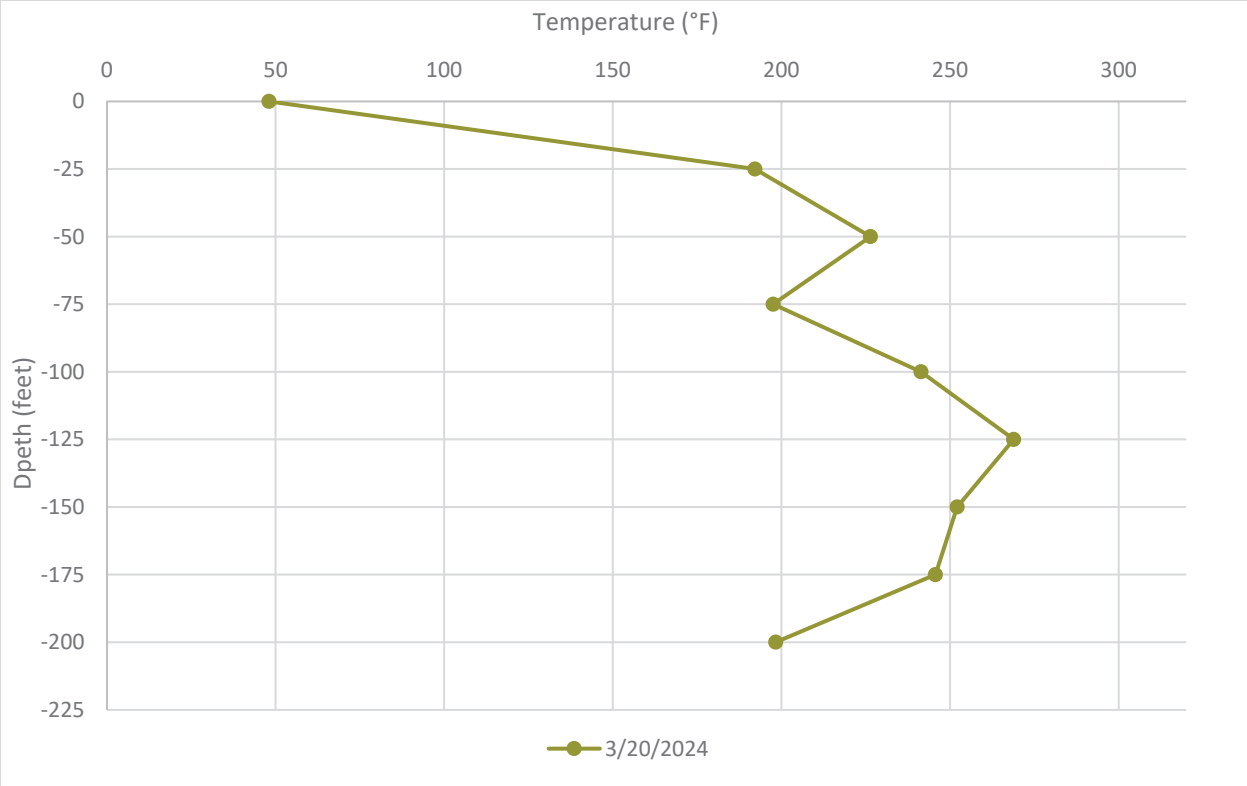


Figure B - 16 Average Temperatures Recorded by TP-4 on March 27, 2024

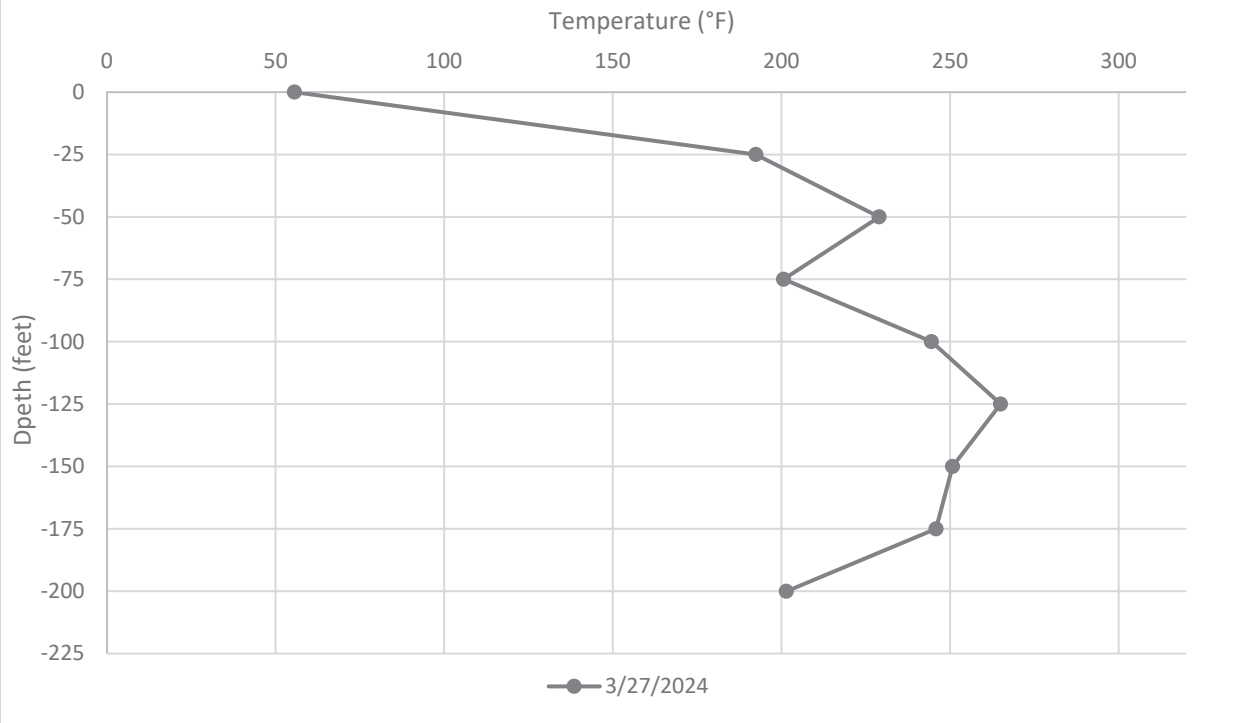


Figure B - 17 Average Temperatures Recorded by TP-6 on March 6, 2024

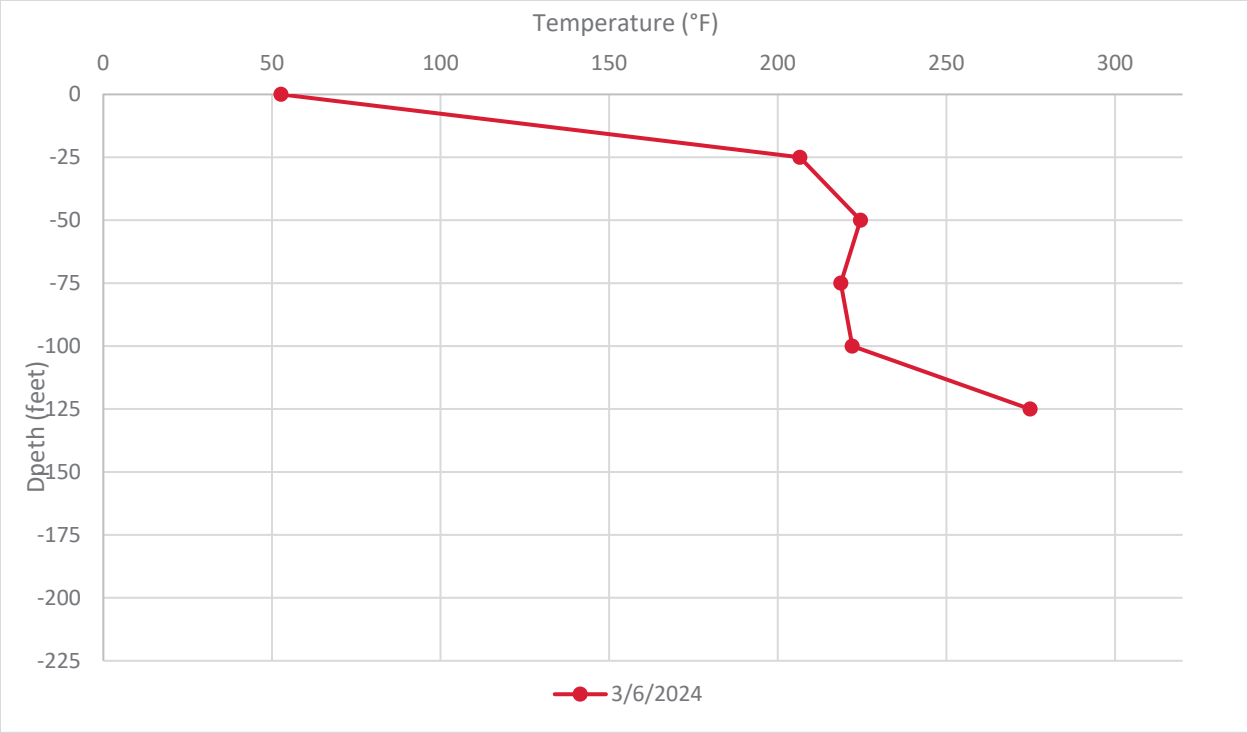


Figure B - 18 Average Temperatures Recorded by TP-6 on March 13, 2024

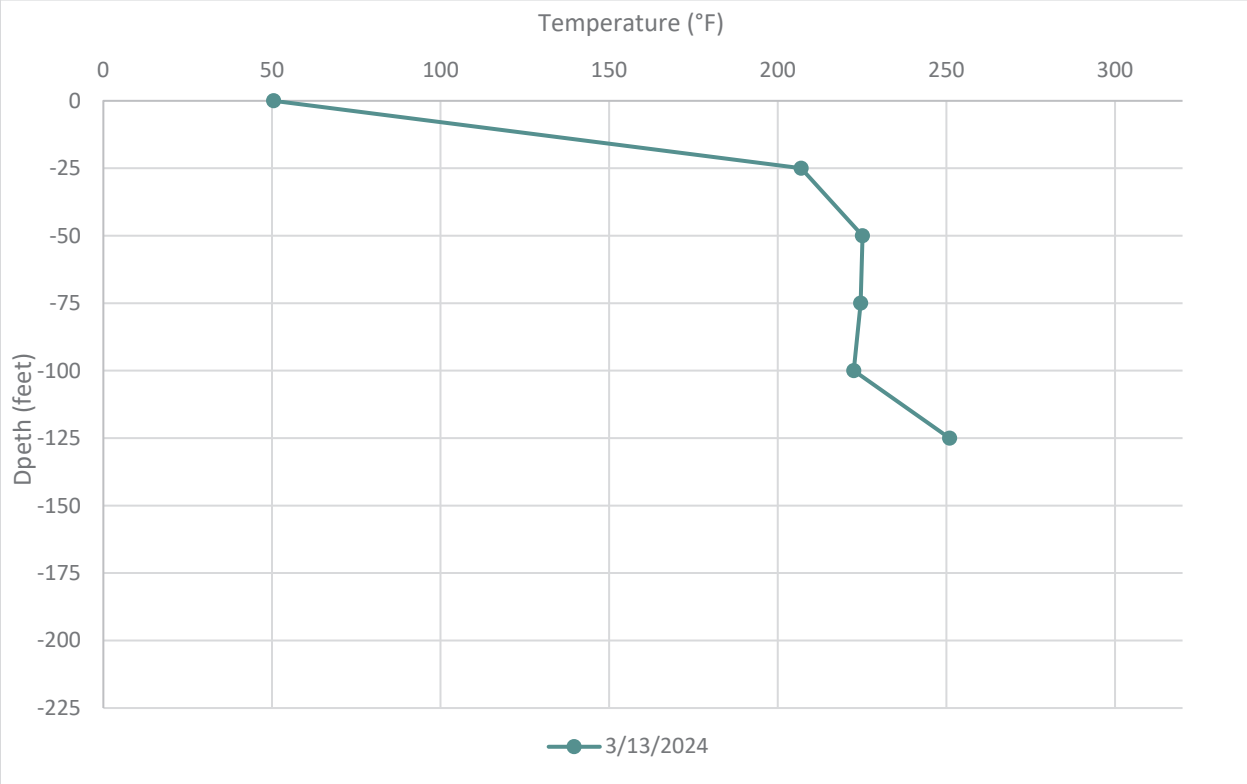


Figure B - 19 Average Temperatures Recorded by TP-6 on March 20, 2024

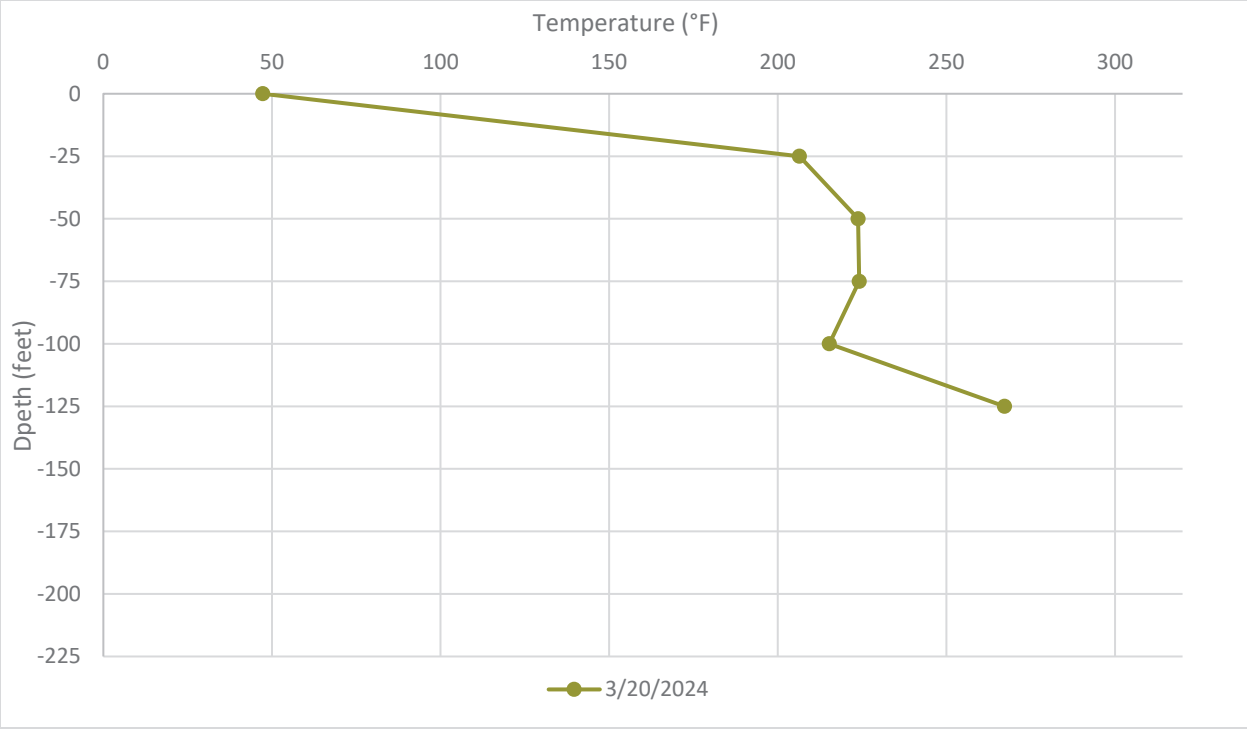


Figure B - 20 Average Temperatures Recorded by TP-6 on March 27, 2024

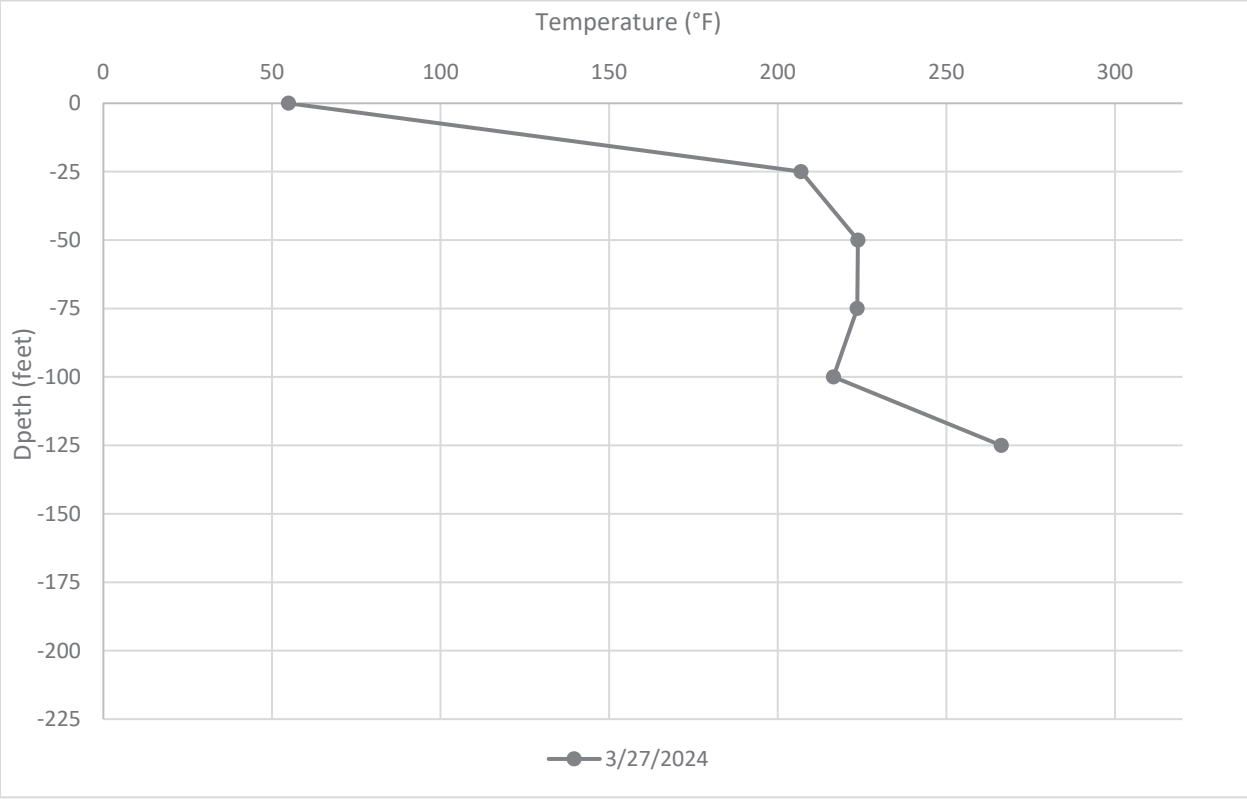


Figure B - 21 Average Temperatures Recorded by TP-7 on March 6, 2024

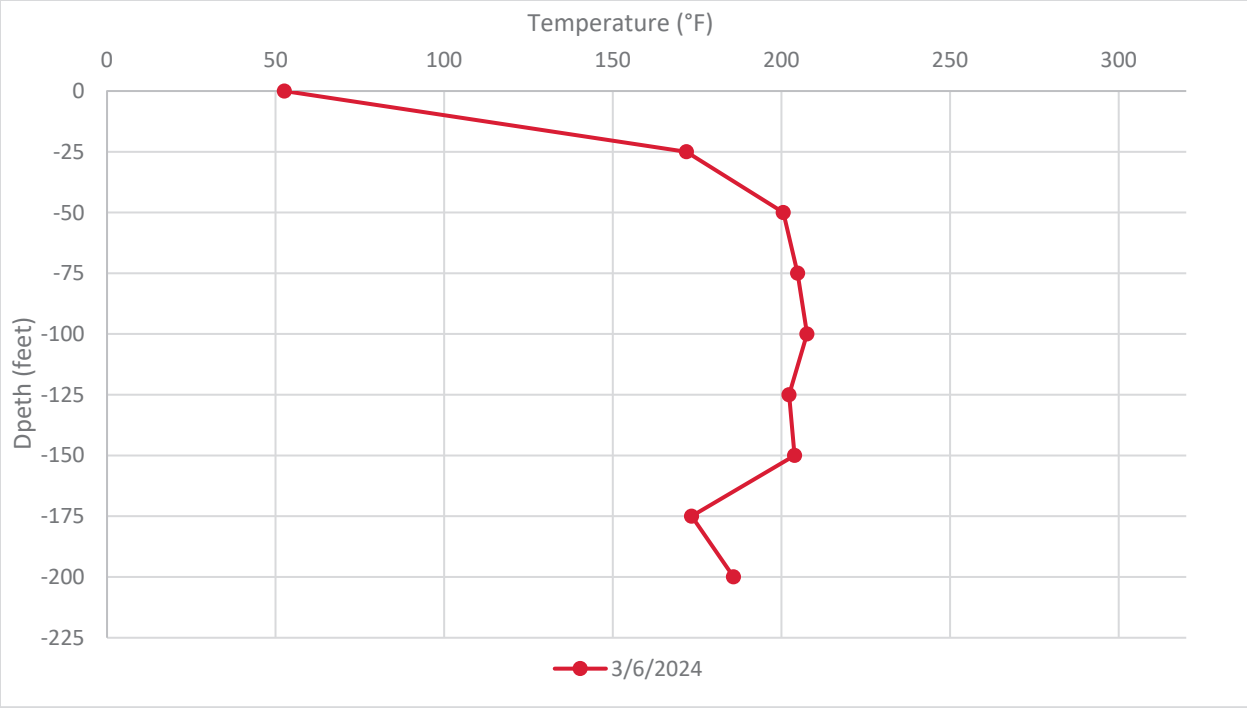


Figure B - 22 Average Temperatures Recorded by TP-7 on March 13, 2024

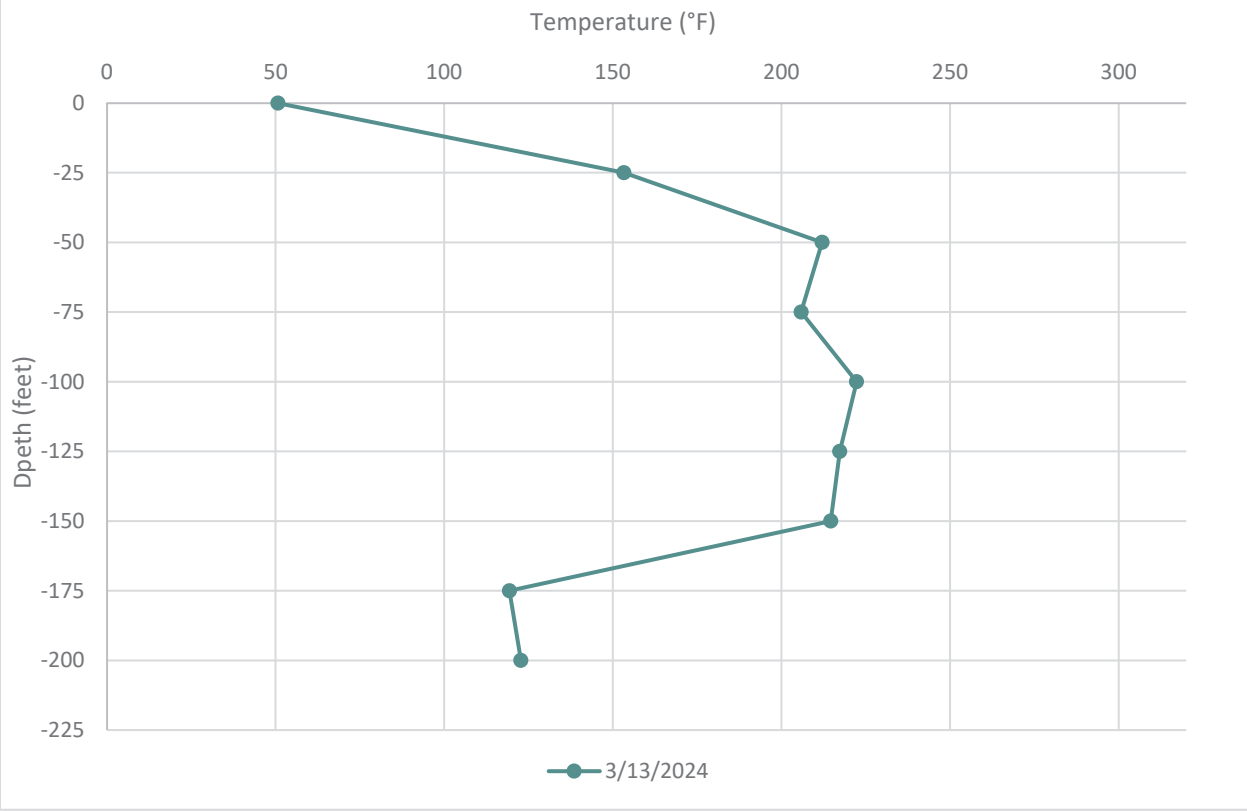


Figure B - 23 Average Temperatures Recorded by TP-7 on March 20, 2024

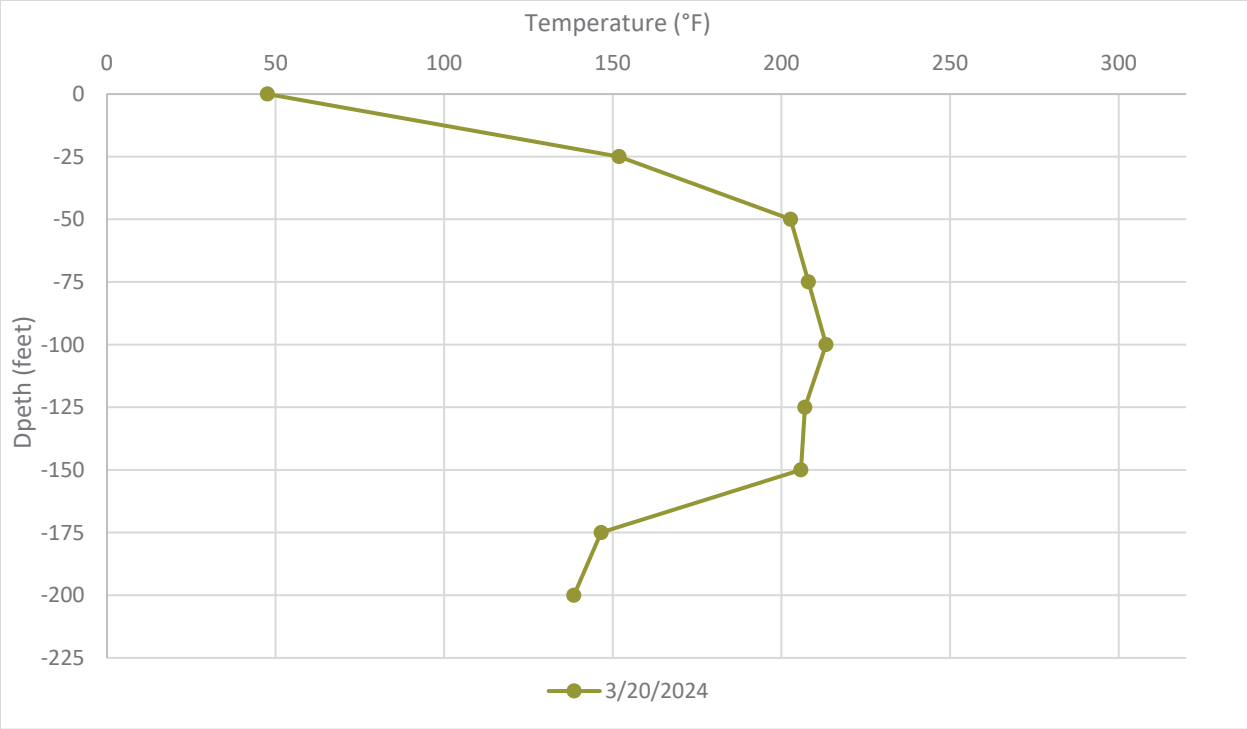


Figure B - 24 Average Temperatures Recorded by TP-7 on March 27, 2024

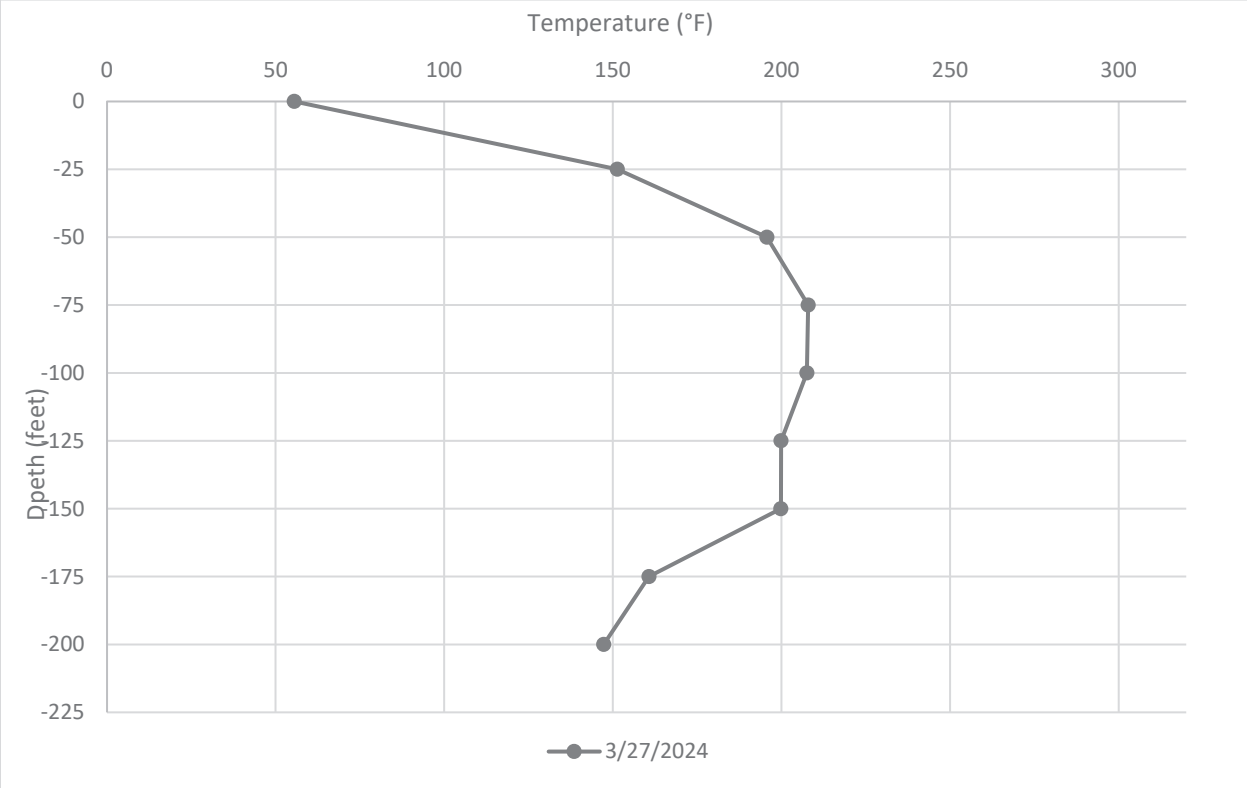


Figure B - 25 Average Temperatures Recorded by TP-8 on March 6, 2024

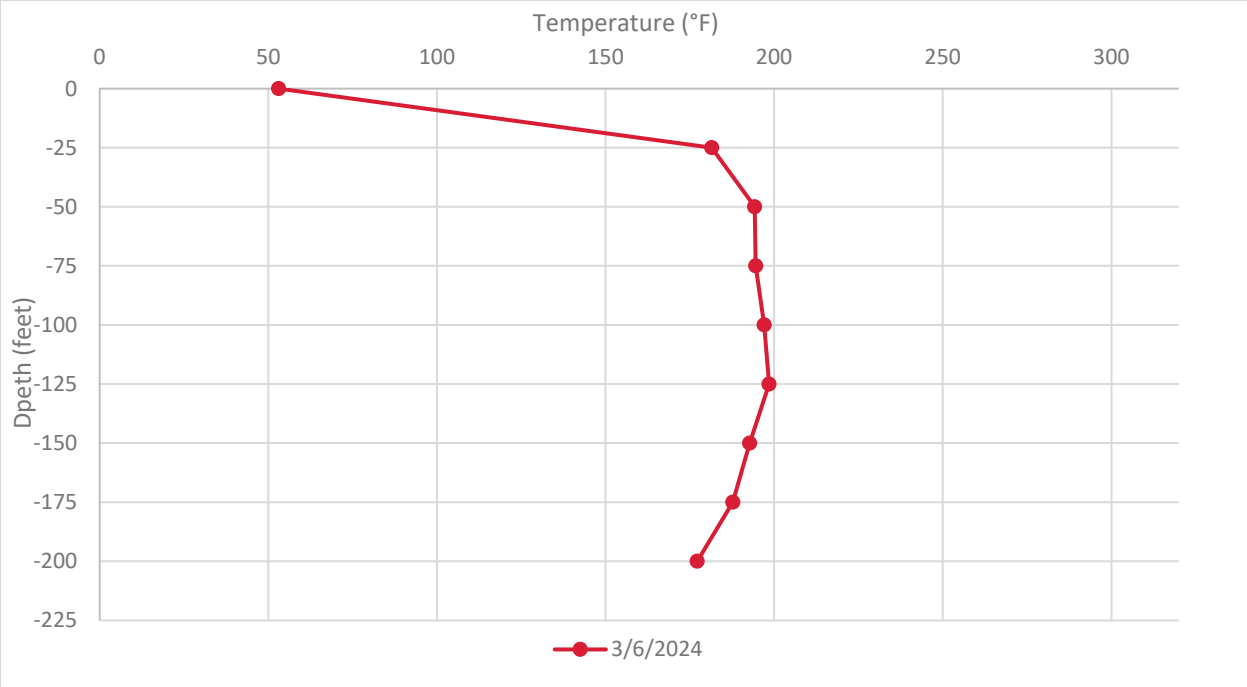


Figure B - 26 Average Temperatures Recorded by TP-8 on March 13, 2024

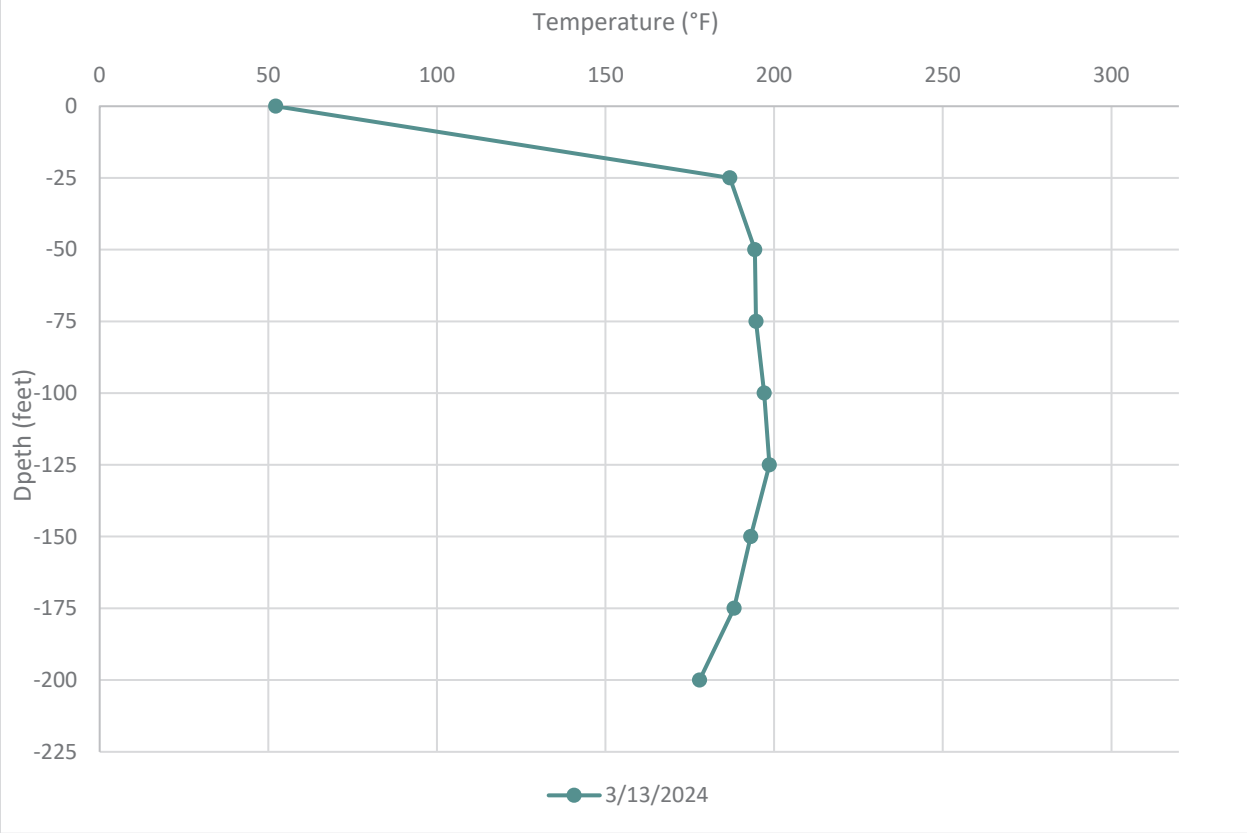


Figure B - 27 Average Temperatures Recorded by TP-8 on March 20, 2024

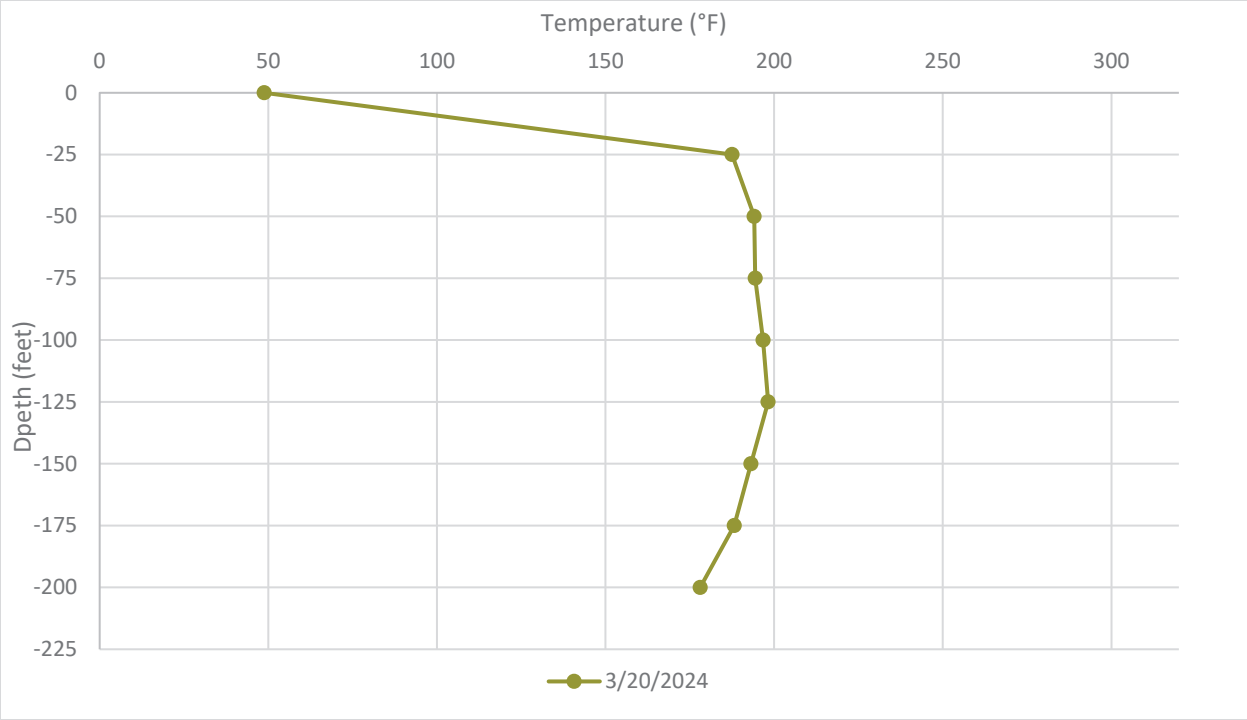


Figure B - 28 Average Temperatures Recorded by TP-8 on March 27, 2024

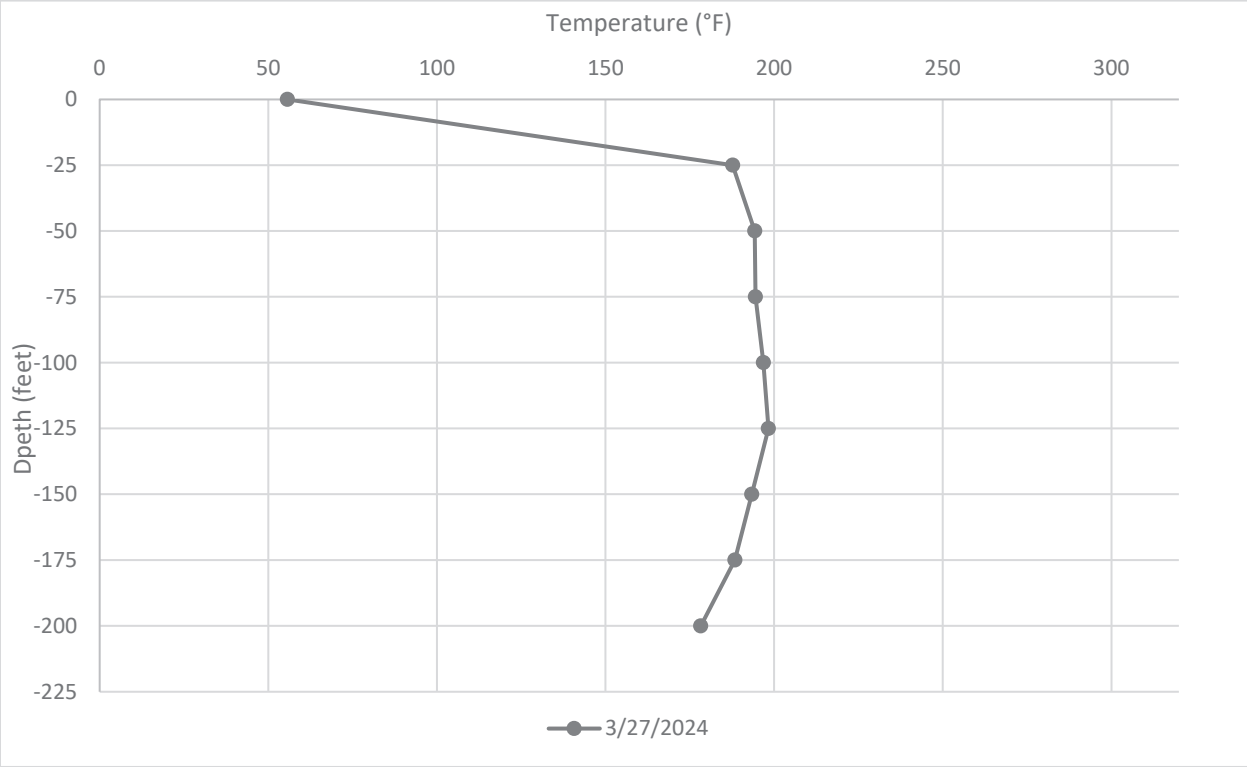


Figure B - 29 Average Temperatures Recorded by TP-9 on March 6, 2024

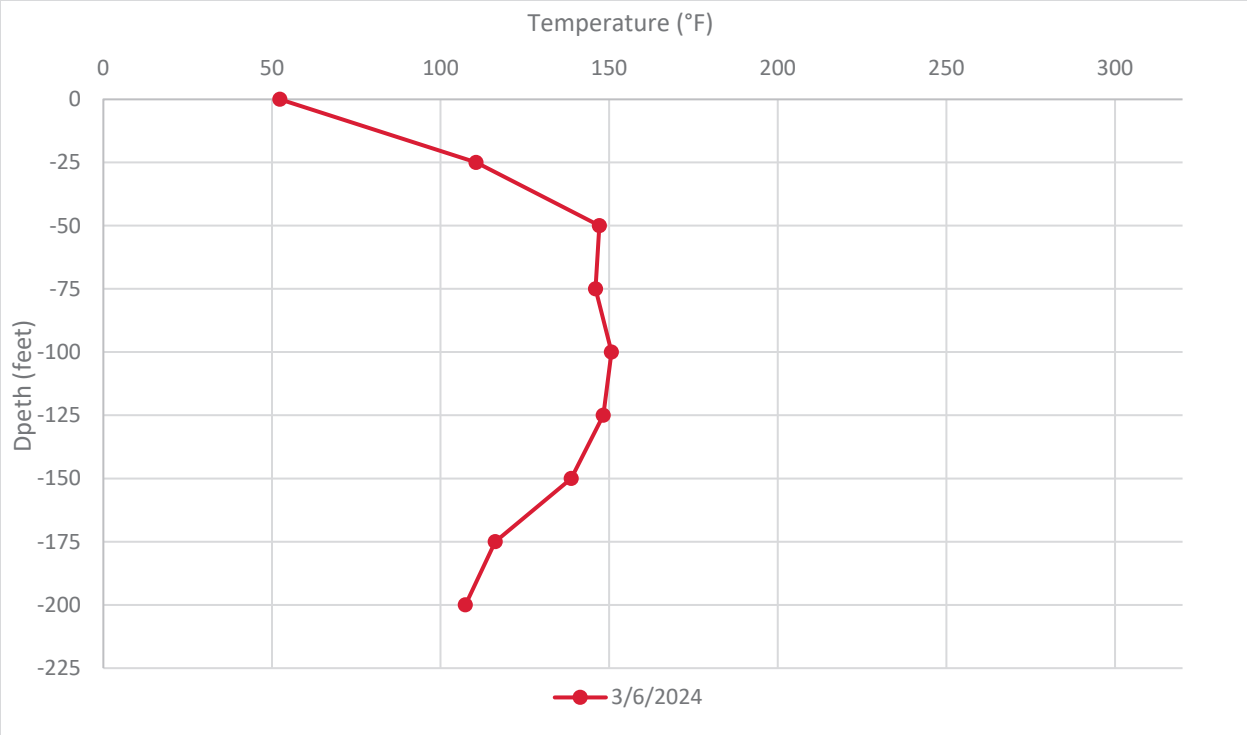


Figure B - 30 Average Temperatures Recorded by TP-9 on March 13, 2024

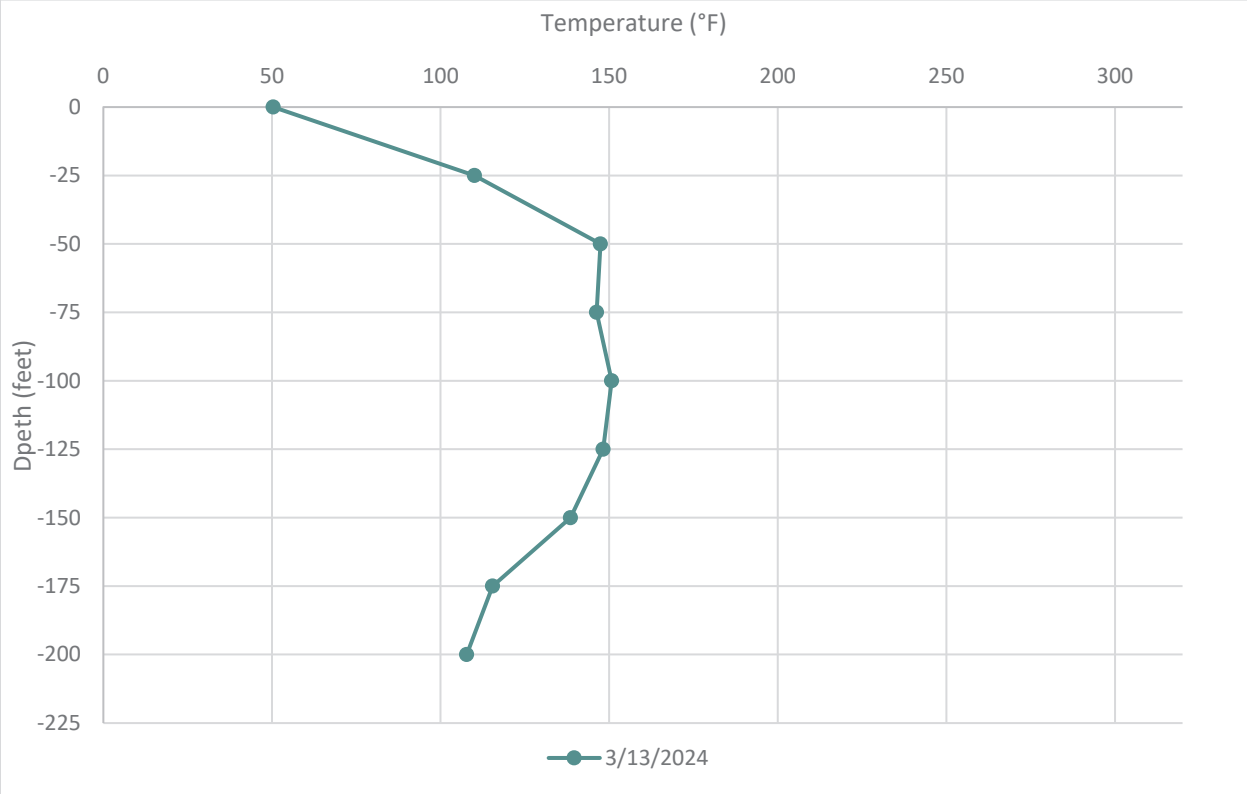


Figure B - 31 Average Temperatures Recorded by TP-9 on March 20, 2024

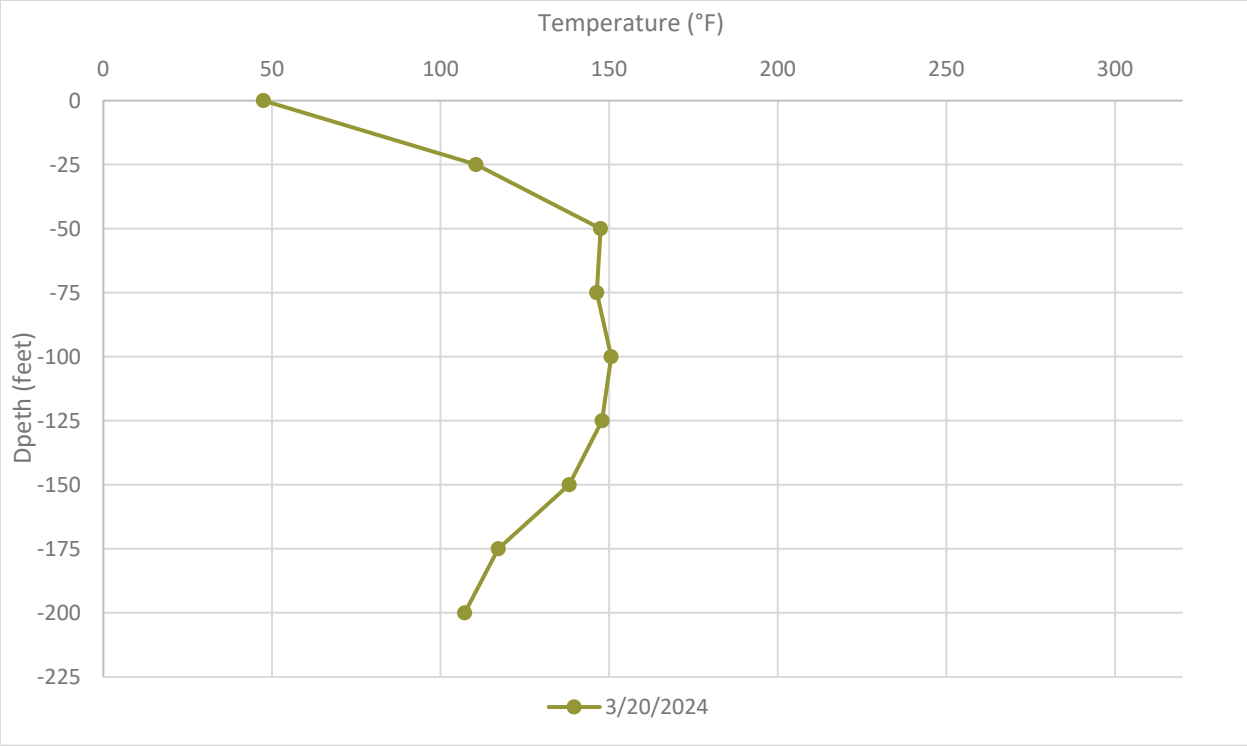
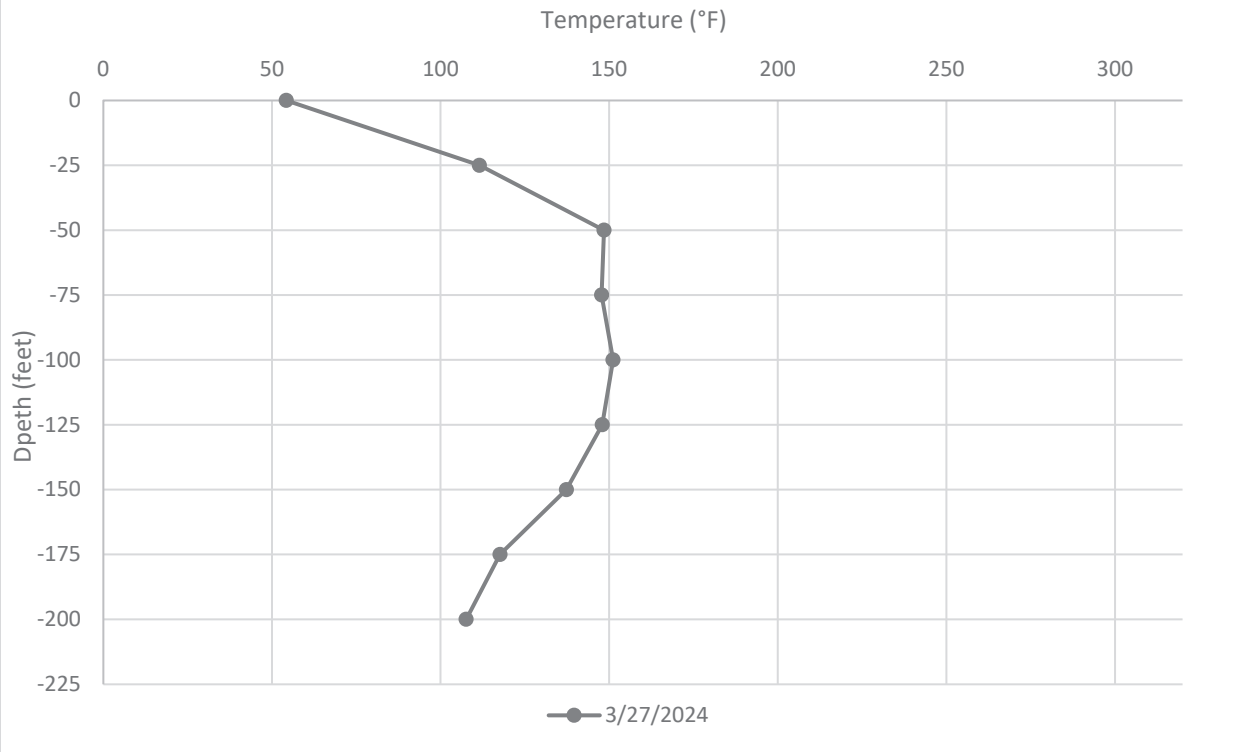


Figure B - 32 Average Temperatures Recorded by TP-9 on March 27, 2024



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 | April 5, 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)
Mar 1	78.7	74.7	84.0
Mar 2	84.9	79.2	92.3
Mar 3	88.4	79.4	100.3
Mar 4	91.6	83.4	104.3
Mar 5	92.4	84.8	103.3
Mar 6	83.5	79.2	88.2
Mar 7	85.4	79.4	94.0
Mar 8	85.2	81.9	89.0
Mar 9	86.4	78.7	93.6
Mar 10	76.3	72.0	84.0
Mar 11	79.9	71.3	90.2
Mar 12	84.9	75.0	97.3
Mar 13	87.5	77.0	98.5
Mar 14	89.8	78.1	101.8
Mar 15	88.8	83.2	94.0
Mar 16	88.9	81.8	98.3
Mar 17	87.4	83.4	92.1
Mar 18	79.2	69.1	87.7
Mar 19	77.4	70.8	86.8
Mar 20	83.7	73.4	95.8
Mar 21	85.9	74.0	97.0
Mar 22	86.1	81.3	93.9
Mar 23	80.3	72.2	86.1
Mar 24	82.3	70.4	95.9
Mar 25	83.9	73.8	95.5
Mar 26	84.2	81.3	88.1
Mar 27	88.2	82.0	96.9
Mar 28	83.0	75.4	91.1
Mar 29	85.2	74.2	97.0
Mar 30	90.3	82.2	98.7
Summary	**85.0**	**76.3**	**92.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 34

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	0.0	0.0	0.0
Mar 2	0.0	0.0	0.0
Mar 3	0.0	0.0	0.0
Mar 4	0.0	0.0	0.0
Mar 5	0.0	0.0	0.0
Mar 6	0.0	0.0	0.0
Mar 7	0.0	0.0	0.0
Mar 8	0.0	0.0	0.0
Mar 9	0.0	0.0	0.0
Mar 10	0.0	0.0	0.0
Mar 11	0.0	0.0	0.0
Mar 12	0.0	0.0	0.0
Mar 13	0.0	0.0	0.0
Mar 14	0.0	0.0	0.0
Mar 15	0.0	0.0	0.0
Mar 16	0.0	0.0	0.0
Mar 17	0.0	0.0	0.0
Mar 18	0.0	0.0	0.0
Mar 19	0.0	0.0	0.0
Mar 20	0.0	0.0	0.0
Mar 21	0.0	0.0	0.0
Mar 22	0.0	0.0	0.0
Mar 23	0.0	0.0	0.0
Mar 24	0.0	0.0	0.0
Mar 25	0.0	0.0	0.0
Mar 26	0.0	0.0	0.0
Mar 27	0.0	0.0	0.0
Mar 28	0.0	0.0	0.0
Mar 29	0.0	0.0	0.0
Mar 30	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)
Mar 1	41.5	31.4	49.5
Mar 2	51.6	43.9	65.5
Mar 3	54.7	37.5	80.4
Mar 4	59.7	43.3	87.4
Mar 5	62.1	46.6	81.5
Mar 6	54.4	50.6	59.9
Mar 7	57.2	50.0	72.5
Mar 8	55.1	49.6	65.8
Mar 9	54.4	45.6	62.5
Mar 10	42.5	37.5	52.6
Mar 11	43.1	28.0	63.6
Mar 12	46.8	27.6	74.3
Mar 13	52.3	33.7	77.8
Mar 14	59.2	39.4	85.7
Mar 15	57.6	50.3	69.4
Mar 16	57.6	47.2	75.5
Mar 17	53.4	42.3	66.2
Mar 18	42.6	31.8	55.8
Mar 19	40.3	29.7	58.8
Mar 20	49.2	31.2	70.6
Mar 21	53.5	34.8	76.9
Mar 22	55.1	43.3	72.5
Mar 23	46.4	32.3	53.0
Mar 24	46.7	27.2	73.1
Mar 25	53.1	37.3	72.1
Mar 26	51.9	48.9	54.0
Mar 27	57.4	45.6	75.8
Mar 28	50.2	39.9	64.6
Mar 29	50.2	32.3	72.1
Mar 30	56.8	37.3	80.7
Summary	**51.9**	**40.3**	**62.1**

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

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	54.0	48.9	59.4
Mar 2	63.0	55.6	74.3
Mar 3	67.5	52.5	86.5
Mar 4	71.5	58.1	92.4
Mar 5	72.4	60.6	88.3
Mar 6	36.1	-12.7	84.7
Mar 7	-12.7	-12.7	-12.7
Mar 8	-12.7	-12.7	-12.7
Mar 9	-12.7	-12.7	-12.7
Mar 10	-12.7	-12.7	-12.7
Mar 11	-12.7	-12.7	-12.7
Mar 12	-12.7	-12.7	-12.7
Mar 13	52.3	-12.7	97.1
Mar 14	88.2	77.2	101.2
Mar 15	84.7	75.7	92.2
Mar 16	80.8	73.2	92.7
Mar 17	75.6	69.2	81.2
Mar 18	65.8	52.4	79.6
Mar 19	61.3	43.3	80.8
Mar 20	80.4	73.7	89.6
Mar 21	85.8	72.8	102.3
Mar 22	85.9	80.8	94.3
Mar 23	78.4	68.9	86.4
Mar 24	83.9	73.3	99.3
Mar 25	83.8	77.2	93.4
Mar 26	82.3	78.6	88.0
Mar 27	88.3	81.6	100.4
Mar 28	77.0	65.3	84.8
Mar 29	80.8	70.8	92.2
Mar 30	77.2	64.9	83.6
Summary	**56.7**	**-12.7**	**88.3**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 40

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	0.0	0.0	0.0
Mar 2	0.0	0.0	0.0
Mar 3	0.0	0.0	0.0
Mar 4	0.0	0.0	0.0
Mar 5	0.0	0.0	0.0
Mar 6	0.0	0.0	0.0
Mar 7	0.0	0.0	0.0
Mar 8	0.0	0.0	0.0
Mar 9	0.0	0.0	0.0
Mar 10	0.0	0.0	0.0
Mar 11	0.0	0.0	0.0
Mar 12	0.0	0.0	0.0
Mar 13	0.0	0.0	0.0
Mar 14	0.0	0.0	0.0
Mar 15	0.0	0.0	0.0
Mar 16	0.0	0.0	0.0
Mar 17	0.0	0.0	0.0
Mar 18	0.0	0.0	0.0
Mar 19	0.0	0.0	0.0
Mar 20	0.0	0.0	0.0
Mar 21	0.0	0.0	0.0
Mar 22	0.0	0.0	0.0
Mar 23	0.0	0.0	0.0
Mar 24	0.0	0.0	0.0
Mar 25	0.0	0.0	0.0
Mar 26	0.0	0.0	0.0
Mar 27	0.0	0.0	0.0
Mar 28	0.0	0.0	0.0
Mar 29	0.0	0.0	0.0
Mar 30	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)
Mar 1	42.2	32.4	50.6
Mar 2	52.3	44.4	66.7
Mar 3	55.9	37.5	80.3
Mar 4	61.9	44.7	88.3
Mar 5	63.5	47.7	82.3
Mar 6	54.9	50.8	61.0
Mar 7	58.2	50.7	75.9
Mar 8	56.1	50.8	67.2
Mar 9	54.8	45.9	62.9
Mar 10	42.7	37.8	51.0
Mar 11	44.0	29.0	61.8
Mar 12	48.2	28.7	72.0
Mar 13	53.6	34.0	77.1
Mar 14	61.2	40.7	85.3
Mar 15	59.3	52.9	70.9
Mar 16	58.9	48.5	73.2
Mar 17	55.4	44.6	67.2
Mar 18	43.7	32.6	57.5
Mar 19	40.9	29.9	56.8
Mar 20	51.1	33.0	71.8
Mar 21	55.3	36.0	74.6
Mar 22	56.7	45.1	75.7
Mar 23	46.8	32.4	53.5
Mar 24	48.3	28.5	73.0
Mar 25	55.2	38.0	74.7
Mar 26	53.4	49.9	55.8
Mar 27	59.3	47.4	76.5
Mar 28	51.5	41.1	63.6
Mar 29	52.1	34.0	72.6
Mar 30	59.4	39.0	80.5
Summary	**53.2**	**40.9**	**63.5**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 49

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	142.8	128.9	145.0
Mar 2	144.7	142.4	146.3
Mar 3	145.7	144.1	147.3
Mar 4	146.1	144.3	147.7
Mar 5	146.1	143.8	147.4
Mar 6	144.8	141.7	145.9
Mar 7	145.9	144.7	146.9
Mar 8	144.8	143.2	146.1
Mar 9	144.7	141.8	146.8
Mar 10	142.2	140.8	143.5
Mar 11	144.3	141.9	145.6
Mar 12	145.6	144.0	147.0
Mar 13	146.1	144.6	147.0
Mar 14	146.5	145.1	147.9
Mar 15	146.2	143.0	146.9
Mar 16	146.0	144.8	147.0
Mar 17	145.6	144.3	146.8
Mar 18	143.8	141.9	145.6
Mar 19	143.8	142.1	145.8
Mar 20	145.0	143.7	145.9
Mar 21	145.7	144.1	146.9
Mar 22	145.0	143.5	146.6
Mar 23	144.2	141.8	146.1
Mar 24	144.7	143.3	146.5
Mar 25	144.4	143.5	145.4
Mar 26	144.9	143.4	146.3
Mar 27	145.8	144.7	147.0
Mar 28	144.7	142.1	146.0
Mar 29	145.6	144.8	146.8
Mar 30	146.2	145.7	147.2
Summary	**145.1**	**142.2**	**146.5**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 50

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	101.9	100.1	103.2
Mar 2	103.3	101.7	105.9
Mar 3	104.3	101.4	107.8
Mar 4	104.9	102.6	108.5
Mar 5	104.8	102.3	107.6
Mar 6	102.8	101.0	104.1
Mar 7	103.3	102.1	105.8
Mar 8	102.3	101.3	103.0
Mar 9	102.1	99.4	104.1
Mar 10	99.2	98.0	100.6
Mar 11	100.8	98.1	104.0
Mar 12	102.2	98.9	106.2
Mar 13	103.3	100.7	106.4
Mar 14	104.1	101.3	107.3
Mar 15	103.7	102.4	104.7
Mar 16	103.6	101.7	105.8
Mar 17	103.0	101.9	103.8
Mar 18	100.7	98.3	102.5
Mar 19	100.1	98.4	102.2
Mar 20	102.0	100.5	104.5
Mar 21	102.6	99.6	105.6
Mar 22	102.4	101.3	104.2
Mar 23	100.8	98.8	102.1
Mar 24	101.4	99.2	105.0
Mar 25	101.7	99.8	104.0
Mar 26	101.7	100.7	102.9
Mar 27	102.9	100.9	104.9
Mar 28	101.4	99.3	103.0
Mar 29	102.2	100.3	104.3
Mar 30	103.1	100.5	105.2
Summary	**102.4**	**99.2**	**104.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 51

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	42.3	34.0	50.9
Mar 2	51.9	44.7	64.1
Mar 3	54.9	39.2	77.2
Mar 4	60.4	45.9	82.7
Mar 5	62.0	49.0	79.3
Mar 6	55.3	51.1	60.6
Mar 7	57.6	52.0	69.5
Mar 8	56.1	51.6	64.3
Mar 9	55.2	46.8	61.7
Mar 10	42.4	38.2	50.4
Mar 11	43.1	30.3	59.7
Mar 12	47.0	29.8	69.1
Mar 13	52.3	35.2	73.6
Mar 14	59.0	41.6	81.6
Mar 15	58.1	53.0	66.6
Mar 16	56.7	47.9	69.1
Mar 17	53.9	44.8	63.5
Mar 18	42.4	33.3	52.9
Mar 19	39.2	30.1	53.8
Mar 20	49.6	34.0	68.7
Mar 21	52.3	37.3	70.9
Mar 22	55.5	45.0	70.5
Mar 23	46.5	33.7	53.4
Mar 24	46.8	29.4	68.6
Mar 25	53.2	38.8	70.5
Mar 26	52.5	49.2	54.9
Mar 27	56.5	47.3	69.5
Mar 28	49.2	40.9	59.0
Mar 29	50.0	34.5	67.7
Mar 30	57.1	39.6	76.9
Summary	**52.0**	**39.2**	**62.0**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 52

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	142.8	140.3	145.0
Mar 2	144.7	143.0	146.6
Mar 3	145.6	143.9	147.6
Mar 4	146.2	143.8	148.2
Mar 5	151.8	137.8	173.0
Mar 6	158.1	148.3	175.9
Mar 7	159.9	151.1	175.9
Mar 8	157.8	151.8	176.0
Mar 9	150.6	147.6	152.7
Mar 10	145.7	144.0	147.8
Mar 11	156.1	143.9	174.4
Mar 12	159.7	149.8	174.6
Mar 13	157.0	150.3	176.0
Mar 14	161.4	151.4	177.2
Mar 15	158.2	152.2	176.7
Mar 16	151.1	149.6	152.8
Mar 17	148.7	146.7	150.4
Mar 18	145.6	143.3	146.9
Mar 19	144.5	142.9	146.2
Mar 20	145.9	144.7	146.9
Mar 21	145.9	143.7	148.1
Mar 22	153.4	144.6	174.8
Mar 23	149.8	146.1	153.8
Mar 24	147.0	145.6	148.9
Mar 25	145.5	144.4	146.7
Mar 26	145.4	144.2	146.9
Mar 27	146.2	145.1	148.2
Mar 28	144.3	142.7	145.6
Mar 29	145.2	143.8	146.7
Mar 30	146.0	144.8	147.0
Summary	**150.0**	**142.8**	**161.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 53

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	103.0	91.8	115.1
Mar 2	106.7	97.9	116.7
Mar 3	108.5	93.8	125.6
Mar 4	118.3	93.5	174.3
Mar 5	108.3	47.8	142.6
Mar 6	140.8	82.1	188.4
Mar 7	147.0	83.5	188.7
Mar 8	123.1	71.1	183.8
Mar 9	111.8	94.9	121.1
Mar 10	87.6	68.2	97.3
Mar 11	89.2	62.7	149.5
Mar 12	98.2	68.2	137.4
Mar 13	99.5	84.7	115.6
Mar 14	102.6	86.4	120.1
Mar 15	100.6	92.3	106.7
Mar 16	99.8	88.6	112.7
Mar 17	97.9	88.8	103.2
Mar 18	82.2	60.5	96.3
Mar 19	76.4	58.3	97.2
Mar 20	93.1	83.6	109.1
Mar 21	93.0	78.7	109.5
Mar 22	91.9	82.1	105.8
Mar 23	82.3	70.2	95.6
Mar 24	85.4	72.2	106.2
Mar 25	87.5	73.2	105.6
Mar 26	88.7	83.5	94.4
Mar 27	95.0	82.1	109.2
Mar 28	111.3	75.2	163.5
Mar 29	152.9	131.1	172.1
Mar 30	122.7	113.5	130.2
Summary	**103.5**	**76.4**	**152.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 54

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	131.2	101.0	172.5
Mar 2	94.6	84.6	108.6
Mar 3	95.0	78.9	115.5
Mar 4	97.8	82.4	117.5
Mar 5	97.5	81.6	112.7
Mar 6	83.7	73.4	94.2
Mar 7	89.2	81.8	102.5
Mar 8	82.5	75.2	88.8
Mar 9	81.6	63.5	97.6
Mar 10	59.2	52.2	67.8
Mar 11	64.0	49.4	84.0
Mar 12	70.8	50.4	94.8
Mar 13	72.3	54.2	91.9
Mar 14	73.9	54.6	96.8
Mar 15	67.9	61.7	76.6
Mar 16	65.7	53.7	78.7
Mar 17	64.0	55.3	74.6
Mar 18	49.0	36.9	61.2
Mar 19	46.0	33.4	62.7
Mar 20	59.9	45.3	79.2
Mar 21	61.3	42.8	82.5
Mar 22	63.0	51.7	80.3
Mar 23	54.1	39.5	62.6
Mar 24	54.9	35.2	81.3
Mar 25	60.3	44.7	79.9
Mar 26	60.1	56.1	63.9
Mar 27	66.6	56.3	83.1
Mar 28	55.9	44.5	67.9
Mar 29	57.8	40.2	76.9
Mar 30	64.7	44.9	85.3
Summary	**71.5**	**46.0**	**131.2**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 55

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	89.7	74.4	98.9
Mar 2	101.3	95.6	111.6
Mar 3	106.0	96.6	117.5
Mar 4	109.2	99.9	120.7
Mar 5	106.5	95.8	116.8
Mar 6	99.6	94.3	104.9
Mar 7	103.5	98.1	111.5
Mar 8	97.6	92.1	103.9
Mar 9	93.6	79.3	104.5
Mar 10	75.1	67.5	83.5
Mar 11	75.1	60.0	88.5
Mar 12	83.8	65.8	101.0
Mar 13	90.5	78.1	101.2
Mar 14	94.9	81.9	111.8
Mar 15	93.7	85.5	98.0
Mar 16	91.6	81.4	100.7
Mar 17	87.4	78.9	93.1
Mar 18	72.9	61.5	83.0
Mar 19	66.8	54.9	80.4
Mar 20	80.9	71.7	90.3
Mar 21	84.6	70.8	99.9
Mar 22	82.4	74.5	91.6
Mar 23	77.8	67.0	85.2
Mar 24	81.5	67.5	101.0
Mar 25	82.0	72.4	94.5
Mar 26	83.6	77.1	90.6
Mar 27	89.9	82.6	99.5
Mar 28	79.4	69.7	88.4
Mar 29	81.8	71.0	92.5
Mar 30	87.5	79.3	96.3
Summary	**88.3**	**66.8**	**109.2**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 56

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	77.2	71.6	84.0
Mar 2	86.4	78.8	95.1
Mar 3	89.7	78.5	106.3
Mar 4	92.0	81.5	109.4
Mar 5	94.8	85.2	106.2
Mar 6	88.6	82.7	94.5
Mar 7	91.4	88.1	99.6
Mar 8	89.0	85.5	93.4
Mar 9	90.2	80.8	97.2
Mar 10	78.4	71.3	87.3
Mar 11	76.4	69.2	92.7
Mar 12	78.6	64.6	99.7
Mar 13	81.5	67.7	100.0
Mar 14	85.0	71.6	103.4
Mar 15	82.2	76.7	88.6
Mar 16	79.3	69.9	95.4
Mar 17	76.2	68.5	85.4
Mar 18	63.7	52.4	79.5
Mar 19	69.6	55.1	89.2
Mar 20	80.6	70.9	96.8
Mar 21	81.1	68.6	97.2
Mar 22	80.5	72.9	92.3
Mar 23	72.6	63.3	80.7
Mar 24	75.1	63.1	96.5
Mar 25	79.6	67.1	96.1
Mar 26	80.0	76.4	83.5
Mar 27	84.5	75.2	97.6
Mar 28	76.7	68.5	88.8
Mar 29	80.6	69.8	94.0
Mar 30	85.4	73.6	100.3
Summary	**81.6**	**63.7**	**94.8**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 57

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	117.8	106.4	124.6
Mar 2	124.8	117.2	133.2
Mar 3	128.2	115.6	141.3
Mar 4	130.6	119.9	144.1
Mar 5	130.9	120.8	139.3
Mar 6	118.8	110.0	125.4
Mar 7	122.6	117.6	131.1
Mar 8	119.1	114.5	122.3
Mar 9	117.9	100.9	127.5
Mar 10	98.4	88.1	106.3
Mar 11	104.5	87.9	119.7
Mar 12	111.0	93.9	129.9
Mar 13	102.2	96.0	109.9
Mar 14	101.6	101.8	101.8
Mar 15	101.9	102.0	102.0
Mar 16	102.2	102.3	102.3
Mar 17	102.5	102.6	102.6
Mar 18	102.7	102.9	102.9
Mar 19	103.0	103.2	103.2
Mar 20	103.3	103.4	103.4
Mar 21	103.6	103.7	103.7
Mar 22	103.9	104.0	104.0
Mar 23	104.1	104.3	104.3
Mar 24	104.4	104.5	104.5
Mar 25	104.7	104.8	104.8
Mar 26	104.4	99.6	109.9
Mar 27	109.6	97.9	122.0
Mar 28	100.3	90.9	113.6
Mar 29	106.9	94.7	117.1
Mar 30	112.6	100.1	125.8
Summary	**109.9**	**98.4**	**130.9**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 58

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	76.1	71.0	79.6
Mar 2	81.1	76.8	86.3
Mar 3	82.8	72.0	93.5
Mar 4	86.3	78.2	97.3
Mar 5	86.8	78.8	96.6
Mar 6	81.4	78.0	86.6
Mar 7	84.0	79.6	90.2
Mar 8	82.3	79.6	86.4
Mar 9	80.9	73.9	85.7
Mar 10	72.0	69.7	75.1
Mar 11	75.3	69.4	82.5
Mar 12	78.1	67.9	88.1
Mar 13	82.1	71.6	91.7
Mar 14	86.1	75.1	95.9
Mar 15	85.9	82.2	89.0
Mar 16	85.5	79.9	90.6
Mar 17	84.2	80.9	87.3
Mar 18	76.0	70.3	81.9
Mar 19	74.4	68.1	79.7
Mar 20	81.8	75.6	88.3
Mar 21	83.3	75.9	90.4
Mar 22	84.4	79.0	92.7
Mar 23	78.5	71.7	83.9
Mar 24	79.3	70.1	89.5
Mar 25	82.7	75.9	90.2
Mar 26	82.4	80.1	84.7
Mar 27	85.1	79.9	90.1
Mar 28	80.8	75.8	85.6
Mar 29	82.4	73.9	89.8
Mar 30	85.6	76.3	92.8
Summary	**81.6**	**72.0**	**86.8**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 59

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	109.4	108.5	109.8
Mar 2	109.8	109.3	110.4
Mar 3	110.1	108.9	111.5
Mar 4	110.4	109.5	112.0
Mar 5	110.5	109.6	111.7
Mar 6	109.9	109.2	110.4
Mar 7	110.0	109.5	110.8
Mar 8	109.7	109.5	110.0
Mar 9	109.6	108.8	110.4
Mar 10	108.0	107.4	108.6
Mar 11	108.3	107.3	109.4
Mar 12	108.9	107.6	110.3
Mar 13	109.2	108.1	110.2
Mar 14	109.8	108.4	111.1
Mar 15	109.8	109.5	110.1
Mar 16	109.5	108.9	110.3
Mar 17	109.3	108.7	109.7
Mar 18	110.2	64.7	117.6
Mar 19	124.2	117.6	132.9
Mar 20	113.0	111.2	117.9
Mar 21	114.3	104.9	128.9
Mar 22	112.2	109.3	118.1
Mar 23	108.9	107.4	109.9
Mar 24	107.6	106.6	109.0
Mar 25	114.5	106.6	122.7
Mar 26	109.7	108.0	120.9
Mar 27	108.2	107.6	108.9
Mar 28	111.6	107.3	121.9
Mar 29	108.8	106.9	115.8
Mar 30	108.5	107.4	109.7
Summary	**110.5**	**107.6**	**124.2**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 60

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	58.0	52.8	64.1
Mar 2	65.9	59.5	76.1
Mar 3	68.9	56.7	84.8
Mar 4	72.2	62.2	88.6
Mar 5	73.0	62.7	86.1
Mar 6	67.4	63.2	72.1
Mar 7	69.7	64.5	80.0
Mar 8	67.4	64.5	73.5
Mar 9	65.8	57.1	73.3
Mar 10	54.8	50.7	62.8
Mar 11	57.5	47.4	72.7
Mar 12	61.7	46.7	80.6
Mar 13	66.8	54.0	82.3
Mar 14	72.0	58.8	86.9
Mar 15	70.6	66.9	77.4
Mar 16	70.2	62.0	80.9
Mar 17	68.9	63.7	76.3
Mar 18	60.0	50.9	69.2
Mar 19	58.6	50.4	71.2
Mar 20	67.2	58.3	78.0
Mar 21	70.1	57.9	83.6
Mar 22	71.2	64.3	81.1
Mar 23	65.2	58.7	69.5
Mar 24	67.2	55.7	83.6
Mar 25	70.5	61.5	81.4
Mar 26	71.2	68.9	74.4
Mar 27	75.0	68.1	84.0
Mar 28	70.5	62.5	77.8
Mar 29	74.3	65.7	85.3
Mar 30	79.4	71.5	88.1
Summary	**67.7**	**54.8**	**79.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 62

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	106.7	105.0	108.0
Mar 2	108.7	106.4	110.7
Mar 3	109.5	106.6	112.7
Mar 4	110.2	108.2	113.2
Mar 5	110.3	108.7	113.3
Mar 6	108.1	105.9	109.3
Mar 7	109.3	107.9	111.5
Mar 8	108.2	107.1	109.0
Mar 9	108.0	105.5	110.3
Mar 10	105.0	103.9	107.0
Mar 11	105.2	103.3	107.7
Mar 12	106.1	103.2	109.9
Mar 13	106.9	103.6	110.5
Mar 14	107.5	104.0	111.1
Mar 15	107.1	105.2	108.9
Mar 16	106.9	104.6	109.8
Mar 17	106.2	104.8	107.7
Mar 18	102.8	99.2	105.3
Mar 19	102.5	99.9	106.1
Mar 20	105.0	102.5	109.3
Mar 21	105.8	102.1	110.3
Mar 22	105.7	103.8	108.4
Mar 23	103.5	100.2	106.6
Mar 24	104.6	99.9	110.1
Mar 25	105.1	102.0	108.7
Mar 26	105.0	103.6	107.0
Mar 27	106.9	104.7	110.8
Mar 28	104.3	101.2	107.2
Mar 29	105.6	101.5	109.8
Mar 30	107.5	105.2	110.5
Summary	**106.5**	**102.5**	**110.3**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 63

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	61.8	56.0	68.1
Mar 2	71.0	63.1	82.8
Mar 3	76.1	61.3	94.1
Mar 4	80.5	67.6	99.5
Mar 5	80.4	68.9	95.9
Mar 6	68.5	63.9	74.2
Mar 7	74.0	66.7	88.7
Mar 8	71.5	66.4	78.4
Mar 9	70.2	60.7	80.0
Mar 10	58.8	53.8	69.0
Mar 11	62.0	50.3	78.6
Mar 12	66.1	48.6	85.9
Mar 13	70.8	54.1	88.4
Mar 14	74.8	57.8	95.0
Mar 15	73.4	68.5	82.5
Mar 16	73.1	62.1	87.0
Mar 17	68.9	62.3	76.8
Mar 18	56.4	44.7	69.0
Mar 19	53.9	43.0	70.8
Mar 20	63.3	42.9	82.1
Mar 21	69.0	51.8	88.5
Mar 22	68.8	60.3	82.3
Mar 23	59.3	49.2	66.0
Mar 24	60.7	41.4	85.2
Mar 25	66.1	51.9	82.8
Mar 26	65.5	63.0	69.6
Mar 27	71.6	61.7	88.9
Mar 28	63.4	52.1	75.7
Mar 29	64.6	47.8	83.3
Mar 30	71.7	57.0	88.0
Summary	**67.9**	**53.9**	**80.5**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 64

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	111.2	104.0	114.3
Mar 2	115.5	110.7	119.2
Mar 3	117.7	110.9	122.7
Mar 4	120.4	115.2	126.1
Mar 5	119.9	114.4	126.4
Mar 6	114.7	112.3	119.9
Mar 7	117.6	113.3	121.4
Mar 8	115.2	111.5	118.5
Mar 9	113.8	106.8	120.1
Mar 10	105.9	103.4	109.1
Mar 11	110.3	104.6	114.4
Mar 12	113.8	108.0	119.0
Mar 13	116.1	108.6	121.1
Mar 14	118.2	110.3	125.7
Mar 15	117.0	112.5	119.5
Mar 16	115.9	111.7	120.2
Mar 17	114.5	111.7	117.1
Mar 18	107.7	101.0	113.0
Mar 19	105.8	100.5	112.2
Mar 20	112.6	109.1	116.5
Mar 21	114.9	108.1	120.5
Mar 22	114.1	111.1	119.6
Mar 23	110.1	102.7	115.5
Mar 24	111.7	104.6	120.0
Mar 25	113.0	108.6	117.3
Mar 26	112.8	109.8	116.5
Mar 27	116.5	112.7	122.4
Mar 28	111.1	106.5	115.4
Mar 29	114.4	110.4	118.8
Mar 30	117.3	113.9	119.9
Summary	**114.0**	**105.8**	**120.4**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 65

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	132.7	131.3	133.2
Mar 2	132.5	132.0	133.2
Mar 3	132.2	131.3	133.4
Mar 4	131.9	131.0	133.3
Mar 5	131.5	130.7	132.5
Mar 6	130.6	130.1	130.9
Mar 7	130.5	130.0	131.4
Mar 8	129.8	129.3	130.3
Mar 9	129.4	128.2	130.2
Mar 10	127.9	127.4	128.4
Mar 11	128.1	127.5	129.0
Mar 12	128.4	127.0	129.8
Mar 13	128.8	127.8	130.0
Mar 14	129.2	127.9	130.4
Mar 15	129.0	128.1	129.4
Mar 16	128.8	127.9	129.8
Mar 17	128.5	127.8	128.9
Mar 18	127.1	125.7	127.9
Mar 19	126.8	125.6	128.0
Mar 20	128.0	127.4	129.0
Mar 21	128.3	126.7	129.8
Mar 22	128.3	127.7	129.3
Mar 23	127.5	126.1	128.5
Mar 24	127.7	126.8	129.5
Mar 25	127.9	127.0	128.7
Mar 26	128.0	127.1	128.9
Mar 27	128.7	127.9	129.6
Mar 28	127.7	126.8	128.3
Mar 29	128.3	127.5	129.1
Mar 30	128.8	127.9	129.7
Summary	**129.1**	**126.8**	**132.7**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 66

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	129.8	118.5	135.6
Mar 2	134.3	128.8	140.1
Mar 3	136.8	130.1	143.2
Mar 4	139.3	132.6	145.6
Mar 5	139.5	134.2	145.8
Mar 6	134.5	129.2	140.3
Mar 7	137.2	134.1	141.1
Mar 8	133.8	129.6	137.7
Mar 9	133.0	116.0	141.4
Mar 10	119.7	110.4	127.3
Mar 11	126.9	116.6	132.4
Mar 12	131.7	121.8	140.9
Mar 13	135.8	128.7	143.0
Mar 14	138.1	130.3	145.8
Mar 15	139.6	133.4	142.2
Mar 16	138.2	132.2	142.6
Mar 17	137.1	129.8	141.9
Mar 18	128.2	118.7	136.7
Mar 19	126.4	120.1	137.1
Mar 20	134.0	127.6	138.8
Mar 21	135.4	129.4	140.1
Mar 22	134.9	131.3	141.0
Mar 23	129.8	118.1	139.1
Mar 24	131.1	127.3	137.5
Mar 25	131.2	123.3	136.6
Mar 26	134.3	129.0	139.6
Mar 27	137.3	131.7	144.0
Mar 28	130.2	124.5	136.6
Mar 29	134.4	130.0	140.1
Mar 30	136.8	133.0	143.2
Summary	**133.6**	**119.7**	**139.6**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 67

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	86.9	74.6	102.8
Mar 2	104.1	88.0	120.1
Mar 3	113.4	99.4	129.8
Mar 4	117.3	99.6	134.5
Mar 5	118.5	101.3	127.6
Mar 6	105.5	88.5	114.6
Mar 7	113.1	102.5	123.5
Mar 8	104.2	96.0	112.7
Mar 9	102.7	82.2	117.8
Mar 10	79.2	70.4	89.4
Mar 11	89.0	72.1	105.5
Mar 12	97.3	77.9	115.8
Mar 13	102.7	86.0	116.9
Mar 14	109.0	91.8	124.7
Mar 15	106.8	94.1	113.2
Mar 16	101.3	86.9	115.4
Mar 17	99.3	89.3	107.9
Mar 18	77.2	59.0	90.8
Mar 19	74.1	58.0	96.1
Mar 20	92.2	87.2	102.5
Mar 21	94.5	76.4	116.6
Mar 22	91.6	79.7	106.6
Mar 23	78.9	64.3	95.7
Mar 24	85.2	71.3	110.3
Mar 25	83.9	68.8	105.0
Mar 26	87.1	79.8	97.3
Mar 27	94.3	77.7	110.6
Mar 28	79.6	67.7	91.7
Mar 29	89.5	76.0	100.6
Mar 30	97.6	83.8	110.0
Summary	**95.9**	**74.1**	**118.5**

Solid Waste Permit 588 Daily Wellhead Temperature Averages for Well 68

Bristol, Virginia

Date	Average (°F)	Minimum (°F)	Maximum (°F)
Mar 1	122.0	120.5	123.2
Mar 2	122.9	121.7	124.5
Mar 3	123.8	121.8	125.9
Mar 4	124.5	122.8	127.0
Mar 5	124.5	123.1	126.2
Mar 6	123.2	121.5	124.6
Mar 7	123.2	122.1	124.6
Mar 8	122.4	121.5	123.0
Mar 9	122.9	120.6	124.4
Mar 10	120.6	119.6	122.2
Mar 11	121.7	119.3	123.0
Mar 12	123.4	120.9	125.5
Mar 13	124.4	123.2	126.8
Mar 14	124.9	123.2	127.5
Mar 15	125.4	124.0	126.5
Mar 16	125.1	123.8	126.4
Mar 17	125.2	123.9	125.7
Mar 18	123.6	121.5	125.0
Mar 19	124.0	122.0	125.2
Mar 20	124.9	123.8	125.7
Mar 21	125.1	123.3	126.5
Mar 22	124.8	123.9	125.8
Mar 23	124.0	122.0	125.9
Mar 24	124.3	123.1	126.4
Mar 25	124.0	122.8	125.4
Mar 26	124.3	123.8	125.4
Mar 27	124.9	123.3	127.0
Mar 28	123.9	122.1	125.6
Mar 29	124.6	123.7	125.9
Mar 30	125.3	124.5	126.3
Summary	**123.9**	**120.6**	**125.4**

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-Mar	165.5	226.6	227.1	245.7	256.4	268.2
2-Mar	166.1	226.9	227.3	246.2	256.9	268.7
3-Mar	166.3	227.1	227.5	246.6	257.3	269.1
4-Mar	166.5	227.1	227.6	246.8	257.5	269.3
5-Mar	166.6	227.4	227.8	246.8	257.6	269.3
6-Mar	166.2	226.8	227.3	246.3	257.1	268.7
7-Mar	166.4	227.1	227.5	246.7	257.4	269.0
8-Mar	166.2	226.8	227.2	246.4	257.2	268.8
9-Mar	166.3	226.7	227.2	246.5	257.3	268.8
10-Mar	165.8	226.3	226.6	246.2	257.1	268.5
11-Mar	165.9	226.2	226.6	246.4	257.3	268.8
12-Mar	166.2	226.3	226.8	246.6	257.5	269.0
13-Mar	166.2	226.4	226.9	246.6	257.6	269.0
14-Mar	166.3	226.5	226.9	246.8	257.9	269.3
15-Mar	166.2	226.2	226.7	246.5	257.7	269.0
16-Mar	166.4	226.3	226.7	246.8	258.1	269.3
17-Mar	166.1	226.0	226.4	246.5	257.6	268.9
18-Mar	165.7	225.5	226.0	246.1	257.4	268.6
19-Mar	165.7	225.5	225.9	246.2	257.5	268.7
20-Mar	166.0	225.9	226.4	246.6	257.8	269.0
21-Mar	166.1	226.0	226.4	246.7	258.0	269.1
22-Mar	166.0	225.8	226.2	246.5	257.7	268.8
23-Mar	165.7	225.4	225.9	246.2	257.4	268.5
24-Mar	166.0	225.8	226.3	246.6	257.9	269.0
25-Mar	166.0	225.9	226.3	246.6	257.8	268.9
26-Mar	165.8	225.7	226.2	246.3	257.5	268.6
27-Mar	166.2	226.2	226.6	246.8	258.0	269.1
28-Mar	165.9	225.9	226.4	246.5	257.7	268.8
29-Mar	165.9	226.1	226.5	246.5	257.7	268.9
30-Mar	166.1	226.3	226.8	246.7	257.9	269.0
31-Mar	166.3	226.4	226.8	246.7	257.9	269.1
Average	**166.1**	**226.3**	**226.7**	**246.5**	**257.5**	**268.9**

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-Mar	184.5	234.3	234.8	263.3	251.5	260.9
2-Mar	185.9	234.5	235.0	263.7	251.9	261.3
3-Mar	184.4	234.6	235.1	263.8	251.8	261.5
4-Mar	183.0	234.5	235.1	263.8	251.7	261.4
5-Mar	183.2	234.5	235.0	263.8	251.6	261.5
6-Mar	185.0	234.1	234.6	263.6	251.2	261.1
7-Mar	182.8	234.4	234.9	263.8	251.5	261.4
8-Mar	180.1	234.4	234.9	263.7	251.2	261.2
9-Mar	183.9	234.1	234.6	263.7	251.2	261.1
10-Mar	182.0	233.9	234.5	263.4	250.9	260.9
11-Mar	177.4	234.4	234.9	263.5	251.0	261.0
12-Mar	177.1	234.4	234.9	263.5	251.1	261.1
13-Mar	178.3	234.2	234.8	263.6	251.0	261.2
14-Mar	177.9	234.5	235.0	263.6	251.2	261.2
15-Mar	179.1	234.3	234.8	263.5	251.0	261.1
16-Mar	180.0	234.3	234.8	263.6	251.1	261.2
17-Mar	182.7	234.0	234.5	263.3	250.9	260.9
18-Mar	181.9	233.9	234.4	263.1	250.7	260.7
19-Mar	180.2	233.9	234.5	263.1	250.7	260.7
20-Mar	182.1	234.1	234.6	263.3	250.9	260.8
21-Mar	180.0	234.4	234.9	263.4	251.1	261.0
22-Mar	180.4	234.3	234.7	263.3	251.0	260.8
23-Mar	184.5	233.9	234.3	263.0	250.7	260.5
24-Mar	181.8	234.2	234.8	263.3	250.9	260.7
25-Mar	182.6	234.3	234.9	263.4	251.1	260.7
26-Mar	186.6	234.1	234.6	263.3	251.0	260.5
27-Mar	188.4	234.3	234.8	263.5	251.3	260.8
28-Mar	187.2	234.3	234.8	263.3	251.0	260.6
29-Mar	186.6	234.2	234.8	263.4	250.8	260.6
30-Mar	188.4	234.3	234.8	263.5	251.0	260.7
31-Mar	189.0	234.4	234.9	263.7	251.0	260.8
Average	**182.8**	**234.2**	**234.8**	**263.5**	**251.1**	**261.0**

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-Mar	196.3	234.0	234.1	243.2	252.6	260.7	266.9	254.8
2-Mar	197.1	234.4	234.5	243.8	253.0	261.1	267.3	255.2
3-Mar	196.9	234.7	234.8	244.3	253.4	261.5	267.7	255.6
4-Mar	196.5	235.0	235.1	244.6	253.5	261.7	267.9	255.8
5-Mar	196.1	235.1	235.2	244.6	253.5	261.6	267.9	255.8
6-Mar	195.6	234.6	234.8	244.2	252.9	261.3	267.4	255.3
7-Mar	195.0	234.8	235.0	244.2	253.2	261.6	267.6	255.6
8-Mar	194.7	234.5	234.6	243.9	252.9	261.4	267.4	255.3
9-Mar	194.4	234.4	234.4	243.9	252.9	261.4	267.3	255.3
10-Mar	193.7	234.1	234.1	243.8	252.6	261.1	267.1	255.0
11-Mar	193.7	234.4	234.5	244.1	252.9	261.4	267.3	255.3
12-Mar	193.8	234.7	234.8	244.5	253.2	261.8	267.7	255.7
13-Mar	193.4	234.7	234.8	244.5	253.1	261.9	267.6	255.7
14-Mar	187.9	234.9	235.0	244.6	253.2	262.1	267.7	255.8
15-Mar	185.4	234.8	234.9	244.5	252.9	261.8	267.5	255.5
16-Mar	184.5	235.0	235.0	244.6	253.1	262.1	267.7	255.8
17-Mar	182.2	234.7	234.8	244.5	252.8	261.9	267.4	255.5
18-Mar	181.1	234.5	234.6	244.3	252.6	261.8	267.3	255.4
19-Mar	180.2	234.4	234.5	244.1	252.5	261.7	267.2	255.3
20-Mar	179.7	234.7	234.8	244.5	252.8	262.1	267.4	255.6
21-Mar	179.3	234.8	234.9	244.5	252.9	262.3	267.6	255.8
22-Mar	179.2	234.6	234.7	244.4	252.6	262.0	267.3	255.6
23-Mar	178.6	234.2	234.3	244.0	252.2	261.6	267.0	255.2
24-Mar	178.5	234.0	234.1	246.1	253.0	262.0	267.4	255.6
25-Mar	177.9	234.0	234.1	248.1	254.0	262.5	267.4	255.6
26-Mar	177.7	234.0	234.1	248.2	254.0	262.6	267.2	255.3
27-Mar	177.4	234.4	234.5	248.8	254.5	263.2	267.6	255.9
28-Mar	176.9	234.2	234.3	248.5	254.2	262.9	267.3	255.5
29-Mar	176.7	234.4	234.5	248.4	254.3	263.1	267.4	255.7
30-Mar	177.2	234.5	234.6	248.4	254.5	263.3	267.6	255.9
31-Mar	176.8	234.5	234.6	248.6	254.6	263.3	267.6	255.8
Average	**186.3**	**234.5**	**234.6**	**245.3**	**253.2**	**262.0**	**267.4**	**255.5**

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-Mar	192.8	220.9	228.6	245.6	270.3	249.6	244.9	190.5
2-Mar	192.9	221.3	229.1	245.9	268.5	250.2	245.4	190.5
3-Mar	193.5	219.0	229.2	246.9	275.4	255.8	245.7	188.0
4-Mar	195.0	220.6	229.9	246.7	272.5	254.1	245.8	189.7
5-Mar	196.8	219.8	226.9	246.1	275.7	255.5	245.9	191.2
6-Mar	196.1	222.6	222.7	245.5	276.6	254.2	245.4	194.2
7-Mar	195.3	223.5	221.4	245.8	275.8	255.4	245.6	194.6
8-Mar	195.1	222.9	220.7	245.7	276.0	257.1	245.4	193.8
9-Mar	194.7	223.4	221.3	245.8	273.2	256.4	245.4	193.8
10-Mar	193.8	223.3	221.4	244.8	271.5	254.8	245.3	193.3
11-Mar	193.7	222.4	219.9	245.4	276.9	258.1	245.5	193.6
12-Mar	193.9	223.3	218.6	246.3	275.2	258.0	245.6	194.0
13-Mar	194.0	222.7	218.2	246.6	274.9	258.1	245.7	192.9
14-Mar	194.8	221.1	217.4	247.6	283.8	265.3	245.9	190.8
15-Mar	194.5	220.6	213.3	247.1	284.5	262.1	245.6	190.8
16-Mar	194.0	224.6	196.3	247.1	276.4	254.6	245.9	196.0
17-Mar	193.6	225.1	196.6	246.3	272.4	251.2	245.6	196.5
18-Mar	191.6	224.7	196.4	246.1	269.1	249.7	245.4	196.3
19-Mar	189.3	225.6	197.0	241.6	274.1	252.0	245.5	197.5
20-Mar	192.1	226.5	197.5	241.4	268.8	252.1	245.7	198.3
21-Mar	193.1	225.8	195.9	240.0	274.5	257.1	245.9	197.9
22-Mar	193.2	226.9	196.0	240.9	270.9	255.4	245.7	198.2
23-Mar	191.8	226.0	196.5	241.1	269.6	255.3	245.2	197.4
24-Mar	192.2	226.6	197.9	242.1	265.3	253.1	245.7	198.8
25-Mar	192.5	227.7	199.4	243.2	264.0	250.4	245.6	200.1
26-Mar	193.0	228.6	200.2	243.4	263.3	251.6	245.4	200.9
27-Mar	192.5	229.0	200.7	244.5	265.1	250.9	245.9	201.5
28-Mar	191.4	229.2	201.4	244.5	266.4	248.9	245.6	202.2
29-Mar	192.5	228.4	200.6	244.0	267.4	249.3	245.7	201.3
30-Mar	193.7	228.0	201.3	243.9	265.6	248.8	245.8	202.1
31-Mar	193.8	229.7	201.7	244.1	263.2	249.8	245.9	202.4
Average	**193.5**	**224.5**	**210.1**	**244.7**	**271.8**	**254.0**	**245.6**	**195.8**

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-Mar	*	*	*	*	*	*	*	*
2-Mar	*	*	*	*	*	*	*	*
3-Mar	*	*	*	*	*	*	*	*
4-Mar	*	*	*	*	*	*	*	*
5-Mar	*	*	*	*	*	*	*	*
6-Mar	*	*	*	*	*	*	*	*
7-Mar	*	*	*	*	*	*	*	*
8-Mar	*	*	*	*	*	*	*	*
9-Mar	*	*	*	*	*	*	*	*
10-Mar	*	*	*	*	*	*	*	*
11-Mar	*	*	*	*	*	*	*	*
12-Mar	*	*	*	*	*	*	*	*
13-Mar	*	*	*	*	*	*	*	*
14-Mar	*	*	*	*	*	*	*	*
15-Mar	*	*	*	*	*	*	*	*
16-Mar	*	*	*	*	*	*	*	*
17-Mar	*	*	*	*	*	*	*	*
18-Mar	*	*	*	*	*	*	*	*
19-Mar	*	*	*	*	*	*	*	*
20-Mar	*	*	*	*	*	*	*	*
21-Mar	*	*	*	*	*	*	*	*
22-Mar	*	*	*	*	*	*	*	*
23-Mar	*	*	*	*	*	*	*	*
24-Mar	*	*	*	*	*	*	*	*
25-Mar	*	*	*	*	*	*	*	*
26-Mar	*	*	*	*	*	*	*	*
27-Mar	*	*	*	*	*	*	*	*
28-Mar	*	*	*	*	*	*	*	*
29-Mar	*	*	*	*	*	*	*	*
30-Mar	*	*	*	*	*	*	*	*
31-Mar	*	*	*	*	*	*	*	*
Average	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

* 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-Mar	175.1	226.6	226.3	204.5	279.9
2-Mar	173.8	226.3	226.5	196.6	274.7
3-Mar	189.6	225.7	224.4	203.5	302.2
4-Mar	207.1	226.1	225.4	209.5	282.1
5-Mar	206.9	226.3	225.9	217.6	264.8
6-Mar	206.5	224.5	218.5	222.2	275.2
7-Mar	207.0	225.4	225.3	221.9	258.2
8-Mar	206.9	225.2	225.1	221.6	254.9
9-Mar	206.5	225.2	224.4	222.4	254.0
10-Mar	206.5	225.1	225.0	222.0	250.7
11-Mar	207.1	225.1	225.4	223.6	247.7
12-Mar	207.1	225.3	224.8	223.2	251.7
13-Mar	206.9	225.2	224.6	222.6	251.0
14-Mar	207.0	223.5	224.6	221.7	254.5
15-Mar	206.9	223.4	225.1	221.1	255.2
16-Mar	207.1	223.3	224.7	221.3	257.3
17-Mar	206.3	224.6	225.1	220.6	254.0
18-Mar	206.2	226.0	225.6	221.0	247.2
19-Mar	206.6	224.8	224.7	221.1	252.3
20-Mar	206.4	223.7	224.1	215.2	267.7
21-Mar	207.0	226.6	225.9	218.3	255.0
22-Mar	206.8	225.8	225.8	219.2	255.1
23-Mar	206.5	221.7	219.3	213.4	280.8
24-Mar	207.2	223.7	225.1	218.1	260.5
25-Mar	207.1	223.8	224.7	217.2	262.0
26-Mar	206.7	223.9	224.8	218.0	259.1
27-Mar	206.9	223.8	223.6	216.8	265.8
28-Mar	207.1	223.1	223.5	216.1	269.4
29-Mar	207.0	223.8	224.4	216.5	263.5
30-Mar	206.9	223.6	224.2	216.3	263.3
31-Mar	206.6	225.9	226.0	219.3	252.5
Average	**204.2**	**224.7**	**224.6**	**217.5**	**262.0**

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-Mar	168.6	193.7	202.7	205.1	198.0	200.0	220.8	190.8
2-Mar	170.8	194.3	204.1	204.3	197.8	199.8	221.1	191.0
3-Mar	171.6	194.1	204.3	203.1	197.0	199.1	219.8	195.9
4-Mar	171.6	196.8	203.9	204.6	199.0	201.0	218.8	188.3
5-Mar	172.4	197.9	204.5	205.4	199.8	201.7	209.5	185.0
6-Mar	171.9	200.6	204.8	207.6	202.3	203.9	172.9	186.2
7-Mar	171.5	201.1	205.4	208.1	202.8	204.3	181.7	180.1
8-Mar	168.6	204.3	205.6	209.9	206.1	205.9	169.1	169.4
9-Mar	165.5	207.7	205.3	212.9	209.9	208.6	155.0	157.0
10-Mar	160.4	209.0	205.3	215.3	212.1	210.6	145.5	151.4
11-Mar	156.4	211.1	205.9	218.9	215.3	213.1	135.2	140.7
12-Mar	154.5	212.2	205.3	220.9	217.0	214.6	128.0	134.8
13-Mar	153.3	212.2	205.8	222.3	217.4	214.7	119.2	122.7
14-Mar	153.0	210.6	207.5	221.2	215.4	212.9	123.9	124.2
15-Mar	152.6	208.0	208.6	219.0	212.6	210.2	130.1	126.9
16-Mar	152.8	206.4	208.8	216.8	210.6	208.5	136.9	133.6
17-Mar	151.3	206.2	208.5	216.6	210.8	209.3	139.4	136.6
18-Mar	150.8	205.1	207.7	215.5	209.4	207.9	139.8	134.5
19-Mar	151.3	202.7	208.5	213.3	206.9	205.5	144.8	136.9
20-Mar	151.9	202.7	208.0	213.2	207.0	205.8	146.5	138.5
21-Mar	151.7	201.3	208.3	211.8	205.4	204.1	149.2	139.5
22-Mar	151.5	199.7	208.0	210.4	204.1	202.7	151.9	141.3
23-Mar	150.5	198.2	207.7	209.1	202.5	201.6	154.4	143.5
24-Mar	151.2	197.1	208.2	208.4	201.2	200.5	157.6	146.2
25-Mar	151.0	196.2	208.3	207.8	200.7	200.0	159.4	147.3
26-Mar	151.4	195.4	208.5	207.1	199.8	199.3	159.5	146.7
27-Mar	151.3	195.7	207.9	207.6	199.9	199.9	160.7	147.3
28-Mar	151.4	194.0	208.5	206.0	198.5	198.7	162.6	148.9
29-Mar	151.2	193.5	208.3	205.7	198.0	198.3	163.6	150.0
30-Mar	151.4	193.2	208.3	205.6	197.9	198.3	164.7	150.7
31-Mar	151.4	192.9	208.5	205.1	197.7	198.0	165.6	151.1
Average	**157.6**	**201.1**	**206.8**	**210.9**	**204.9**	**204.5**	**161.5**	**152.8**

Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 8

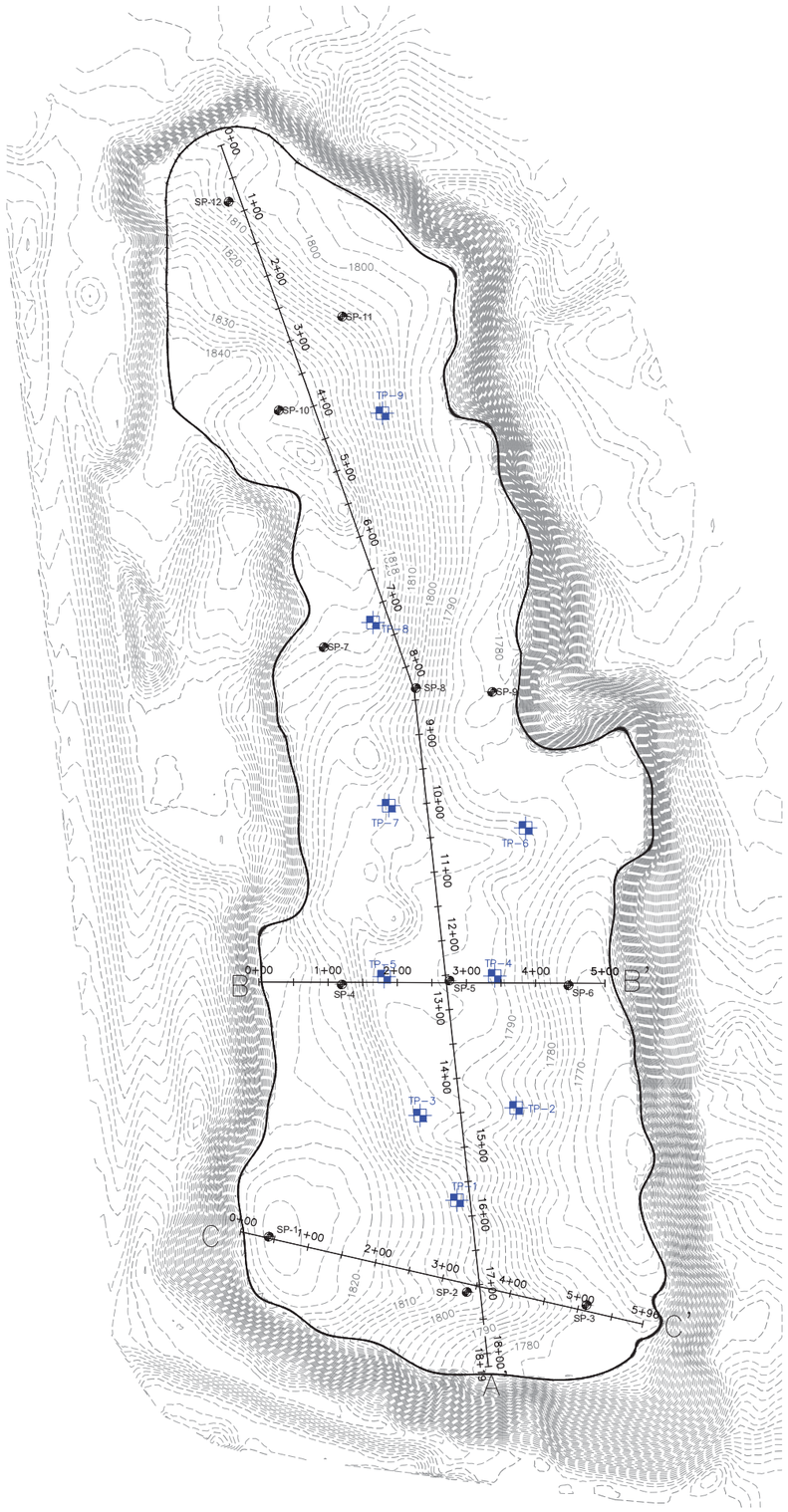
	Depth from Surface							
Date	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Mar	181.8	194.1	194.3	197.0	198.4	192.3	187.4	176.8
2-Mar	182.5	194.3	194.6	197.2	198.6	192.6	187.7	177.1
3-Mar	182.7	194.5	194.8	197.4	198.9	193.0	188.1	177.6
4-Mar	182.2	194.6	194.9	197.5	199.0	193.1	188.1	177.6
5-Mar	181.5	194.5	194.9	197.5	198.9	193.1	188.1	177.6
6-Mar	181.5	194.2	194.5	197.1	198.5	192.8	187.8	177.2
7-Mar	181.7	194.4	194.7	197.2	198.7	193.0	188.0	177.5
8-Mar	181.0	194.3	194.5	197.1	198.5	192.7	187.7	177.2
9-Mar	183.8	194.1	194.4	196.9	198.3	192.7	187.8	177.3
10-Mar	185.7	193.9	194.2	196.7	198.1	192.6	187.7	177.4
11-Mar	186.6	194.2	194.5	197.0	198.5	192.8	187.9	177.7
12-Mar	186.8	194.3	194.6	197.1	198.6	193.0	188.1	177.8
13-Mar	186.9	194.3	194.6	197.1	198.6	193.1	188.2	177.9
14-Mar	187.3	194.4	194.7	197.2	198.7	193.3	188.3	178.1
15-Mar	187.5	194.2	194.6	196.9	198.4	193.1	188.1	177.8
16-Mar	187.6	194.4	194.7	197.1	198.5	193.3	188.4	178.3
17-Mar	187.0	194.0	194.4	196.7	198.2	193.1	188.2	178.0
18-Mar	186.5	193.9	194.1	196.5	198.0	192.9	188.0	177.8
19-Mar	187.2	194.1	194.4	196.7	198.3	193.0	188.1	178.0
20-Mar	187.5	194.1	194.4	196.7	198.2	193.2	188.2	178.1
21-Mar	187.9	194.3	194.6	197.0	198.6	193.3	188.4	178.3
22-Mar	187.2	194.2	194.4	196.9	198.3	193.1	188.1	178.0
23-Mar	187.5	193.9	194.1	196.5	198.0	193.0	188.0	177.7
24-Mar	187.3	194.2	194.4	196.9	198.4	193.2	188.3	178.2
25-Mar	187.5	194.2	194.5	196.9	198.4	193.2	188.2	178.0
26-Mar	187.2	194.0	194.2	196.6	198.1	193.1	188.1	177.9
27-Mar	187.7	194.3	194.5	196.8	198.3	193.4	188.4	178.3
28-Mar	188.1	194.0	194.2	196.6	198.2	193.1	188.2	178.0
29-Mar	188.7	194.1	194.3	196.7	198.2	193.2	188.2	178.0
30-Mar	189.3	194.1	194.4	196.7	198.2	193.5	188.4	178.2
31-Mar	189.4	194.2	194.5	196.7	198.3	193.6	188.5	178.2
Average	**185.9**	**194.2**	**194.5**	**196.9**	**198.4**	**193.0**	**188.1**	**177.8**

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-Mar	110.5	146.9	146.3	150.5	147.5	136.5	114.1	107.1
2-Mar	111.1	147.6	147.0	151.0	147.9	137.0	114.3	107.6
3-Mar	111.4	147.2	146.3	151.0	148.3	137.3	114.7	107.8
4-Mar	111.4	147.8	146.7	151.1	148.4	137.5	116.0	108.0
5-Mar	111.2	147.7	146.5	151.1	148.4	137.6	116.3	107.8
6-Mar	110.5	147.1	146.0	150.7	148.3	138.7	116.2	107.4
7-Mar	110.8	147.3	146.3	150.9	148.4	138.9	116.6	107.6
8-Mar	110.9	147.1	146.2	150.7	148.2	138.6	116.4	107.4
9-Mar	110.4	146.7	145.8	150.7	148.2	138.9	116.1	107.5
10-Mar	109.8	146.2	145.1	150.1	147.9	138.5	114.2	107.1
11-Mar	110.4	147.1	145.9	150.4	148.0	138.5	114.8	107.4
12-Mar	110.3	147.5	146.3	150.6	148.1	138.4	115.1	107.6
13-Mar	110.1	147.4	146.3	150.8	148.2	138.6	115.4	107.8
14-Mar	110.5	147.7	146.4	150.9	148.4	138.8	115.7	107.8
15-Mar	110.3	147.7	146.3	150.8	148.2	138.6	116.3	107.6
16-Mar	110.5	147.7	146.3	150.9	148.3	138.7	117.1	107.6
17-Mar	110.0	147.3	145.9	150.6	148.1	138.6	117.0	107.3
18-Mar	109.7	147.1	145.7	150.1	147.6	138.0	116.6	106.8
19-Mar	110.2	147.3	146.2	150.3	147.6	137.9	116.8	107.0
20-Mar	110.5	147.4	146.3	150.6	147.9	138.1	117.1	107.2
21-Mar	111.2	147.9	147.0	150.9	148.0	138.1	117.4	107.4
22-Mar	111.1	148.0	147.1	150.9	147.8	137.8	117.3	107.3
23-Mar	110.4	147.6	146.6	150.5	147.6	137.3	117.1	107.0
24-Mar	111.3	148.3	147.5	150.9	147.8	137.5	117.4	107.4
25-Mar	111.4	148.2	147.7	150.9	147.8	137.3	117.5	107.4
26-Mar	111.3	148.0	147.4	150.9	147.6	137.0	117.3	107.3
27-Mar	111.6	148.5	147.8	151.2	148.0	137.4	117.7	107.6
28-Mar	111.1	148.5	147.8	150.9	147.7	136.9	117.4	107.3
29-Mar	111.4	148.7	148.0	151.0	147.6	136.6	117.5	107.2
30-Mar	111.8	148.8	148.2	151.2	147.8	136.9	117.7	107.3
31-Mar	112.5	149.0	148.7	151.5	148.1	137.4	118.0	107.6
Average	**110.8**	**147.6**	**146.7**	**150.8**	**148.0**	**137.9**	**116.4**	**107.4**

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 MARCH 9, 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: MARCH 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.
6521 MERCURY WAY, SUITE 100, MIDLOTHIAN, VA 23113
PH: (804) 378-7440 FAX: (804) 378-7433

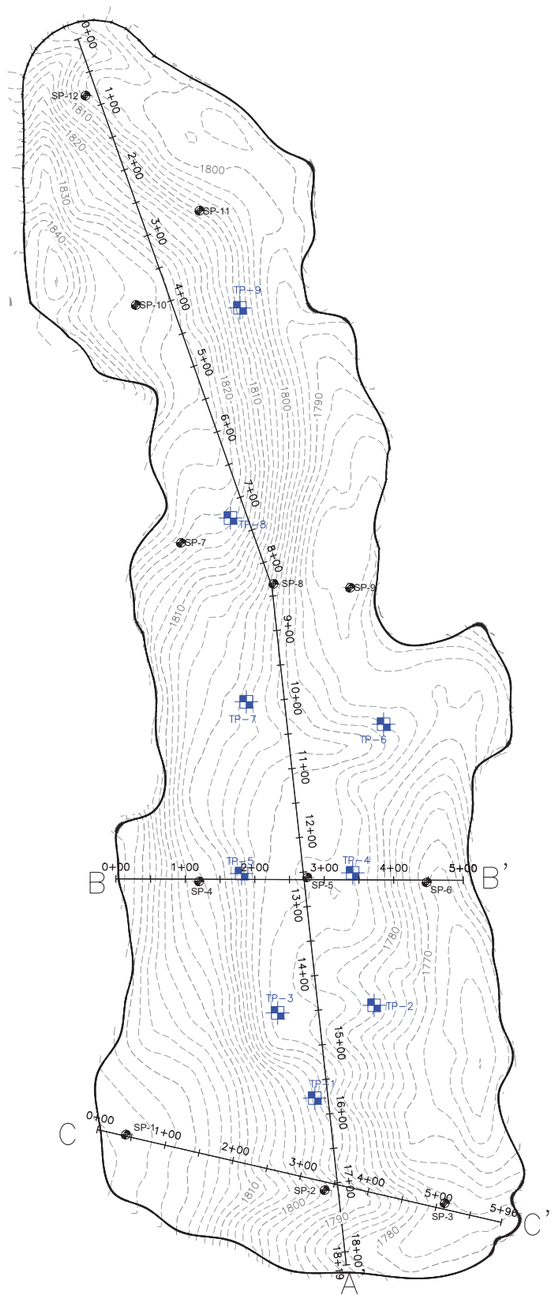
PROJ. NO. 27292208.05
DSN. BY: SRB
DWN. BY: SRB
CHK. BY: C.JW
Q/A RVW BY: C.JW
APP. BY: C.JW

CADD FILE: SURF COMP

DATE: 4/4/2024

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 DECEMBER 20, 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: DECEMBER 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.
15521 MIDLOTHIAN TURNPIKE, MIDLOTHIAN, VA 23113
PH.: (804) 378-7440 FAX: (804) 378-7433

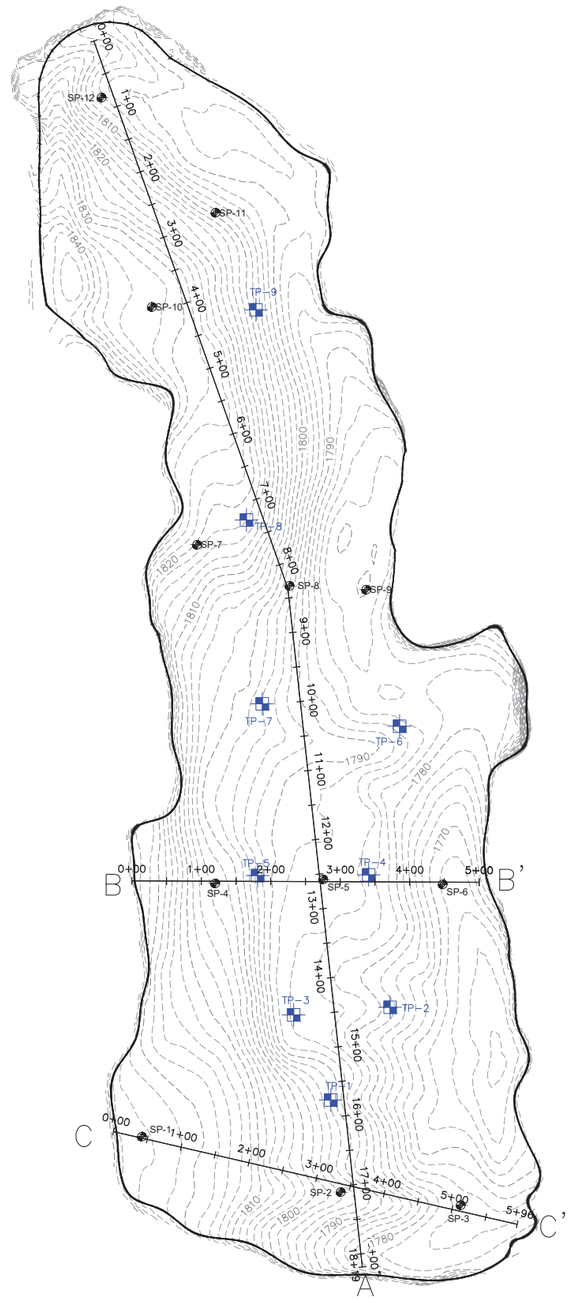
PROJ. NO.: 02192208.05
DSN. BY: SRB
DWN. BY: SRB
CHK. BY: CJW
Q/A RVW. BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP

DATE: 4/4/2024

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 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 CONSULTING ENGINEERS, INC.
15521 MIDLOTHIAN TURNPIKE, MIDLOTHIAN, VA 23113
PH.: (804) 378-7440 FAX: (804) 378-7433

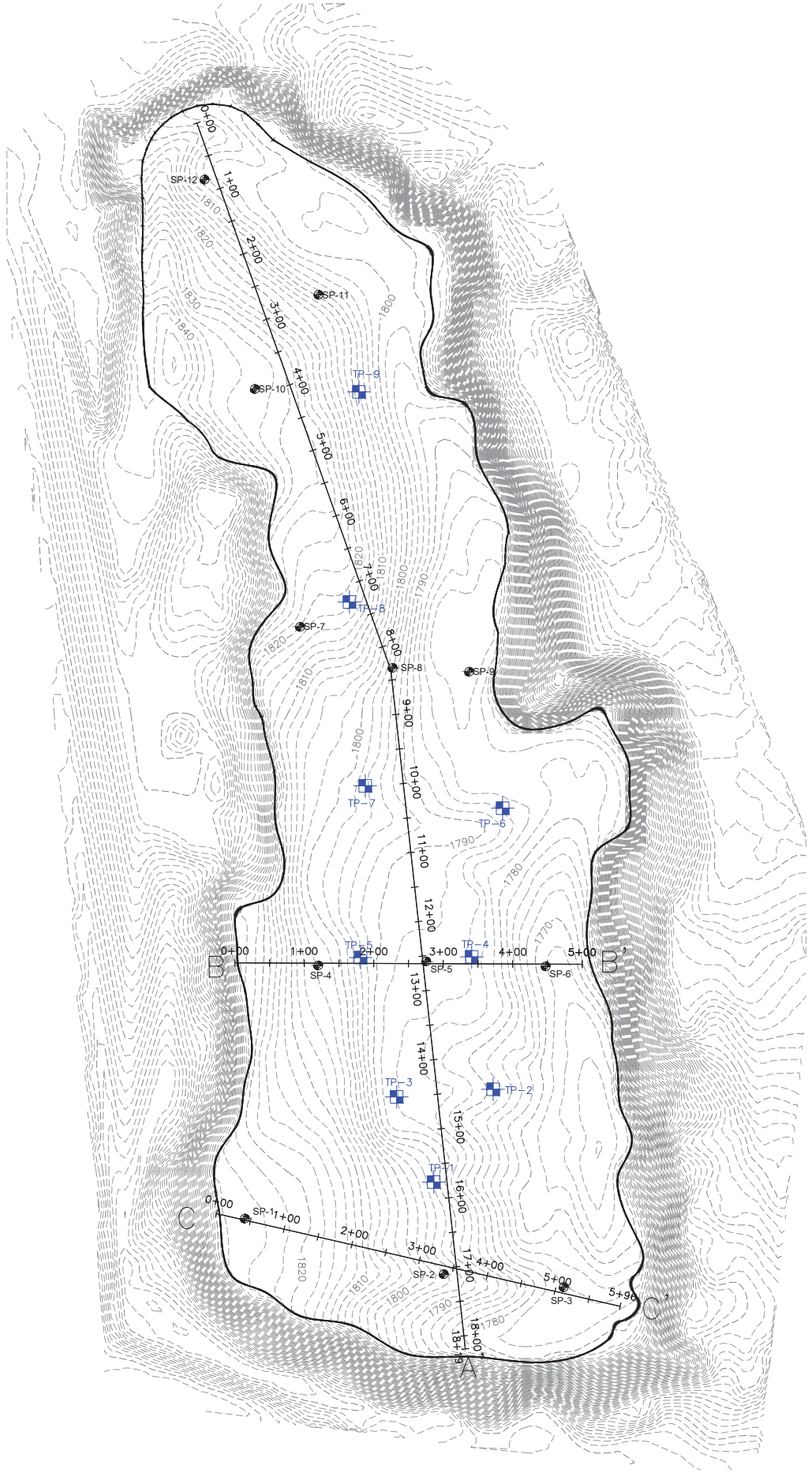
PROJ. NO. 27182208.05
DSN. BY: SRB
DWN. BY: SRB
CHK. BY: CJW
Q/A RVW. BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP

DATE: 4/4/2024

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 MARCH 13, 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: MARCH 2024 LANDFILL TOPOGRAPHY

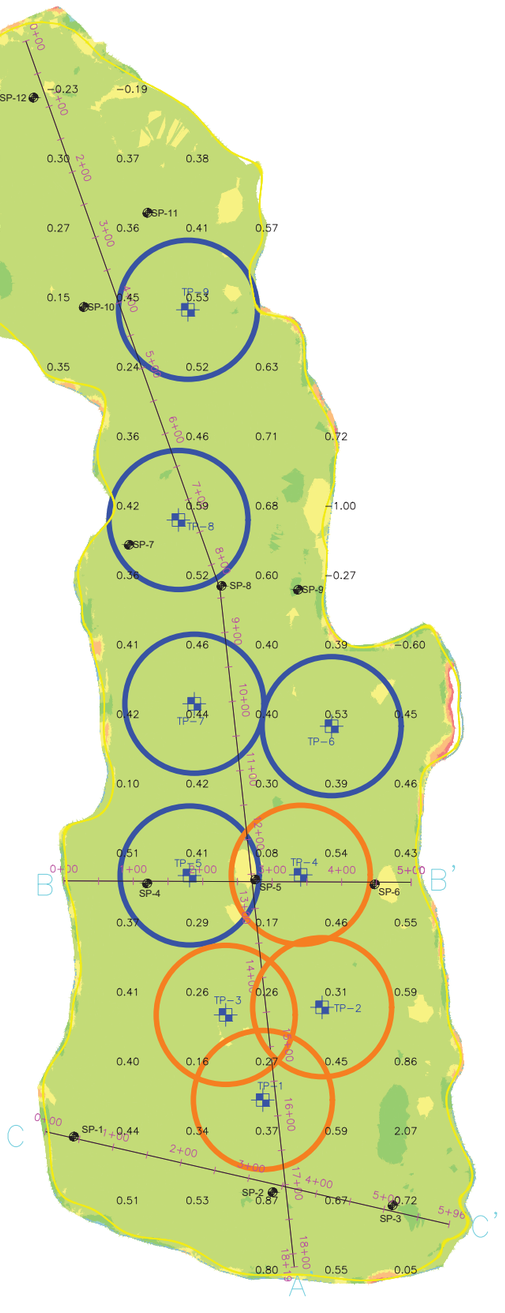
PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

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

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

PROJ. NO. 02218208.05
DSN. BY: SRB
DWN. BY: SRB
CHK. BY: CJW
QA/QC BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 4/4/2024
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 – FEBRUARY 15, 2024
Comparison Surface TOPO – MARCH 13, 2024

Cut Volume	1,830	Cu. Yd.
Fill Volume	13,950	Cu. Yd.
Net Fill	12,120	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 FEBRUARY 15, 2024 AND MARCH 13, 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: MARCH VOLUME CHANGE FEBRUARY 2024 TO MARCH 2024

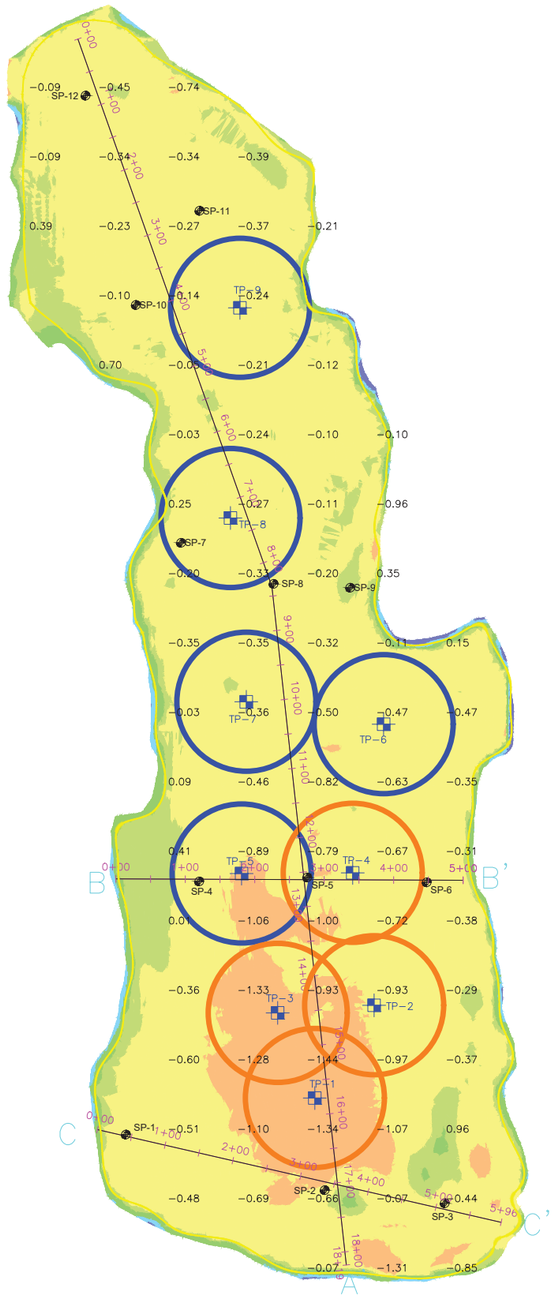
PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

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 TURNPIKE, MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7453

PROJ. NO. 02208208.05
DSN. BY: SRB
DWN. BY: SRB/JW
CHK. BY: CJW
QA/QC BY: JW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 4/4/2024
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 – DECEMBER 20, 2023
Comparison Surface TOPO – MARCH 13, 2024

Cut Volume	13,040	Cu. Yd.
Fill Volume	5,330	Cu. Yd.
Net Cut	7,710	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 DECEMBER 20, 2023 AND MARCH 13, 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: MARCH VOLUME CHANGE DECEMBER 2023 TO MARCH 2024

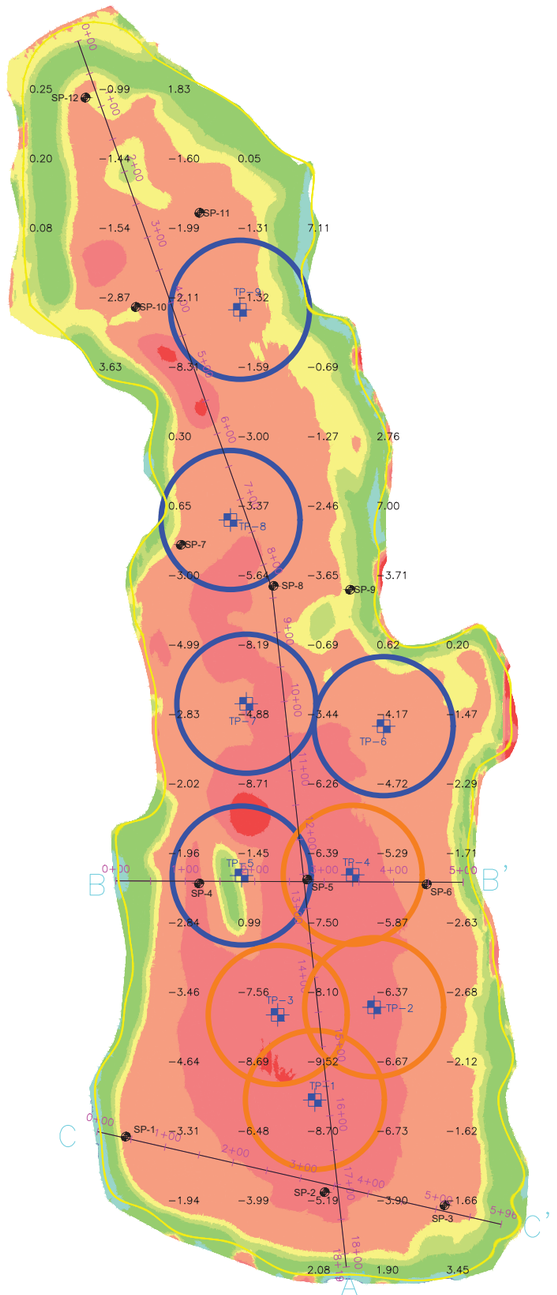
PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

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

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
15621 MIDLOTHIAN TURNPIKE, MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7453

PROJ. NO. 02208208.05
DSN. BY: SRB
DWN. BY: SRB/W
CHK. BY: CJW
O/A RVW. BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 4/4/2024
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 – MARCH 9, 2023
Comparison Surface TOPO – MARCH 13, 2024

Cut Volume	91,610	Cu. Yd.
Fill Volume	13,540	Cu. Yd.
Net Cut	78,070	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: MARCH VOLUME CHANGE MARCH 2023 TO MARCH 2024

PROJECT TITLE: MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588

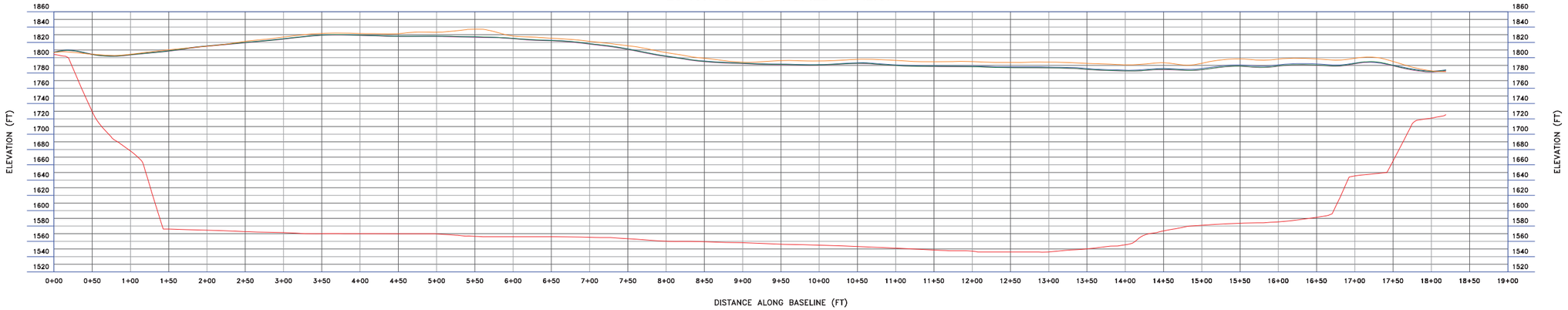
CLIENT: CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
2655 VALLEY DRIVE
BRISTOL, VIRGINIA 24201

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

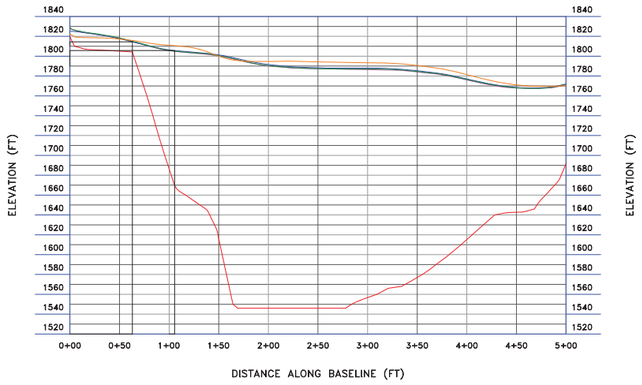
PROJ. NO. 02224208.05
DSN. BY: SRB
DWN. BY: SGW
CHK. BY: CJW
Q/A REVIEW BY: CJW
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 4/4/2024
SCALE:
DRAWING NO. 7 of 8

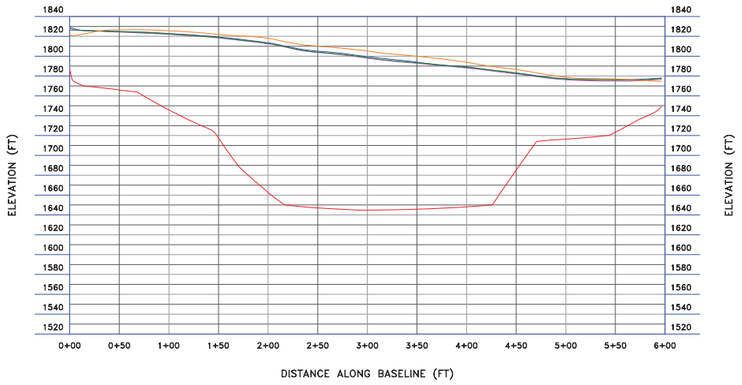
LONGITUDINAL PROFILE A ALIGN



LONGITUDINAL PROFILE B ALIGN



LONGITUDINAL PROFILE C ALIGN



LEGEND

- BOTTOM LINER ELEVATION
- MARCH 2023 TOPO
- DECEMBER 2023 TOPO
- FEBRUARY 2024 TOPO
- MARCH 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. 02208.05
DSN. BY: SRB
DWN. BY: SRB
CHK. BY: CJW
QA/A PROV. BY:
APP. BY: CJW

CADD FILE: SURF COMP
DATE: 4/4/2024
SCALE:
DRAWING NO. **8** of **8**

Appendix F

Field Logs

Lab Report

Historical LFG-EW Leachate Monitoring Results Summary

Appendix F

Field Logs

Lab Report

Historical LFG-EW Leachate Monitoring Results Summary

Time-Series Plots

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

Date	3/4/2024 - 3/8/2024											
Personnel	**W. Fabrie, L. Tucker**											
Location ID	**Date**	**Measured Well Casing Depth (ft)**	**Pump Installed**	**Pump Depth (ft)**	**Prior Cycle Count (2/7/24)**	**Cycle Count**	**Prior Depth to Liquid (ft)**	**Depth to Liquid (ft)**	**Casing Stickup (ft)**	**Liquid Column Thickness (ft)**	**Sample Collected**	**Comments**
EW-33B	3/5/2024	185.00	Y	140	62	81	139.32	107.79	4.21	77.21	---	---
EW-36A	3/6/2024	180.00	Y	135	335039	6376	47.24	52.58	4.92	127.42	---	pumping no port
EW-49	3/6/2024	96.15	Y	90	---	---	---	62.70	5.71	33.45	---	air disconnected
EW-50	3/6/2024	77.70	Y	83	1416285	1416291	38.36	35.83	4.42	41.87	---	lost pvc
EW-51	3/5/2024	92.80	Y	95	175437	180467	33.17	42.15	3.42	50.65	---	air/fm off
EW-52	3/5/2024	98.70	Y	93	484502	487927	44.49	41.72	3.25	56.98	---	air disconnected
EW-53	3/5/2024	100.70	Y	---	2643830	2762310	55.57	44.41	5.13	56.29	---	not stroking
EW-54	3/6/2024	82.70	Y	75	718242	859609	33.63	34.92	5.58	47.78	---	air disconnected
EW-55	3/6/2024	90.40	Y	90	713267	---	40.86	38.83	7.50	51.57	---	could not find cycle counter, sample port crimped
EW-56	3/4/2024	42.71	N	58	---	---	Dry	DRY	5.42	---	---	dry @ 42.71
EW-57	3/5/2024	107.40	Y	71	44644	44644	45.18	42.70	4.88	64.70	---	air/fm off
EW-58	3/5/2024	84.50	N	82	---	---	25.02	22.92	3.92	61.58	---	---
EW-59	3/4/2024	73.40	Y	64	2701039	2862651	37.18	35.08	4.96	38.32	---	air off
EW-60	3/5/2024	81.80	Y	70	617738	617747	36.66	32.60	4.13	49.20	---	pump not stroking
EW-61	3/6/2024	87.80	Y	66	26505	26507	57.11	55.41	6.38	32.39	---	air off
EW-62	3/6/2024	110.60	Y	80	203920	203926	77.21	75.34	4.67	35.26	---	air off
EW-63	3/6/2024	62.10	N	64	---	---	57.66	53.71	5.29	8.39	---	air off
EW-64	3/6/2024	109.00	Y	113	177633	177633	80.89	79.45	4.50	29.55	---	air off
EW-65	3/6/2024	88.40	Y	50	4818	---	50.93	---	4.88	---	---	measurment missed
EW-67	3/5/2024	107.75	Y	62.5	865689	865690	44.28	43.80	5.83	63.95	---	air/fm off
EW-68	3/5/2024	73.57	Y	68	2287763	2295806	38.09	37.58	1.33	35.99	---	not stroking
EW-69	3/6/2024	98.00	N	---	15	15	93.95	93.90	4.27	4.10	---	---
EW-70	3/6/2024	71.00	Y	58	---	---	---	---	---	---	---	surrounded by water could not measure
EW-71	3/6/2024	185.80	N	---	---	---	166.88	160.97	5.08	24.83	---	---
EW-72	3/6/2024	141.21	N	---	---	---	144.45	139.11	4.52	2.10	---	---
EW-73	3/6/2024	116.00	N	---	---	---	106.64	106.88	3.54	9.12	---	---

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

Date	3/4/2024 - 3/8/2024											
Personnel	**W. Fabrie, L. Tucker**											
Location ID	**Date**	**Measured Well Casing Depth (ft)**	**Pump Installed**	**Pump Depth (ft)**	**Prior Cycle Count (2/7/24)**	**Cycle Count**	**Prior Depth to Liquid (ft)**	**Depth to Liquid (ft)**	**Casing Stickup (ft)**	**Liquid Column Thickness (ft)**	**Sample Collected**	**Comments**
EW-74	3/5/2024	184.15	Y	140	35	35	161.82	160.32	5.83	23.83	---	---
EW-75	3/5/2024	130.82	Y	140	12	12	Dry	DRY	4.97	---	---	lost pvc in well, dry @ 130.82
EW-77	3/5/2024	185.22	N	---	---	---	137.37	133.07	5.27	52.15	---	---
EW-78	3/6/2024	57.00	Y	47	102402	111214	---	47.69	3.58	9.31	---	---
EW-79	3/5/2024	185.64	N	---	---	---	155.11	152.97	5.58	32.67	---	---
EW-80	3/5/2024	149.00	N	---	---	---	137.04	136.90	3.42	12.10	---	---
EW-81	3/5/2024	151.56	Y	125	329326	329326	93.12	103.49	5.92	48.07	---	Air/fm off
EW-82	3/6/2024	163.26	Y	145	124501	---	102.33	---	3.00	---	---	surrounded by water could not measure
EW-83	3/5/2024	167.04	Y	145	428902	428902	112.84	106.86	4.42	60.18	---	air/fm off
EW-84	3/4/2024	130.56	N	---	---	---	74.31	72.89	4.75	57.67	---	---
EW-85	3/5/2024	91.00	Y	78.5	280403	397208	82.77	56.60	4.25	34.40	---	not stroking
EW-86	3/4/2024	153.00	N	---	---	---	74.88	72.90	4.17	80.10	---	---
EW-87	3/5/2024	149.57	Y	125	953645	---	54.33	52.08	4.75	97.49	---	air/fm off, missing stroke counter
EW-88	3/5/2024	100.00	Y	58	462832	583291	65.92	65.51	3.63	34.49	Y	sample collected @1245
EW-89	3/5/2024	84.57	Y	70	---	0	39.36	36.52	3.58	48.05	---	pump not stroking
EW-90	3/4/2024	114.00	Y	101	---	---	87.38	DRY	2.63	#VALUE!	---	air disconnected, @ 70.32 there is a potential blockage, may be dry there
EW-91	3/5/2024	137.70	Y	115	265809	265809	40.29	38.57	5.15	99.13	---	air/fm off
EW-92	3/5/2024	112.99	Y	95	391973	391973	45.42	42.85	6.83	70.14	---	air/fm off buried, lost pvc
EW-93	3/5/2024	111.00	N	---	---	302664	28.64	25.91	4.17	85.09	---	air disconnected
EW-94	3/5/2024	50.00	Y	45	520385	520425	23.97	23.04	4.25	26.96	---	fm disconnected, lost pvc
EW-95	3/4/2024	68.00	N	---	---	---	56.74	56.10	2.83	11.90	---	---
EW-96	3/5/2024	164.35	Y	145	---	---	---	47.97	8.00	116.38	---	air off
EW-97	3/4/2024	144.50	N	---	---	---	89.06	82.83	6.60	61.67	---	---
EW-98	3/5/2024	51.00	Y	43	2166760	2195515	24.24	45.53	3.94	5.47	Y	sample collected 1345, blockage at 45.53 might be top of pump
EW-99	3/4/2024	65.00	N	---	---	---	59.97	55.83	3.72	9.17	---	---
EW-100	3/4/2024	108.50	Y	96.5	583480	625897	74.27	63.74	3.83	44.76	---	airline disconnected

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-73									
EW-74									
EW-75									
EW-76									
EW-78									
EW-81									
EW-82									
EW-83									
EW-85									
EW-87									
EW-88	3/5/24	1245	82.5	5.44	43172 uS/cm	0.08	-142.9	7.89	Brown w/ sheen
EW-89			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
EW-90									
EW-91									
EW-92									
EW-94									
EW-96									
EW-98	3/5/24	1345	45.1	6.60	14107 mS/cm	0.28	-106.8	15.73	Gray/ Green w/ foam
EW-100									

Sampler: WF, LT
Log Checked By: J. Robb
Samples Shipped By: Courier
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

DRAFT REPORT

Laboratory Order ID 24C0222

Client Name:	SCS Engineers-Winchester 296 Victory Road Winchester, VA 22602	Date Received:	March 6, 2024 8:00
		Date Issued:	March 20, 2024 16:58
		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 03/06/2024 08:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

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.

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: 3/20/2024 4:58:19PM

Laboratory Sample ID: **24C0222-01** **Client Sample ID:** **EW-88**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	01RE1	SW6020B	230		2.5	5.0	5	ug/L
Barium	01RE1	SW6020B	1540		5.00	25.0	5	ug/L
Chromium	01RE1	SW6020B	414		2.00	5.00	5	ug/L
Copper	01RE1	SW6020B	1.84	J	1.50	5.00	5	ug/L
Lead	01RE1	SW6020B	20		5.0	5.0	5	ug/L
Nickel	01RE1	SW6020B	86.78		5.000	5.000	5	ug/L
Selenium	01RE1	SW6020B	6.27		4.25	5.00	5	ug/L
Zinc	01RE1	SW6020B	2090		12.5	25.0	5	ug/L
2-Butanone (MEK)	01	SW8260D	11700		150	500	50	ug/L
Acetone	01RE1	SW8260D	50800		3500	5000	500	ug/L
Benzene	01	SW8260D	226		20.0	50.0	50	ug/L
Ethylbenzene	01	SW8260D	25.0	J	20.0	50.0	50	ug/L
Tetrahydrofuran	01	SW8260D	3320		500	500	50	ug/L
Toluene	01	SW8260D	73.0		25.0	50.0	50	ug/L
Ammonia as N	01	EPA350.1 R2.0	2280		146	200	2000	mg/L
BOD	01	SM5210B-2016	40600		0.2	2.0	1	mg/L
COD	01	SM5220D-2011	75500		10000	10000	1000	mg/L
Cyanide	01	SW9012B	0.11	CI	0.05	0.05	5	mg/L
TKN as N	01	EPA351.2 R2.0	2980		100	250	500	mg/L
Total Recoverable Phenolics	01	SW9065	46.6		3.00	5.00	100	mg/L

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: 3/20/2024 4:58:19PM

Laboratory Sample ID: **24C0222-02** **Client Sample ID:** **EW-98**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	02RE2	SW6020B	120		1.0	2.0	2	ug/L
Barium	02RE2	SW6020B	1030		2.00	10.0	2	ug/L
Chromium	02RE2	SW6020B	75.9		0.800	2.00	2	ug/L
Copper	02RE2	SW6020B	1.15	J	0.600	2.00	2	ug/L
Mercury	02RE2	SW6020B	1.24		0.400	0.400	2	ug/L
Nickel	02RE2	SW6020B	22.32		2.000	2.000	2	ug/L
Zinc	02RE2	SW6020B	34.2		5.00	10.0	2	ug/L
2-Butanone (MEK)	02RE1	SW8260D	25200		1500	5000	500	ug/L
Acetone	02RE1	SW8260D	57600		3500	5000	500	ug/L
Benzene	02	SW8260D	8910		20.0	50.0	50	ug/L
Ethylbenzene	02	SW8260D	710		20.0	50.0	50	ug/L
Tetrahydrofuran	02	SW8260D	8710		500	500	50	ug/L
Toluene	02	SW8260D	916		25.0	50.0	50	ug/L
Xylenes, Total	02	SW8260D	1360		50.0	150	50	ug/L
Ammonia as N	02	EPA350.1 R2.0	968		146	200	2000	mg/L
BOD	02	SM5210B-2016	7680		0.2	2.0	1	mg/L
COD	02	SM5220D-2011	14400		2000	2000	200	mg/L
Cyanide	02	SW9012B	0.11	CI	0.05	0.05	5	mg/L
Nitrite as N	02	SM4500-NO2B-2011	0.25	J	0.25	1.25	25	mg/L
TKN as N	02	EPA351.2 R2.0	1030		50.0	125	250	mg/L
Total Recoverable Phenolics	02	SW9065	12.8		3.00	5.00	100	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".

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: 3/20/2024 4:58:19PM
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-88	24C0222-01	Ground Water	03/05/2024 12:45	03/06/2024 08:00
EW-98	24C0222-02	Ground Water	03/05/2024 12:45 to 03/05/2024 13:45	03/06/2024 08:00
Trip Blank	24C0222-03	Ground Water	01/31/2024 15:40	03/06/2024 08:00

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-88** **Laboratory Sample ID:** **24C0222-01**

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	01RE1	7440-22-4	SW6020B	03/07/2024 12:30	03/08/2024 11:46	BLOD		0.300	5.00	5	ug/L	LAM
Arsenic	01RE1	7440-38-2	SW6020B	03/07/2024 12:30	03/08/2024 11:46	230		2.5	5.0	5	ug/L	LAM
Barium	01RE1	7440-39-3	SW6020B	03/07/2024 12:30	03/08/2024 11:46	1540		5.00	25.0	5	ug/L	LAM
Cadmium	01RE1	7440-43-9	SW6020B	03/07/2024 12:30	03/08/2024 11:46	BLOD		0.500	5.00	5	ug/L	LAM
Chromium	01RE1	7440-47-3	SW6020B	03/07/2024 12:30	03/08/2024 11:46	414		2.00	5.00	5	ug/L	LAM
Copper	01RE1	7440-50-8	SW6020B	03/07/2024 12:30	03/08/2024 11:46	1.84	J	1.50	5.00	5	ug/L	LAM
Mercury	01RE1	7439-97-6	SW6020B	03/07/2024 12:30	03/08/2024 11:46	BLOD		1.00	1.00	5	ug/L	LAM
Nickel	01RE1	7440-02-0	SW6020B	03/07/2024 12:30	03/08/2024 11:46	86.78		5.000	5.000	5	ug/L	LAM
Lead	01RE1	7439-92-1	SW6020B	03/07/2024 12:30	03/08/2024 11:46	20		5.0	5.0	5	ug/L	LAM
Selenium	01RE1	7782-49-2	SW6020B	03/07/2024 12:30	03/08/2024 11:46	6.27		4.25	5.00	5	ug/L	LAM
Zinc	01RE1	7440-66-6	SW6020B	03/07/2024 12:30	03/08/2024 11:46	2090		12.5	25.0	5	ug/L	LAM
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	01	78-93-3	SW8260D	03/11/2024 18:23	03/11/2024 18:23	11700		150	500	50	ug/L	RJB
Acetone	01RE1	67-64-1	SW8260D	03/11/2024 18:46	03/11/2024 18:46	50800		3500	5000	500	ug/L	RJB
Benzene	01	71-43-2	SW8260D	03/11/2024 18:23	03/11/2024 18:23	226		20.0	50.0	50	ug/L	RJB
Ethylbenzene	01	100-41-4	SW8260D	03/11/2024 18:23	03/11/2024 18:23	25.0	J	20.0	50.0	50	ug/L	RJB
Toluene	01	108-88-3	SW8260D	03/11/2024 18:23	03/11/2024 18:23	73.0		25.0	50.0	50	ug/L	RJB
Xylenes, Total	01	1330-20-7	SW8260D	03/11/2024 18:23	03/11/2024 18:23	BLOD		50.0	150	50	ug/L	RJB
Tetrahydrofuran	01	109-99-9	SW8260D	03/11/2024 18:23	03/11/2024 18:23	3320		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*01*	*99.3 %*	*70-120*	*03/11/2024 18:23*	*03/11/2024 18:23*							
Surr: 4-Bromofluorobenzene (Surr)	*01*	*105 %*	*75-120*	*03/11/2024 18:23*	*03/11/2024 18:23*							
Surr: Dibromofluoromethane (Surr)	*01*	*105 %*	*70-130*	*03/11/2024 18:23*	*03/11/2024 18:23*							
Surr: Toluene-d8 (Surr)	*01*	*100 %*	*70-130*	*03/11/2024 18:23*	*03/11/2024 18:23*							
Surr: 1,2-Dichloroethane-d4 (Surr)	*01RE1*	*102 %*	*70-120*	*03/11/2024 18:46*	*03/11/2024 18:46*							
Surr: 4-Bromofluorobenzene (Surr)	*01RE1*	*107 %*	*75-120*	*03/11/2024 18:46*	*03/11/2024 18:46*							

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-88** **Laboratory Sample ID:** **24C0222-01**

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: Dibromofluoromethane (Surr)	*01RE1*	*103 %*	*70-130*	*03/11/2024 18:46*	*03/11/2024 18:46*							
Surr: Toluene-d8 (Surr)	*01RE1*	*102 %*	*70-130*	*03/11/2024 18:46*	*03/11/2024 18:46*							
Semivolatile Organic Compounds by GCMS												
Anthracene	01	120-12-7	SW8270E	03/08/2024 08:00	03/08/2024 21:44	BLOD		80.0	160	4	ug/L	BMS
Surr: 2,4,6-Tribromophenol (Surr)	*01*	*84.4 %*	*5-136*	*03/08/2024 08:00*	*03/08/2024 21:44*							
Surr: 2-Fluorobiphenyl (Surr)	*01*	*%*	*9-117*	*03/08/2024 08:00*	*03/08/2024 21:44*							*DS*
Surr: 2-Fluorophenol (Surr)	*01*	*%*	*5-60*	*03/08/2024 08:00*	*03/08/2024 21:44*							*DS*
Surr: Nitrobenzene-d5 (Surr)	*01*	*%*	*5-151*	*03/08/2024 08:00*	*03/08/2024 21:44*							*DS*
Surr: Phenol-d5 (Surr)	*01*	*0.400 %*	*5-60*	*03/08/2024 08:00*	*03/08/2024 21:44*							*DS*
Surr: p-Terphenyl-d14 (Surr)	*01*	*80.6 %*	*5-141*	*03/08/2024 08:00*	*03/08/2024 21:44*							

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-88** **Laboratory Sample ID:** **24C0222-01**

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	03/13/2024 11:40	03/13/2024 11:40	2280		146	200	2000	mg/L	MGC
BOD	01	E1640606	SM5210B-2016	03/07/2024 09:11	03/07/2024 09:11	40600		0.2	2.0	1	mg/L	TEG
Cyanide	01	57-12-5	SW9012B	03/14/2024 11:31	03/14/2024 11:31	0.11	CI	0.05	0.05	5	mg/L	MGC
COD	01	NA	SM5220D-2011	03/18/2024 10:30	03/18/2024 10:30	75500		10000	10000	1000	mg/L	TEG
Nitrate as N	01	14797-55-8	Calc.	03/15/2024 12:47	03/15/2024 12:47	BLOD		0.750	1.75	25	mg/L	BKR
Nitrate+Nitrite as N	01	E701177	SM4500-NO3F-2016	03/15/2024 12:47	03/15/2024 12:47	BLOD		0.50	0.50	5	mg/L	MGC
Nitrite as N	01	14797-65-0	SM4500-NO2B-2011	03/07/2024 12:15	03/07/2024 12:15	BLOD		0.25	1.25	25	mg/L	BKR
Total Recoverable Phenolics	01	NA	SW9065	03/16/2024 17:25	03/16/2024 17:25	46.6		3.00	5.00	100	mg/L	LAM
TKN as N	01	E17148461	EPA351.2 R2.0	03/15/2024 16:56	03/15/2024 16:56	2980		100	250	500	mg/L	SPH

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-98** **Laboratory Sample ID:** **24C0222-02**

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	02RE2	7440-22-4	SW6020B	03/07/2024 12:30	03/08/2024 12:11	BLOD		0.120	2.00	2	ug/L	LAM
Arsenic	02RE2	7440-38-2	SW6020B	03/07/2024 12:30	03/08/2024 12:11	120		1.0	2.0	2	ug/L	LAM
Barium	02RE2	7440-39-3	SW6020B	03/07/2024 12:30	03/08/2024 12:11	1030		2.00	10.0	2	ug/L	LAM
Cadmium	02RE2	7440-43-9	SW6020B	03/07/2024 12:30	03/08/2024 12:11	BLOD		0.200	2.00	2	ug/L	LAM
Chromium	02RE2	7440-47-3	SW6020B	03/07/2024 12:30	03/08/2024 12:11	75.9		0.800	2.00	2	ug/L	LAM
Copper	02RE2	7440-50-8	SW6020B	03/07/2024 12:30	03/08/2024 12:11	1.15	J	0.600	2.00	2	ug/L	LAM
Mercury	02RE2	7439-97-6	SW6020B	03/07/2024 12:30	03/08/2024 12:11	1.24		0.400	0.400	2	ug/L	LAM
Nickel	02RE2	7440-02-0	SW6020B	03/07/2024 12:30	03/08/2024 12:11	22.32		2.000	2.000	2	ug/L	LAM
Lead	02RE2	7439-92-1	SW6020B	03/07/2024 12:30	03/08/2024 12:11	BLOD		2.0	2.0	2	ug/L	LAM
Selenium	02RE2	7782-49-2	SW6020B	03/07/2024 12:30	03/08/2024 12:11	BLOD		1.70	2.00	2	ug/L	LAM
Zinc	02RE2	7440-66-6	SW6020B	03/07/2024 12:30	03/08/2024 12:11	34.2		5.00	10.0	2	ug/L	LAM
Volatile Organic Compounds by GCMS												
2-Butanone (MEK)	02RE1	78-93-3	SW8260D	03/11/2024 19:33	03/11/2024 19:33	25200		1500	5000	500	ug/L	RJB
Acetone	02RE1	67-64-1	SW8260D	03/11/2024 19:33	03/11/2024 19:33	57600		3500	5000	500	ug/L	RJB
Benzene	02	71-43-2	SW8260D	03/11/2024 19:10	03/11/2024 19:10	8910		20.0	50.0	50	ug/L	RJB
Ethylbenzene	02	100-41-4	SW8260D	03/11/2024 19:10	03/11/2024 19:10	710		20.0	50.0	50	ug/L	RJB
Toluene	02	108-88-3	SW8260D	03/11/2024 19:10	03/11/2024 19:10	916		25.0	50.0	50	ug/L	RJB
Xylenes, Total	02	1330-20-7	SW8260D	03/11/2024 19:10	03/11/2024 19:10	1360		50.0	150	50	ug/L	RJB
Tetrahydrofuran	02	109-99-9	SW8260D	03/11/2024 19:10	03/11/2024 19:10	8710		500	500	50	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*02*		*101 %*	*70-120*	*03/11/2024 19:10*	*03/11/2024 19:10*						
Surr: 4-Bromofluorobenzene (Surr)	*02*		*104 %*	*75-120*	*03/11/2024 19:10*	*03/11/2024 19:10*						
Surr: Dibromofluoromethane (Surr)	*02*		*103 %*	*70-130*	*03/11/2024 19:10*	*03/11/2024 19:10*						
Surr: Toluene-d8 (Surr)	*02*		*101 %*	*70-130*	*03/11/2024 19:10*	*03/11/2024 19:10*						
Surr: 1,2-Dichloroethane-d4 (Surr)	*02RE1*		*103 %*	*70-120*	*03/11/2024 19:33*	*03/11/2024 19:33*						
Surr: 4-Bromofluorobenzene (Surr)	*02RE1*		*105 %*	*75-120*	*03/11/2024 19:33*	*03/11/2024 19:33*						

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-98** **Laboratory Sample ID:** **24C0222-02**

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: Dibromofluoromethane (Surr)	*02RE1*	*105 %*	*70-130*	*03/11/2024 19:33*	*03/11/2024 19:33*							
Surr: Toluene-d8 (Surr)	*02RE1*	*102 %*	*70-130*	*03/11/2024 19:33*	*03/11/2024 19:33*							
Semivolatile Organic Compounds by GCMS												
Anthracene	02	120-12-7	SW8270E	03/08/2024 08:00	03/11/2024 17:22	BLOD		20.0	40.0	4	ug/L	BMS
Surr: 2,4,6-Tribromophenol (Surr)	*02*	*43.7 %*	*5-136*	*03/08/2024 08:00*	*03/11/2024 17:22*							
Surr: 2-Fluorobiphenyl (Surr)	*02*	*26.5 %*	*9-117*	*03/08/2024 08:00*	*03/11/2024 17:22*							
Surr: 2-Fluorophenol (Surr)	*02*	*1.04 %*	*5-60*	*03/08/2024 08:00*	*03/11/2024 17:22*							*DS*
Surr: Nitrobenzene-d5 (Surr)	*02*	*%*	*5-151*	*03/08/2024 08:00*	*03/11/2024 17:22*							*DS*
Surr: Phenol-d5 (Surr)	*02*	*0.160 %*	*5-60*	*03/08/2024 08:00*	*03/11/2024 17:22*							*DS*
Surr: p-Terphenyl-d14 (Surr)	*02*	*16.8 %*	*5-141*	*03/08/2024 08:00*	*03/11/2024 17:22*							

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **EW-98** **Laboratory Sample ID:** **24C0222-02**

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	03/13/2024 11:40	03/13/2024 11:40	968		146	200	2000	mg/L	MGC
BOD	02	E1640606	SM5210B-2016	03/07/2024 08:31	03/07/2024 08:31	7680		0.2	2.0	1	mg/L	TEG
Cyanide	02	57-12-5	SW9012B	03/14/2024 11:31	03/14/2024 11:31	0.11	CI	0.05	0.05	5	mg/L	MGC
COD	02	NA	SM5220D-2011	03/18/2024 10:30	03/18/2024 10:30	14400		2000	2000	200	mg/L	TEG
Nitrate as N	02	14797-55-8	Calc.	03/15/2024 12:47	03/15/2024 12:47	BLOD		0.750	1.75	25	mg/L	BKR
Nitrate+Nitrite as N	02	E701177	SM4500-NO3F-2016	03/15/2024 12:47	03/15/2024 12:47	BLOD		0.50	0.50	5	mg/L	MGC
Nitrite as N	02	14797-65-0	SM4500-NO2B-2011	03/07/2024 12:15	03/07/2024 12:15	0.25	J	0.25	1.25	25	mg/L	BKR
Total Recoverable Phenolics	02	NA	SW9065	03/16/2024 17:25	03/16/2024 17:25	12.8		3.00	5.00	100	mg/L	LAM
TKN as N	02	E17148461	EPA351.2 R2.0	03/15/2024 16:56	03/15/2024 16:56	1030		50.0	125	250	mg/L	SPH

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Client Sample ID: **Trip Blank** **Laboratory Sample ID:** **24C0222-03**

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	03/11/2024 14:54	03/11/2024 14:54	BLOD		3.00	10.0	1	ug/L	RJB
Acetone	03	67-64-1	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		7.00	10.0	1	ug/L	RJB
Benzene	03	71-43-2	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		0.40	1.00	1	ug/L	RJB
Ethylbenzene	03	100-41-4	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	03	108-88-3	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		0.50	1.00	1	ug/L	RJB
Xylenes, Total	03	1330-20-7	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		1.00	3.00	1	ug/L	RJB
Tetrahydrofuran	03	109-99-9	SW8260D	03/11/2024 14:54	03/11/2024 14:54	BLOD		10.0	10.0	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	*03*		*101 %*	*70-120*	*03/11/2024 14:54*	*03/11/2024 14:54*						
Surr: 4-Bromofluorobenzene (Surr)	*03*		*102 %*	*75-120*	*03/11/2024 14:54*	*03/11/2024 14:54*						
Surr: Dibromofluoromethane (Surr)	*03*		*101 %*	*70-130*	*03/11/2024 14:54*	*03/11/2024 14:54*						
Surr: Toluene-d8 (Surr)	*03*		*105 %*	*70-130*	*03/11/2024 14:54*	*03/11/2024 14:54*						

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0215 - EPA200.8 R5.4										
Blank (BHC0215-BLK1)				Prepared: 03/07/2024 Analyzed: 03/08/2024						
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 (BHC0215-BS1)				Prepared: 03/07/2024 Analyzed: 03/08/2024						
Mercury	1.01	0.200	ug/L	1.00		101	80-120			
Arsenic	50	1.0	ug/L	50.0		100	80-120			
Barium	51.4	5.00	ug/L	50.0		103	80-120			
Cadmium	50.0	1.00	ug/L	50.0		100	80-120			
Chromium	49.6	1.00	ug/L	50.0		99.1	80-120			
Copper	48.7	1.00	ug/L	50.0		97.3	80-120			
Lead	50	1.0	ug/L	50.0		99.5	80-120			
Nickel	49.38	1.000	ug/L	50.0		98.8	80-120			
Selenium	50.6	1.00	ug/L	50.0		101	80-120			
Silver	10.1	1.00	ug/L	10.0		101	80-120			
Zinc	49.8	5.00	ug/L	50.0		99.6	80-120			
Matrix Spike (BHC0215-MS1)	**Source: 24C0328-01**			Prepared: 03/07/2024 Analyzed: 03/08/2024						

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0215 - EPA200.8 R5.4										
Matrix Spike (BHC0215-MS1)	**Source: 24C0328-01**			Prepared: 03/07/2024 Analyzed: 03/08/2024						
Mercury	1.04	0.200	ug/L	1.00	BLOD	104	70-130			
Arsenic	50	1.0	ug/L	50.0	BLOD	101	75-125			
Barium	75.1	5.00	ug/L	50.0	24.5	101	75-125			
Cadmium	48.8	1.00	ug/L	50.0	BLOD	97.6	75-125			
Chromium	48.1	1.00	ug/L	50.0	0.809	94.6	75-125			
Copper	45.3	1.00	ug/L	50.0	BLOD	90.6	75-125			
Lead	48	1.0	ug/L	50.0	BLOD	95.9	75-125			
Nickel	45.80	1.000	ug/L	50.0	BLOD	91.6	75-125			
Selenium	47.5	1.00	ug/L	50.0	BLOD	94.9	75-125			
Silver	9.67	1.00	ug/L	10.0	BLOD	96.7	75-125			
Zinc	44.8	5.00	ug/L	50.0	BLOD	89.6	75-125			
Matrix Spike (BHC0215-MS2)	**Source: 24C0329-04**			Prepared: 03/07/2024 Analyzed: 03/08/2024						
Mercury	1.02	0.200	ug/L	1.00	BLOD	102	70-130			
Arsenic	51	1.0	ug/L	50.0	0.51	102	75-125			
Barium	65.0	5.00	ug/L	50.0	13.6	103	75-125			
Cadmium	50.5	1.00	ug/L	50.0	BLOD	101	75-125			
Chromium	50.8	1.00	ug/L	50.0	0.548	101	75-125			
Copper	56.1	1.00	ug/L	50.0	6.65	98.8	75-125			
Lead	50	1.0	ug/L	50.0	BLOD	99.9	75-125			
Nickel	50.38	1.000	ug/L	50.0	1.791	97.2	75-125			
Selenium	48.8	1.00	ug/L	50.0	BLOD	97.6	75-125			
Silver	9.97	1.00	ug/L	10.0	BLOD	99.7	75-125			
Zinc	69.9	5.00	ug/L	50.0	21.3	97.2	75-125			
Matrix Spike Dup (BHC0215-MSD1)	**Source: 24C0328-01**			Prepared: 03/07/2024 Analyzed: 03/08/2024						

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0215 - EPA200.8 R5.4										
Matrix Spike Dup (BHC0215-MSD1)	**Source: 24C0328-01**			Prepared: 03/07/2024 Analyzed: 03/08/2024						
Mercury	1.06	0.200	ug/L	1.00	BLOD	106	70-130	2.43	20	
Arsenic	52	1.0	ug/L	50.0	BLOD	103	75-125	2.24	20	
Barium	76.1	5.00	ug/L	50.0	24.5	103	75-125	1.29	20	
Cadmium	48.7	1.00	ug/L	50.0	BLOD	97.4	75-125	0.114	20	
Chromium	50.2	1.00	ug/L	50.0	0.809	98.8	75-125	4.23	20	
Copper	46.8	1.00	ug/L	50.0	BLOD	93.5	75-125	3.19	20	
Lead	49	1.0	ug/L	50.0	BLOD	97.9	75-125	2.00	20	
Nickel	47.43	1.000	ug/L	50.0	BLOD	94.9	75-125	3.50	20	
Selenium	47.4	1.00	ug/L	50.0	BLOD	94.8	75-125	0.129	20	
Silver	9.71	1.00	ug/L	10.0	BLOD	97.1	75-125	0.408	20	
Zinc	45.6	5.00	ug/L	50.0	BLOD	91.1	75-125	1.71	20	
Matrix Spike Dup (BHC0215-MSD2)	**Source: 24C0329-04**			Prepared: 03/07/2024 Analyzed: 03/08/2024						
Mercury	0.998	0.200	ug/L	1.00	BLOD	99.8	70-130	1.87	20	
Arsenic	52	1.0	ug/L	50.0	0.51	102	75-125	0.471	20	
Barium	63.9	5.00	ug/L	50.0	13.6	101	75-125	1.68	20	
Cadmium	50.9	1.00	ug/L	50.0	BLOD	102	75-125	0.704	20	
Chromium	50.9	1.00	ug/L	50.0	0.548	101	75-125	0.190	20	
Copper	55.9	1.00	ug/L	50.0	6.65	98.5	75-125	0.333	20	
Lead	50	1.0	ug/L	50.0	BLOD	100	75-125	0.275	20	
Nickel	50.62	1.000	ug/L	50.0	1.791	97.6	75-125	0.476	20	
Selenium	48.6	1.00	ug/L	50.0	BLOD	97.3	75-125	0.338	20	
Silver	10.2	1.00	ug/L	10.0	BLOD	102	75-125	1.83	20	
Zinc	70.6	5.00	ug/L	50.0	21.3	98.6	75-125	0.975	20	

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Blank (BHC0349-BLK1)				Prepared & Analyzed: 03/11/2024						
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							
Toluene	ND	1.00	ug/L							
Xylenes, Total	ND	3.00	ug/L							
Surr: 1,2-Dichloroethane-d4 (Surr)	*50.2*		ug/L	*50.0*		*100*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*52.1*		ug/L	*50.0*		*104*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*49.6*		ug/L	*50.0*		*99.1*	*70-130*			
Surr: Toluene-d8 (Surr)	*51.7*		ug/L	*50.0*		*103*	*70-130*			
LCS (BHC0349-BS1)				Prepared & Analyzed: 03/11/2024						
1,1,1,2-Tetrachloroethane	51.3	0.4	ug/L	50.0		103	80-130			
1,1,1-Trichloroethane	55.6	1	ug/L	50.0		111	65-130			
1,1,2,2-Tetrachloroethane	43.8	0.4	ug/L	50.0		87.5	65-130			
1,1,2-Trichloroethane	47.3	1	ug/L	50.0		94.5	75-125			
1,1-Dichloroethane	47.5	1	ug/L	50.0		95.0	70-135			
1,1-Dichloroethylene	44.4	1	ug/L	50.0		88.9	70-130			
1,1-Dichloropropene	49.6	1	ug/L	50.0		99.1	75-135			
1,2,3-Trichlorobenzene	51.3	1	ug/L	50.0		103	55-140			
1,2,3-Trichloropropane	48.0	1	ug/L	50.0		95.9	75-125			
1,2,4-Trichlorobenzene	49.8	1	ug/L	50.0		99.6	65-135			
1,2,4-Trimethylbenzene	58.0	1	ug/L	50.0		116	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	48.6	1	ug/L	50.0		97.2	50-130			
1,2-Dibromoethane (EDB)	49.4	1	ug/L	50.0		98.8	80-120			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
LCS (BHC0349-BS1)				Prepared & Analyzed: 03/11/2024						
1,2-Dichlorobenzene	51.0	0.5	ug/L	50.0		102	70-120			
1,2-Dichloroethane	52.9	1	ug/L	50.0		106	70-130			
1,2-Dichloropropane	48.6	0.5	ug/L	50.0		97.3	75-125			
1,3,5-Trimethylbenzene	56.6	1	ug/L	50.0		113	75-125			
1,3-Dichlorobenzene	51.1	1	ug/L	50.0		102	75-125			
1,3-Dichloropropane	48.6	1	ug/L	50.0		97.3	75-125			
1,4-Dichlorobenzene	49.2	1	ug/L	50.0		98.4	75-125			
2,2-Dichloropropane	51.0	1	ug/L	50.0		102	70-135			
2-Butanone (MEK)	34.6	10	ug/L	50.0		69.1	30-150			
2-Chlorotoluene	50.8	1	ug/L	50.0		102	75-125			
2-Hexanone (MBK)	44.4	5	ug/L	50.0		88.7	55-130			
4-Chlorotoluene	49.8	1	ug/L	50.0		99.5	75-130			
4-Isopropyltoluene	57.5	1	ug/L	50.0		115	75-130			
4-Methyl-2-pentanone (MIBK)	43.9	5	ug/L	50.0		87.8	60-135			
Acetone	33.4	10	ug/L	50.0		66.8	40-140			
Benzene	48.7	1	ug/L	50.0		97.5	80-120			
Bromobenzene	50.1	1	ug/L	50.0		100	75-125			
Bromochloromethane	44.0	1	ug/L	50.0		88.1	65-130			
Bromodichloromethane	53.9	0.5	ug/L	50.0		108	75-120			
Bromoform	47.9	1	ug/L	50.0		95.9	70-130			
Bromomethane	44.3	1	ug/L	50.0		88.5	30-145			
Carbon disulfide	46.2	10	ug/L	50.0		92.3	35-160			
Carbon tetrachloride	52.8	1	ug/L	50.0		106	65-140			
Chlorobenzene	50.0	1	ug/L	50.0		100	80-120			
Chloroethane	44.2	1	ug/L	50.0		88.5	60-135			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
LCS (BHC0349-BS1)				Prepared & Analyzed: 03/11/2024						
Chloroform	49.0	0.5	ug/L	50.0		98.0	65-135			
Chloromethane	53.4	1	ug/L	50.0		107	40-125			
cis-1,2-Dichloroethylene	45.0	1	ug/L	50.0		89.9	70-125			
cis-1,3-Dichloropropene	48.6	1	ug/L	50.0		97.1	70-130			
Dibromochloromethane	49.0	0.5	ug/L	50.0		98.1	60-135			
Dibromomethane	53.3	1	ug/L	50.0		107	75-125			
Dichlorodifluoromethane	107	1	ug/L	50.0		214	30-155			L
Ethylbenzene	53.1	1	ug/L	50.0		106	75-125			
Hexachlorobutadiene	50.8	0.8	ug/L	50.0		102	50-140			
Isopropylbenzene	49.5	1	ug/L	50.0		99.1	75-125			
m+p-Xylenes	102	2	ug/L	100		102	75-130			
Methylene chloride	43.2	4	ug/L	50.0		86.4	55-140			
Methyl-t-butyl ether (MTBE)	52.5	1	ug/L	50.0		105	65-125			
Naphthalene	52.5	1	ug/L	50.0		105	55-140			
n-Butylbenzene	58.4	1	ug/L	50.0		117	70-135			
n-Propylbenzene	50.3	1	ug/L	50.0		101	70-130			
o-Xylene	49.8	1	ug/L	50.0		99.5	80-120			
sec-Butylbenzene	57.4	1	ug/L	50.0		115	70-125			
Styrene	48.9	1	ug/L	50.0		97.8	65-135			
tert-Butylbenzene	54.5	1	ug/L	50.0		109	70-130			
Tetrachloroethylene (PCE)	54.3	1	ug/L	50.0		109	45-150			
Toluene	48.7	1	ug/L	50.0		97.4	75-120			
trans-1,2-Dichloroethylene	44.4	1	ug/L	50.0		88.7	60-140			
trans-1,3-Dichloropropene	53.2	1	ug/L	50.0		106	55-140			
Trichloroethylene	48.7	1	ug/L	50.0		97.4	70-125			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
LCS (BHC0349-BS1)				Prepared & Analyzed: 03/11/2024						
Trichlorofluoromethane	59.9	1	ug/L	50.0		120	60-145			
Vinyl chloride	51.8	0.5	ug/L	50.0		104	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*46.0*		ug/L	*50.0*		*92.0*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*51.1*		ug/L	*50.0*		*102*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*48.0*		ug/L	*50.0*		*96.0*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (BHC0349-MS1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
1,1,1,2-Tetrachloroethane	55.2	0.4	ug/L	50.0	BLOD	110	80-130			
1,1,1-Trichloroethane	63.3	1	ug/L	50.0	BLOD	127	65-130			
1,1,2,2-Tetrachloroethane	50.7	0.4	ug/L	50.0	BLOD	101	65-130			
1,1,2-Trichloroethane	51.8	1	ug/L	50.0	BLOD	104	75-125			
1,1-Dichloroethane	53.6	1	ug/L	50.0	BLOD	107	70-135			
1,1-Dichloroethylene	49.1	1	ug/L	50.0	BLOD	98.2	50-145			
1,1-Dichloropropene	56.3	1	ug/L	50.0	BLOD	113	75-135			
1,2,3-Trichlorobenzene	53.5	1	ug/L	50.0	BLOD	107	55-140			
1,2,3-Trichloropropane	54.6	1	ug/L	50.0	BLOD	109	75-125			
1,2,4-Trichlorobenzene	50.7	1	ug/L	50.0	BLOD	101	65-135			
1,2,4-Trimethylbenzene	61.8	1	ug/L	50.0	BLOD	124	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	57.5	1	ug/L	50.0	BLOD	115	50-130			
1,2-Dibromoethane (EDB)	54.9	1	ug/L	50.0	BLOD	110	80-120			
1,2-Dichlorobenzene	54.3	0.5	ug/L	50.0	BLOD	109	70-120			
1,2-Dichloroethane	62.9	1	ug/L	50.0	BLOD	126	70-130			
1,2-Dichloropropane	52.6	0.5	ug/L	50.0	BLOD	105	75-125			
1,3,5-Trimethylbenzene	60.7	1	ug/L	50.0	BLOD	121	75-124			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Matrix Spike (BHC0349-MS1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
1,3-Dichlorobenzene	53.5	1	ug/L	50.0	BLOD	107	75-125			
1,3-Dichloropropane	52.6	1	ug/L	50.0	BLOD	105	75-125			
1,4-Dichlorobenzene	52.3	1	ug/L	50.0	BLOD	105	75-125			
2,2-Dichloropropane	55.9	1	ug/L	50.0	BLOD	112	70-135			
2-Butanone (MEK)	43.2	10	ug/L	50.0	BLOD	86.5	30-150			
2-Chlorotoluene	53.5	1	ug/L	50.0	BLOD	107	75-125			
2-Hexanone (MBK)	52.9	5	ug/L	50.0	BLOD	106	55-130			
4-Chlorotoluene	51.4	1	ug/L	50.0	BLOD	103	75-130			
4-Isopropyltoluene	62.1	1	ug/L	50.0	BLOD	124	75-130			
4-Methyl-2-pentanone (MIBK)	51.9	5	ug/L	50.0	BLOD	104	60-135			
Acetone	45.3	10	ug/L	50.0	7.02	76.6	40-140			
Benzene	52.0	1	ug/L	50.0	BLOD	104	80-120			
Bromobenzene	52.5	1	ug/L	50.0	BLOD	105	75-125			
Bromochloromethane	48.3	1	ug/L	50.0	BLOD	96.5	65-130			
Bromodichloromethane	57.8	0.5	ug/L	50.0	BLOD	116	75-136			
Bromoform	52.6	1	ug/L	50.0	BLOD	105	70-130			
Bromomethane	46.9	1	ug/L	50.0	BLOD	93.8	30-145			
Carbon disulfide	44.7	10	ug/L	50.0	BLOD	85.8	35-160			
Carbon tetrachloride	57.9	1	ug/L	50.0	BLOD	116	65-140			
Chlorobenzene	54.4	1	ug/L	50.0	BLOD	109	80-120			
Chloroethane	45.8	1	ug/L	50.0	BLOD	91.5	60-135			
Chloroform	57.5	0.5	ug/L	50.0	1.53	112	65-135			
Chloromethane	55.4	1	ug/L	50.0	BLOD	111	40-125			
cis-1,2-Dichloroethylene	50.1	1	ug/L	50.0	BLOD	100	70-125			
cis-1,3-Dichloropropene	51.3	1	ug/L	50.0	BLOD	103	47-136			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Matrix Spike (BHC0349-MS1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
Dibromochloromethane	52.6	0.5	ug/L	50.0	BLOD	105	60-135			
Dibromomethane	58.3	1	ug/L	50.0	BLOD	117	75-125			
Dichlorodifluoromethane	121	1	ug/L	50.0	BLOD	242	30-155			M
Ethylbenzene	56.8	1	ug/L	50.0	BLOD	114	75-125			
Hexachlorobutadiene	53.3	0.8	ug/L	50.0	BLOD	107	50-140			
Isopropylbenzene	53.4	1	ug/L	50.0	BLOD	107	75-125			
m+p-Xylenes	109	2	ug/L	100	BLOD	109	75-130			
Methylene chloride	47.2	4	ug/L	50.0	BLOD	92.8	55-140			
Methyl-t-butyl ether (MTBE)	60.3	1	ug/L	50.0	BLOD	121	65-125			
Naphthalene	57.6	1	ug/L	50.0	BLOD	115	55-140			
n-Butylbenzene	61.8	1	ug/L	50.0	BLOD	124	70-135			
n-Propylbenzene	53.9	1	ug/L	50.0	BLOD	108	70-130			
o-Xylene	53.8	1	ug/L	50.0	BLOD	108	80-120			
sec-Butylbenzene	61.1	1	ug/L	50.0	BLOD	122	70-125			
Styrene	52.8	1	ug/L	50.0	BLOD	106	65-135			
tert-Butylbenzene	58.6	1	ug/L	50.0	BLOD	117	70-130			
Tetrachloroethylene (PCE)	50.6	1	ug/L	50.0	BLOD	101	51-231			
Toluene	52.3	1	ug/L	50.0	0.84	103	75-120			
trans-1,2-Dichloroethylene	48.3	1	ug/L	50.0	BLOD	96.7	60-140			
trans-1,3-Dichloropropene	57.3	1	ug/L	50.0	BLOD	115	55-140			
Trichloroethylene	52.8	1	ug/L	50.0	BLOD	106	70-125			
Trichlorofluoromethane	69.5	1	ug/L	50.0	BLOD	139	60-145			
Vinyl chloride	58.6	0.5	ug/L	50.0	BLOD	117	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	*50.2*		ug/L	*50.0*		*100*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*51.6*		ug/L	*50.0*		*103*	*75-120*			

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Matrix Spike (BHC0349-MS1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
Surr: Dibromofluoromethane (Surr)	*52.1*		ug/L	*50.0*		*104*	*70-130*			
Surr: Toluene-d8 (Surr)	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike Dup (BHC0349-MSD1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
1,1,1,2-Tetrachloroethane	61.9	0.4	ug/L	50.0	BLOD	124	80-130	11.3	30	
1,1,1-Trichloroethane	70.2	1	ug/L	50.0	BLOD	140	65-130	10.3	30	M
1,1,2,2-Tetrachloroethane	55.0	0.4	ug/L	50.0	BLOD	110	65-130	8.19	30	
1,1,2-Trichloroethane	58.7	1	ug/L	50.0	BLOD	117	75-125	12.6	30	
1,1-Dichloroethane	59.5	1	ug/L	50.0	BLOD	119	70-135	10.4	30	
1,1-Dichloroethylene	56.2	1	ug/L	50.0	BLOD	112	50-145	13.4	30	
1,1-Dichloropropene	62.6	1	ug/L	50.0	BLOD	125	75-135	10.5	30	
1,2,3-Trichlorobenzene	59.0	1	ug/L	50.0	BLOD	118	55-140	9.73	30	
1,2,3-Trichloropropane	60.1	1	ug/L	50.0	BLOD	120	75-125	9.60	30	
1,2,4-Trichlorobenzene	54.5	1	ug/L	50.0	BLOD	109	65-135	7.11	30	
1,2,4-Trimethylbenzene	68.1	1	ug/L	50.0	BLOD	136	75-130	9.65	30	M
1,2-Dibromo-3-chloropropane (DBCP)	62.5	1	ug/L	50.0	BLOD	125	50-130	8.22	30	
1,2-Dibromoethane (EDB)	58.0	1	ug/L	50.0	BLOD	116	80-120	5.54	30	
1,2-Dichlorobenzene	60.9	0.5	ug/L	50.0	BLOD	122	70-120	11.5	30	M
1,2-Dichloroethane	69.5	1	ug/L	50.0	BLOD	139	70-130	10.0	30	M
1,2-Dichloropropane	58.3	0.5	ug/L	50.0	BLOD	117	75-125	10.3	30	
1,3,5-Trimethylbenzene	64.7	1	ug/L	50.0	BLOD	129	75-124	6.33	30	M
1,3-Dichlorobenzene	58.6	1	ug/L	50.0	BLOD	117	75-125	9.19	30	
1,3-Dichloropropane	59.8	1	ug/L	50.0	BLOD	120	75-125	12.8	30	
1,4-Dichlorobenzene	57.3	1	ug/L	50.0	BLOD	115	75-125	9.07	30	
2,2-Dichloropropane	61.7	1	ug/L	50.0	BLOD	123	70-135	9.87	30	

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Matrix Spike Dup (BHC0349-MSD1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
2-Butanone (MEK)	43.6	10	ug/L	50.0	BLOD	87.3	30-150	0.944	30	
2-Chlorotoluene	58.5	1	ug/L	50.0	BLOD	117	75-125	8.89	30	
2-Hexanone (MBK)	53.4	5	ug/L	50.0	BLOD	107	55-130	0.941	30	
4-Chlorotoluene	57.5	1	ug/L	50.0	BLOD	115	75-130	11.1	30	
4-Isopropyltoluene	67.3	1	ug/L	50.0	BLOD	135	75-130	8.07	30	M
4-Methyl-2-pentanone (MIBK)	54.4	5	ug/L	50.0	BLOD	109	60-135	4.65	30	
Acetone	46.3	10	ug/L	50.0	7.02	78.6	40-140	2.12	30	
Benzene	58.1	1	ug/L	50.0	BLOD	116	80-120	11.0	30	
Bromobenzene	59.1	1	ug/L	50.0	BLOD	118	75-125	11.8	30	
Bromochloromethane	55.2	1	ug/L	50.0	BLOD	110	65-130	13.3	30	
Bromodichloromethane	65.1	0.5	ug/L	50.0	BLOD	130	75-136	11.9	30	
Bromoform	58.6	1	ug/L	50.0	BLOD	117	70-130	10.8	30	
Bromomethane	52.5	1	ug/L	50.0	BLOD	105	30-145	11.3	30	
Carbon disulfide	51.9	10	ug/L	50.0	BLOD	100	35-160	14.8	30	
Carbon tetrachloride	64.9	1	ug/L	50.0	BLOD	130	65-140	11.4	30	
Chlorobenzene	59.1	1	ug/L	50.0	BLOD	118	80-120	8.25	30	
Chloroethane	51.5	1	ug/L	50.0	BLOD	103	60-135	11.7	30	
Chloroform	61.4	0.5	ug/L	50.0	1.53	120	65-135	6.50	30	
Chloromethane	60.6	1	ug/L	50.0	BLOD	121	40-125	9.12	30	
cis-1,2-Dichloroethylene	55.9	1	ug/L	50.0	BLOD	112	70-125	10.9	30	
cis-1,3-Dichloropropene	57.5	1	ug/L	50.0	BLOD	115	47-136	11.4	30	
Dibromochloromethane	61.2	0.5	ug/L	50.0	BLOD	122	60-135	15.2	30	
Dibromomethane	67.0	1	ug/L	50.0	BLOD	134	75-125	13.9	30	M
Dichlorodifluoromethane	131	1	ug/L	50.0	BLOD	263	30-155	8.12	30	M
Ethylbenzene	61.7	1	ug/L	50.0	BLOD	123	75-125	8.25	30	

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0349 - SW5030B-MS										
Matrix Spike Dup (BHC0349-MSD1)	**Source: 24C0490-01**			Prepared & Analyzed: 03/11/2024						
Hexachlorobutadiene	59.6	0.8	ug/L	50.0	BLOD	119	50-140	11.1	30	
Isopropylbenzene	59.0	1	ug/L	50.0	BLOD	118	75-125	9.96	30	
m+p-Xylenes	120	2	ug/L	100	BLOD	120	75-130	9.33	30	
Methylene chloride	52.6	4	ug/L	50.0	BLOD	103	55-140	10.6	30	
Methyl-t-butyl ether (MTBE)	60.2	1	ug/L	50.0	BLOD	120	65-125	0.0830	30	
Naphthalene	63.6	1	ug/L	50.0	BLOD	127	55-140	9.95	30	
n-Butylbenzene	62.8	1	ug/L	50.0	BLOD	126	70-135	1.62	30	
n-Propylbenzene	58.3	1	ug/L	50.0	BLOD	117	70-130	7.77	30	
o-Xylene	59.2	1	ug/L	50.0	BLOD	118	80-120	9.56	30	
sec-Butylbenzene	68.1	1	ug/L	50.0	BLOD	136	70-125	10.7	30	M
Styrene	58.5	1	ug/L	50.0	BLOD	117	65-135	10.2	30	
tert-Butylbenzene	64.2	1	ug/L	50.0	BLOD	128	70-130	9.11	30	
Tetrachloroethylene (PCE)	56.9	1	ug/L	50.0	BLOD	114	51-231	11.7	30	
Toluene	58.4	1	ug/L	50.0	0.84	115	75-120	11.0	30	
trans-1,2-Dichloroethylene	54.4	1	ug/L	50.0	BLOD	109	60-140	11.8	30	
trans-1,3-Dichloropropene	64.5	1	ug/L	50.0	BLOD	129	55-140	11.8	30	
Trichloroethylene	59.0	1	ug/L	50.0	BLOD	118	70-125	11.1	30	
Trichlorofluoromethane	72.5	1	ug/L	50.0	BLOD	145	60-145	4.20	30	
Vinyl chloride	63.2	0.5	ug/L	50.0	BLOD	126	50-145	7.62	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	*50.2*		ug/L	*50.0*		*100*	*70-120*			
Surr: 4-Bromofluorobenzene (Surr)	*50.3*		ug/L	*50.0*		*101*	*75-120*			
Surr: Dibromofluoromethane (Surr)	*49.0*		ug/L	*50.0*		*98.1*	*70-130*			
Surr: Toluene-d8 (Surr)	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0218 - SW3510C/EPA600-MS										
Blank (BHC0218-BLK1)				Prepared & Analyzed: 03/07/2024						
Anthracene	ND	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	*62.4*		ug/L	*100*		*62.4*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*28.2*		ug/L	*50.0*		*56.5*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*49.8*		ug/L	*100*		*49.8*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*28.4*		ug/L	*50.0*		*56.8*	*5-151*			
Surr: Phenol-d5 (Surr)	*25.0*		ug/L	*100*		*25.0*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*33.2*		ug/L	*50.0*		*66.3*	*5-141*			
LCS (BHC0218-BS1)				Prepared: 03/07/2024 Analyzed: 03/08/2024						
1,2,4-Trichlorobenzene	26.5	10.0	ug/L	50.0		52.9	57-130			L
1,2-Dichlorobenzene	13.8	10.0	ug/L	50.0		27.6	22-115			
1,3-Dichlorobenzene	14.0	10.0	ug/L	50.0		27.9	22-112			
1,4-Dichlorobenzene	14.6	10.0	ug/L	50.0		29.1	13-112			
2,4,6-Trichlorophenol	28.9	10.0	ug/L	50.0		57.9	52-129			
2,4-Dichlorophenol	34.1	10.0	ug/L	50.0		68.1	53-122			
2,4-Dimethylphenol	34.7	5.00	ug/L	50.0		69.4	42-120			
2,4-Dinitrophenol	26.6	50.0	ug/L	50.0		53.2	48-127			
2,4-Dinitrotoluene	28.5	10.0	ug/L	50.0		57.0	10-173			
2,6-Dinitrotoluene	44.8	10.0	ug/L	50.0		89.6	68-137			
2-Chloronaphthalene	36.4	10.0	ug/L	50.0		72.9	65-120			
2-Chlorophenol	26.6	10.0	ug/L	50.0		53.2	36-120			
2-Nitrophenol	33.6	10.0	ug/L	50.0		67.3	45-167			
3,3'-Dichlorobenzidine	24.2	10.0	ug/L	50.0		48.3	10-213			
4,6-Dinitro-2-methylphenol	35.0	50.0	ug/L	50.0		70.0	53-130			
4-Bromophenyl phenyl ether	36.2	10.0	ug/L	50.0		72.3	65-120			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0218 - SW3510C/EPA600-MS										
LCS (BHC0218-BS1)				Prepared: 03/07/2024 Analyzed: 03/08/2024						
4-Chlorophenyl phenyl ether	26.7	10.0	ug/L	50.0		53.3	38-145			
4-Nitrophenol	13.5	50.0	ug/L	50.0		27.0	13-129			
Acenaphthene	28.0	10.0	ug/L	50.0		56.0	60-132			L
Acenaphthylene	42.9	10.0	ug/L	50.0		85.7	54-126			
Acetophenone	35.4	20.0	ug/L	50.0		70.8	0-200			
Anthracene	41.8	10.0	ug/L	50.0		83.6	43-120			
Benzo (a) anthracene	43.5	10.0	ug/L	50.0		87.1	42-133			
Benzo (a) pyrene	46.0	10.0	ug/L	50.0		92.1	32-148			
Benzo (b) fluoranthene	42.4	10.0	ug/L	50.0		84.7	42-140			
Benzo (g,h,i) perylene	42.9	10.0	ug/L	50.0		85.9	10-195			
Benzo (k) fluoranthene	46.2	10.0	ug/L	50.0		92.3	25-146			
bis (2-Chloroethoxy) methane	46.6	10.0	ug/L	50.0		93.3	49-165			
bis (2-Chloroethyl) ether	15.3	10.0	ug/L	50.0		30.6	43-126			L
2,2'-Oxybis (1-chloropropane)	16.4	10.0	ug/L	50.0		32.9	63-139			L
bis (2-Ethylhexyl) phthalate	44.8	10.0	ug/L	50.0		89.5	29-137			
Butyl benzyl phthalate	42.9	10.0	ug/L	50.0		85.7	10-140			
Chrysene	40.0	10.0	ug/L	50.0		80.1	44-140			
Dibenz (a,h) anthracene	45.1	10.0	ug/L	50.0		90.2	10-200			
Diethyl phthalate	31.4	10.0	ug/L	50.0		62.9	10-120			
Dimethyl phthalate	27.6	10.0	ug/L	50.0		55.1	10-120			
Di-n-butyl phthalate	55.1	10.0	ug/L	50.0		110	10-120			
Di-n-octyl phthalate	51.5	10.0	ug/L	50.0		103	19-132			
Fluoranthene	51.5	10.0	ug/L	50.0		103	43-121			
Fluorene	30.7	10.0	ug/L	50.0		61.4	70-120			L
Hexachlorobenzene	35.3	1.00	ug/L	50.0		70.6	10-142			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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 BHC0218 - SW3510C/EPA600-MS										
LCS (BHC0218-BS1)				Prepared: 03/07/2024 Analyzed: 03/08/2024						
Hexachlorobutadiene	28.9	10.0	ug/L	50.0		57.7	38-120			
Hexachlorocyclopentadiene	19.0	10.0	ug/L	50.0		38.1	10-76			
Hexachloroethane	13.5	10.0	ug/L	50.0		27.1	55-120			L
Indeno (1,2,3-cd) pyrene	41.9	10.0	ug/L	50.0		83.8	10-151			
Isophorone	20.0	10.0	ug/L	50.0		40.0	47-180			L
Naphthalene	32.2	5.00	ug/L	50.0		64.5	36-120			
Nitrobenzene	20.0	10.0	ug/L	50.0		39.9	54-158			L
n-Nitrosodimethylamine	10.3	10.0	ug/L	50.0		20.7	10-85			
n-Nitrosodi-n-propylamine	17.9	10.0	ug/L	50.0		35.8	14-198			
n-Nitrosodiphenylamine	25.8	10.0	ug/L	50.0		51.7	12-97			
p-Chloro-m-cresol	32.7	10.0	ug/L	50.0		65.4	10-142			
Pentachlorophenol	34.0	20.0	ug/L	50.0		68.0	38-152			
Phenanthrene	41.5	10.0	ug/L	50.0		83.1	65-120			
Phenol	9.07	10.0	ug/L	50.5		18.0	17-120			
Pyrene	54.4	10.0	ug/L	50.0		109	70-120			
Pyridine	11.3	10.0	ug/L	50.0		22.6	10-103			
Surr: 2,4,6-Tribromophenol (Surr)	*68.8*		ug/L	*100*		*68.8*	*5-136*			
Surr: 2-Fluorobiphenyl (Surr)	*28.9*		ug/L	*50.0*		*57.8*	*9-117*			
Surr: 2-Fluorophenol (Surr)	*18.8*		ug/L	*100*		*18.8*	*5-60*			
Surr: Nitrobenzene-d5 (Surr)	*20.3*		ug/L	*50.0*		*40.6*	*5-151*			
Surr: Phenol-d5 (Surr)	*15.2*		ug/L	*100*		*15.2*	*5-60*			
Surr: p-Terphenyl-d14 (Surr)	*43.6*		ug/L	*50.0*		*87.2*	*5-141*			

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHC0210 - No Prep Wet Chem										
Blank (BHC0210-BLK1)				Prepared & Analyzed: 03/07/2024						
BOD	ND	2.0	mg/L							
LCS (BHC0210-BS1)				Prepared & Analyzed: 03/07/2024						
BOD	209	2	mg/L	198		106	84.6-115.4			
Duplicate (BHC0210-DUP1)	**Source: 24C0302-01**			Prepared & Analyzed: 03/07/2024						
BOD	ND	2.0	mg/L		BLOD			NA	20	
Batch BHC0219 - No Prep Wet Chem										
Blank (BHC0219-BLK1)				Prepared & Analyzed: 03/07/2024						
Nitrite as N	ND	0.05	mg/L							
LCS (BHC0219-BS1)				Prepared & Analyzed: 03/07/2024						
Nitrite as N	0.10	0.05	mg/L	0.100		100	80-120			
Matrix Spike (BHC0219-MS1)	**Source: 24C0238-01**			Prepared & Analyzed: 03/07/2024						
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	94.0	80-120			
Matrix Spike Dup (BHC0219-MSD1)	**Source: 24C0238-01**			Prepared & Analyzed: 03/07/2024						
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	93.0	80-120	1.07	20	
Batch BHC0446 - No Prep Wet Chem										
Blank (BHC0446-BLK1)				Prepared & Analyzed: 03/13/2024						
Ammonia as N	ND	0.10	mg/L							

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHC0446 - No Prep Wet Chem										
LCS (BHC0446-BS1)				Prepared & Analyzed: 03/13/2024						
Ammonia as N	1.06	0.1	mg/L	1.00		106	90-110			
Matrix Spike (BHC0446-MS1)	**Source: 24C0240-01**			Prepared & Analyzed: 03/13/2024						
Ammonia as N	1.10	0.1	mg/L	1.00	0.08	103	89.3-131			
Matrix Spike (BHC0446-MS2)	**Source: 24C0236-01**			Prepared & Analyzed: 03/13/2024						
Ammonia as N	1.10	0.1	mg/L	1.00	BLOD	103	89.3-131			
Matrix Spike Dup (BHC0446-MSD1)	**Source: 24C0240-01**			Prepared & Analyzed: 03/13/2024						
Ammonia as N	1.13	0.1	mg/L	1.00	0.08	105	89.3-131	1.88	20	
Matrix Spike Dup (BHC0446-MSD2)	**Source: 24C0236-01**			Prepared & Analyzed: 03/13/2024						
Ammonia as N	1.11	0.1	mg/L	1.00	BLOD	104	89.3-131	1.18	20	
Batch BHC0491 - No Prep Wet Chem										
Blank (BHC0491-BLK1)				Prepared & Analyzed: 03/14/2024						
Cyanide	ND	0.01	mg/L							
LCS (BHC0491-BS1)				Prepared & Analyzed: 03/14/2024						
Cyanide	0.23	0.01	mg/L	0.250		90.3	80-120			
Matrix Spike (BHC0491-MS1)	**Source: 24C0257-01**			Prepared & Analyzed: 03/14/2024						
Cyanide	0.28	0.01	mg/L	0.250	BLOD	111	80-120			
Matrix Spike (BHC0491-MS2)	**Source: 24C0577-01**			Prepared & Analyzed: 03/14/2024						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	101	80-120			

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHC0491 - No Prep Wet Chem										
Matrix Spike Dup (BHC0491-MSD1)	**Source: 24C0257-01**			Prepared & Analyzed: 03/14/2024						
Cyanide	0.28	0.01	mg/L	0.250	BLOD	110	80-120	1.40	20	
Matrix Spike Dup (BHC0491-MSD2)	**Source: 24C0577-01**			Prepared & Analyzed: 03/14/2024						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	101	80-120	0.318	20	
Batch BHC0557 - No Prep Wet Chem										
Blank (BHC0557-BLK1)				Prepared & Analyzed: 03/15/2024						
Nitrate+Nitrite as N	ND	0.10	mg/L							
LCS (BHC0557-BS1)				Prepared & Analyzed: 03/15/2024						
Nitrate+Nitrite as N	1.01	0.1	mg/L	1.00		101	90-110			
Matrix Spike (BHC0557-MS1)	**Source: 24C0329-01**			Prepared & Analyzed: 03/15/2024						
Nitrate+Nitrite as N	1.15	0.1	mg/L	1.00	BLOD	112	90-120			
Matrix Spike Dup (BHC0557-MSD1)	**Source: 24C0329-01**			Prepared & Analyzed: 03/15/2024						
Nitrate+Nitrite as N	1.17	0.1	mg/L	1.00	BLOD	113	90-120	1.46	20	
Batch BHC0588 - No Prep Wet Chem										
Blank (BHC0588-BLK1)				Prepared & Analyzed: 03/15/2024						
TKN as N	ND	0.50	mg/L							
LCS (BHC0588-BS1)				Prepared & Analyzed: 03/15/2024						
TKN as N	5.04	0.5	mg/L	5.00		101	90-110			

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHC0588 - No Prep Wet Chem										
Matrix Spike (BHC0588-MS1)		**Source: 24C0236-05**		Prepared & Analyzed: 03/15/2024						
TKN as N	4.86	0.50	mg/L	5.00	0.30	91.3	90-110			
Matrix Spike (BHC0588-MS2)		**Source: 24C0282-01**		Prepared & Analyzed: 03/15/2024						
TKN as N	5.82	0.50	mg/L	5.00	0.52	106	90-110			
Matrix Spike Dup (BHC0588-MSD1)		**Source: 24C0236-05**		Prepared & Analyzed: 03/15/2024						
TKN as N	5.43	0.50	mg/L	5.00	0.30	103	90-110	11.0	20	
Matrix Spike Dup (BHC0588-MSD2)		**Source: 24C0282-01**		Prepared & Analyzed: 03/15/2024						
TKN as N	4.50	0.50	mg/L	5.00	0.52	79.7	90-110	25.6	20	M, P
Batch BHC0592 - No Prep Wet Chem										
Blank (BHC0592-BLK1)				Prepared & Analyzed: 03/16/2024						
Total Recoverable Phenolics	ND	0.050	mg/L							
LCS (BHC0592-BS1)				Prepared & Analyzed: 03/16/2024						
Total Recoverable Phenolics	0.49	0.050	mg/L	0.500		97.6	80-120			
Matrix Spike (BHC0592-MS1)		**Source: 24C0545-01**		Prepared & Analyzed: 03/16/2024						
Total Recoverable Phenolics	0.42	0.050	mg/L	0.500	0.03	77.6	70-130			
Matrix Spike Dup (BHC0592-MSD1)		**Source: 24C0545-01**		Prepared & Analyzed: 03/16/2024						
Total Recoverable Phenolics	0.46	0.050	mg/L	0.500	0.03	85.6	70-130	9.09	20	
Batch BHC0613 - No Prep Wet Chem										
Blank (BHC0613-BLK1)				Prepared & Analyzed: 03/18/2024						
COD	ND	10.0	mg/L							

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BHC0613 - No Prep Wet Chem										
LCS (BHC0613-BS1)				Prepared & Analyzed: 03/18/2024						
COD	50.8	10.0	mg/L	50.0		102	88-119			
Matrix Spike (BHC0613-MS1)	**Source: 24C0645-01**			Prepared & Analyzed: 03/18/2024						
COD	51.1	10.0	mg/L	50.0	BLOD	102	72.4-130			
Matrix Spike Dup (BHC0613-MSD1)	**Source: 24C0645-01**			Prepared & Analyzed: 03/18/2024						
COD	51.1	10.0	mg/L	50.0	BLOD	102	72.4-130	0.00	20	

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Analytical Summary

24C0222-01	Subcontract
24C0222-02	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**	
24C0222-01	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
24C0222-01RE1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
24C0222-02	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
24C0222-02RE1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
24C0222-02RE2	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
24C0222-01	300 mL / 300 mL	SM5210B-2016	BHC0210	SHC0383	
24C0222-02	300 mL / 300 mL	SM5210B-2016	BHC0210	SHC0383	
24C0222-01	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
24C0222-02	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
24C0222-01	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
24C0222-02	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
24C0222-01	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
24C0222-02	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
24C0222-01	5.00 mL / 5.00 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
24C0222-02	5.00 mL / 5.00 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
24C0222-01	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
24C0222-02	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
24C0222-01	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243
24C0222-02	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243

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: 3/20/2024 4:58:19PM
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**	
24C0222-01	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291
24C0222-02	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
24C0222-01	500 mL / 2.00 mL	SW8270E	BHC0218	SHC0311	AB40233
24C0222-02	500 mL / 0.500 mL	SW8270E	BHC0218	SHC0361	AB40233

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
24C0222-01	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
24C0222-01RE1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
24C0222-02	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
24C0222-02RE1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
24C0222-03	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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**	
BHC0215-BLK1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-BLK2		SW6020B	BHC0215	SHC0315	AC40192
BHC0215-BLK2	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0315	AC40192
BHC0215-BS1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-BS2		SW6020B	BHC0215	SHC0315	AC40192
BHC0215-BS2	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0315	AC40192
BHC0215-MS1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-MS2	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-MS3		SW6020B	BHC0215	SHC0315	AC40192
BHC0215-MS3	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0315	AC40192
BHC0215-MSD1	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-MSD2	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0251	AC40180
BHC0215-MSD3		SW6020B	BHC0215	SHC0315	AC40192
BHC0215-MSD3	50.0 mL / 50.0 mL	SW6020B	BHC0215	SHC0315	AC40192

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
BHC0210-BLK1	300 mL / 300 mL	SM5210B-2016	BHC0210	SHC0383	
BHC0210-BS1	300 mL / 300 mL	SM5210B-2016	BHC0210	SHC0383	
BHC0210-DUP1	300 mL / 300 mL	SM5210B-2016	BHC0210	SHC0383	
BHC0219-BLK1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
BHC0219-BS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
BHC0219-MRL1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297

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: 3/20/2024 4:58:19PM
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**	
BHC0219-MS1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
BHC0219-MSD1	25.0 mL / 25.0 mL	SM4500-NO2B-2011	BHC0219	SHC0209	AJ30297
BHC0446-BLK1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0446-BS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0446-MS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0446-MS2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0446-MSD1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0446-MSD2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BHC0446	SHC0433	AC40217
BHC0491-BLK1	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-BS1	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-MRL1	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-MS1	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-MS2	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-MSD1	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0491-MSD2	6.00 mL / 6.00 mL	SW9012B	BHC0491	SHC0478	AC40227
BHC0557-BLK1	5.00 mL / 5.00 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
BHC0557-BS1	5.00 mL / 5.00 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
BHC0557-MS1	25.0 mL / 25.0 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
BHC0557-MSD1	25.0 mL / 25.0 mL	SM4500-NO3F-2016	BHC0557	SHC0537	AC40242
BHC0588-BLK1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-BS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-MRL1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-MS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-MS2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-MSD1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0588-MSD2	25.0 mL / 25.0 mL	EPA351.2 R2.0	BHC0588	SHC0579	AC40248
BHC0592-BLK1	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243
BHC0592-BS1	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243
BHC0592-MRL1	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243

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: 3/20/2024 4:58:19PM
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**	
BHC0592-MS1	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243
BHC0592-MSD1	5.00 mL / 10.0 mL	SW9065	BHC0592	SHC0564	AC40243
BHC0613-BLK1	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291
BHC0613-BS1	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291
BHC0613-MRL1	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291
BHC0613-MS1	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291
BHC0613-MSD1	2.00 mL / 2.00 mL	SM5220D-2011	BHC0613	SHC0584	AB40291

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			**Preparation Method:**	**SW3510C/EPA600-MS**	
BHC0218-BLK1	1000 mL / 1.00 mL	SW8270E	BHC0218	SHC0265	AB40233
BHC0218-BLK2		SW8270E	BHC0218	SHC0268	AB40233
BHC0218-BS1	1000 mL / 1.00 mL	SW8270E	BHC0218	SHC0259	AC40149

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			**Preparation Method:**	**SW5030B-MS**	
BHC0349-BLK1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
BHC0349-BS1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
BHC0349-MS1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197
BHC0349-MSD1	5.00 mL / 5.00 mL	SW8260D	BHC0349	SHC0349	AA40197

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
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	

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

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
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

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

Certificate of Analysis

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

Date Issued: 3/20/2024 4:58:19PM

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

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

Certificate of Analysis

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

Date Issued: 3/20/2024 4:58:19PM

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.
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 Rd
Richmond, VA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

CHAIN OF CUSTODY

COMPANY NAME: SCS Engineers	INVOICE TO: SCS Reston	Project Name: Bristol LF
CONTACT: Jennifer Robb	INVOICE CONTACT: Jennifer Robb	Site Name: 24-02 LFG-EW Monthly Monitoring
ADDRESS: 296 Victory Road, Winchester, VA 22602	INVOICE ADDRESS:	PROJECT NUMBER: 02218208.15 Task 2
PHONE #: (703) 471-6150	INVOICE PHONE #:	P.O. #:
FAX #: (703) 471-6676 EMAIL: Jrobb@scsengineers.com		Pretreatment Program:
Is sample for compliance reporting? YES Va	Is sample from a chlorinated supply? YES (NO)	PWS I.D. #:
SAMPLER NAME (PRINT): Will Fabric/Laurel Tucker SAMPLER SIGNATURE:		Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste 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) VOC 8260	Total Metals (As,Ba,Cd,Cr,Pb,Ni,Se,Ag,Tl) 6020	V. Fatty Acids (8015)	Ammonia-EPA 350.1 R2.0	BOD-SM22 5210B-2021	COD-SM22 5220D-2011	Cyanide - SW9012	Nitrate SM22 4500-NO3F -2011 (report seperate from nitrite	Nitrite SM22 4500-NO3F -2011	TKN-EPA 351.2 R2.0	Total Recoverable Phenolics-9065	Mercury - 6020	SVOC (Ammracene) 8270	COMMENTS
1) EW-88	X					3/5/24	1245		GW	14	X	X	X	X	X	X	X	X	X	X	X	X	X	VOC 8260 no HCl
2) EW-98	X					3/5/24	1345		GW	13	X	X	X	X	X	X	X	X	X	X	X	X	X	
3)																								
4)																								
5)																								
6)																								
7)																								+40 Sealed 271
8)																								
9)																								
10) Trip Blank						1/31/24	1540		DI		X													3.0

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[signature]	3/5/24 / 1400	[signature]	
RELINQUISHED: LCN	DATE / TIME	RECEIVED: [signature]	3/6/24 0800 DATE / TIME
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

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

LAB USE ONLY
SCS-W
24C0222
24-02 LFG-EW
Recd: 03/06/2024 Due: 03/20/2024
v130325002

COOLER TEMP 3.0 °C

Bristol LF

ENTHALPY ANALYTICAL

Sample Preservation Log

Order ID 24C0222 Date Performed: 3/6/24 Analyst Performing Check: MRS/HG

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608/508) PCB DW only			SVOC (525/8270/625)			CrVI * **		Pest/PCB (508) / SVOC(525)			COD			PHENOLICS		
		pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH	Received Res. Cl		final + or -	Received Res. Cl		final + or -	Received pH	Final pH	pH as Received		Final pH	pH as Received		Final pH	pH as Received		Final pH
		<2	Other		>12	Other		>9	Other		<2	Other		<2	Other		<2	Other		<2	Other		<2	Other		+	-		+	-				<2	Other		<2	Other		<2	Other	
01	A		5	<2																																					
01	B											5	<2		5	<2					5	<2															<2	Other				
01	D					9	7N																																		
01	F																																						5	<2
01	G																												/											
01	H											5	<2		5	<2					5	<2															<2	Other				
02	A		5	<2																																					
02	D					9	7N																																		
02	F																																						5	<2
02	G																												/											
02	H											5	<2		5	<2					5	<2															<2	Other				

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 1047 on 6 March 2024 by HEG in the Log-In room to bring pH= <2.

**W.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
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Date Issued: 3/20/2024 4:58:19PM

ENTHALPY ANALYTICAL

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

Laboratory Order ID: 24C0222

Sample Conditions Checklist

Samples Received at:	**3.00°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

Jennifer Robb notified of the following via email:
*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,

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: 3/20/2024 4:58:19PM
Client Site I.D.: 24-02 LFG-EW Monthly Monitoring
Submitted To: Jennifer Robb

and NaOH was added to bring the pH to greater than 12.
*2 of 3 VOAs for sample -02: EW-98 for VOC 8260 contain headspace.
*All VOAs for sample -01: EW-88 contain headspace. MRS 03/063/24 1508

Analysis to proceed per Jennifer Robb via email. MRS 03/06/24 1600

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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2280**	---	**968**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**40600**	---	**7680**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**14400**	2000	2000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**75500**	---	---	10000	10000

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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	0.75	1.75

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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	**0.25 J**	0.25	1.25
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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1030**	50	125
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2980**	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**46.6**	---	**12.8**	3	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
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	40	80
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	20	40
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	80	160

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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.12**	0.001	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.23**	---	---	0.0025	0.005
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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.558**	---	---	---	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.03**	0.002	0.01
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.54**	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0002	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	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
		---	---	**1.04**	---	---	**0.402**	---	---	**0.246**	---	---	**0.343**	---	---	---	---	**0.251**	---	**0.403**	---	---	---	0.003	0.003
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0759**	0.0008	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.414**	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00115 J**	0.0006	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00184 J**	---	---	0.0015	0.005
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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.002	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.02**	---	---	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																							
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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00124**	0.0004	0.0004
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.02232**	0.002	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.08678**	---	---	0.005	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																							
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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0017	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.00627**	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.00012	0.002
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.0342**	0.005	0.01
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2.09**	---	---	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
	August-2023	---	---	---	---	---	---	**6100**	---	---	---	---	---	---	---	---	---	---	---	---	---	**750**	---	750	1000
		---	---	---	---	**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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**11700**	---	---	150	500
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**25200**	1500	5000

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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50800**	---	**57600**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**226**	---	**8910**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**25 J**	---	**710**	20	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																							
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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3320**	---	**8710**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**73**	---	**916**	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
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	**1360**	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.

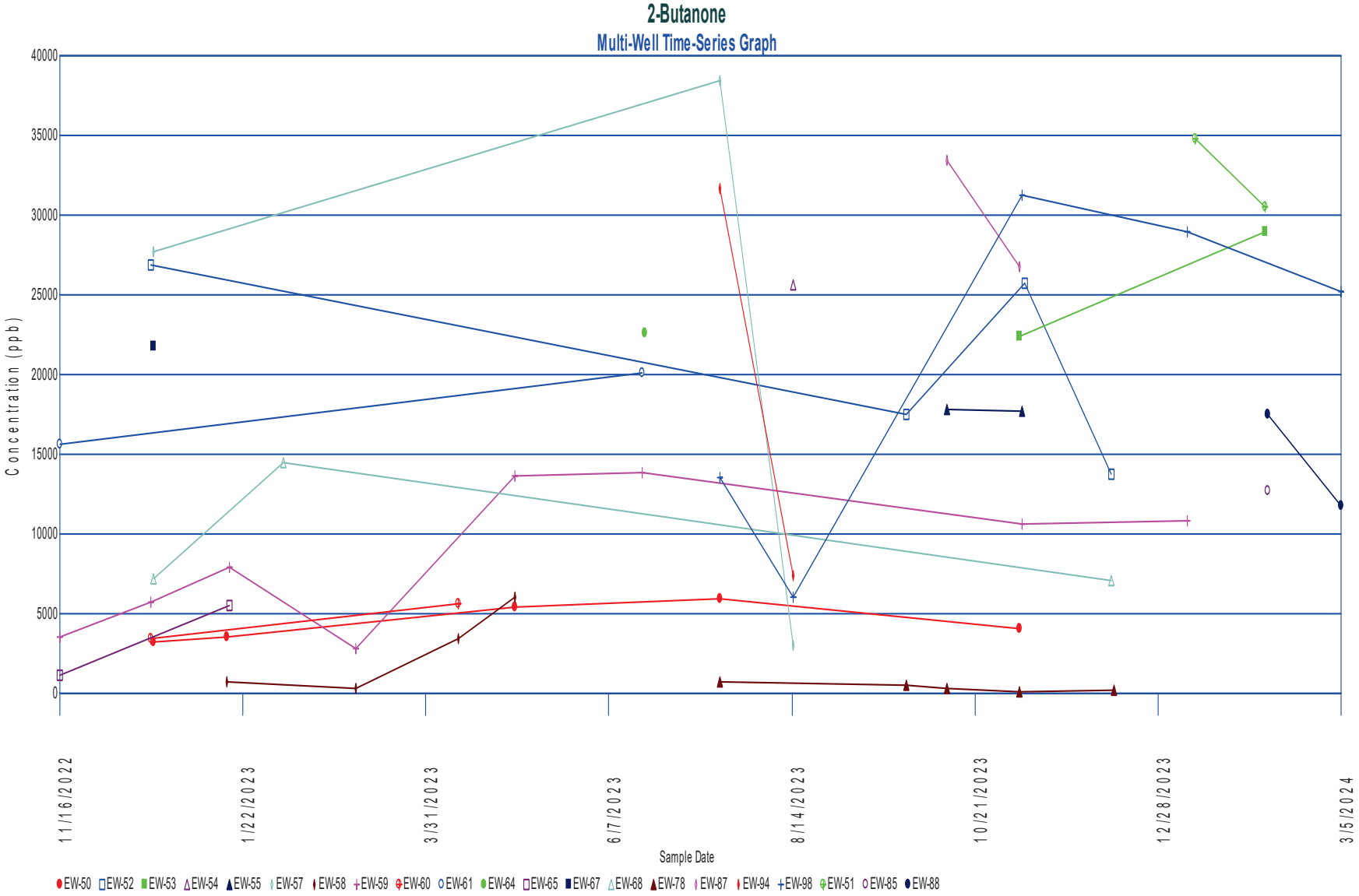
LOD = laboratory's Limit of Detection

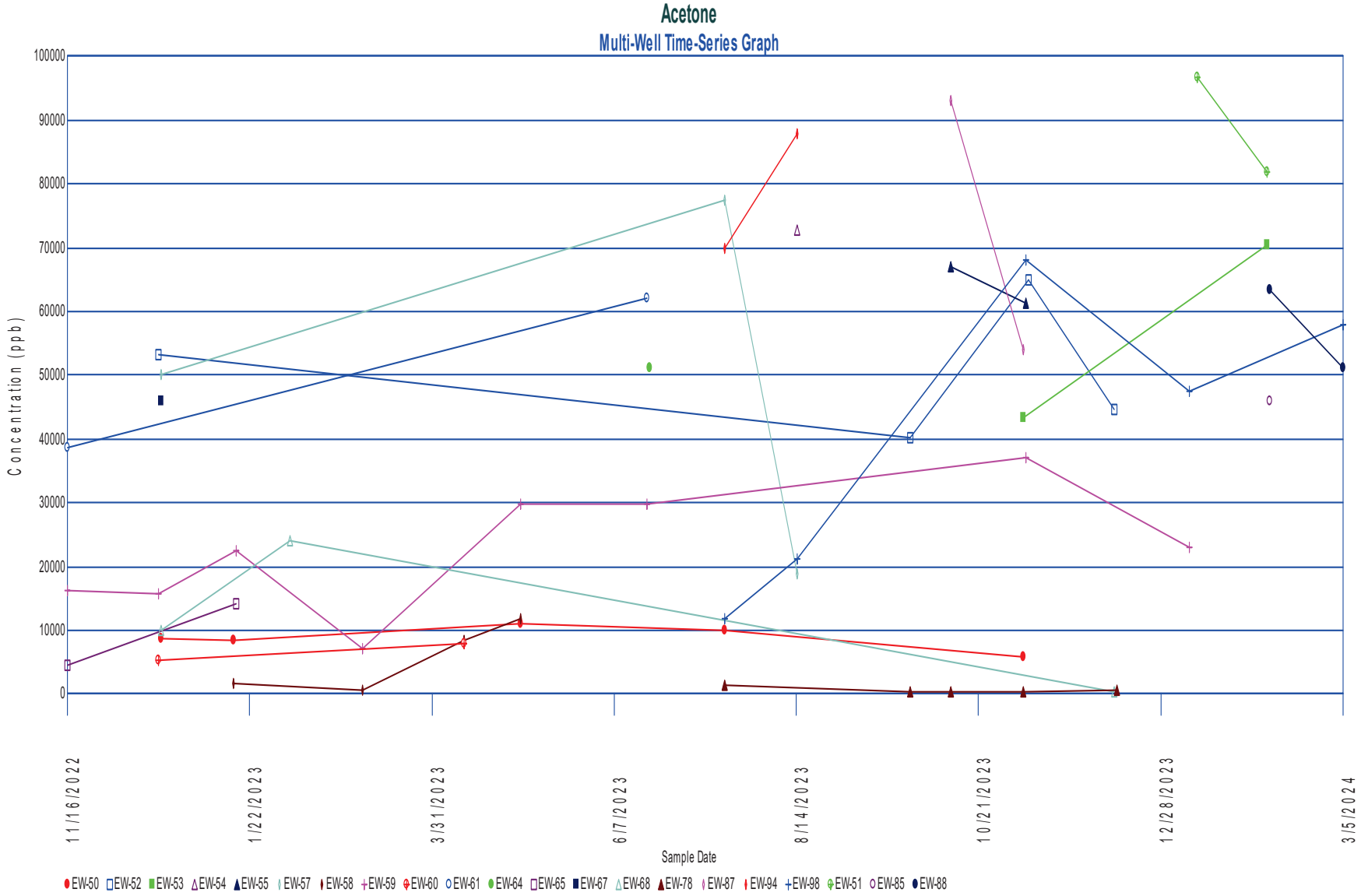
LOQ = laboratory's Limit of Quantitation

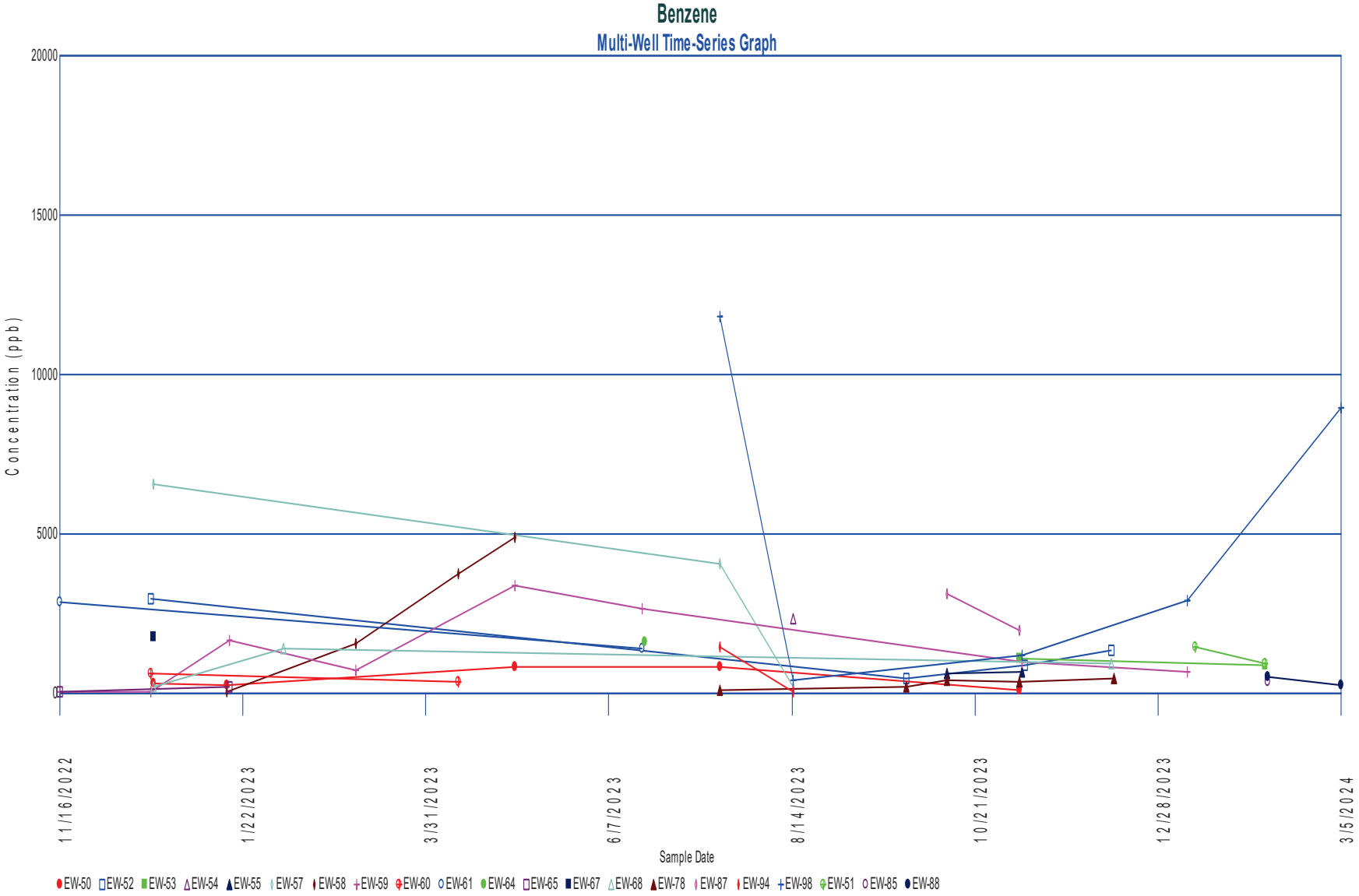
mg/L = milligrams per liter

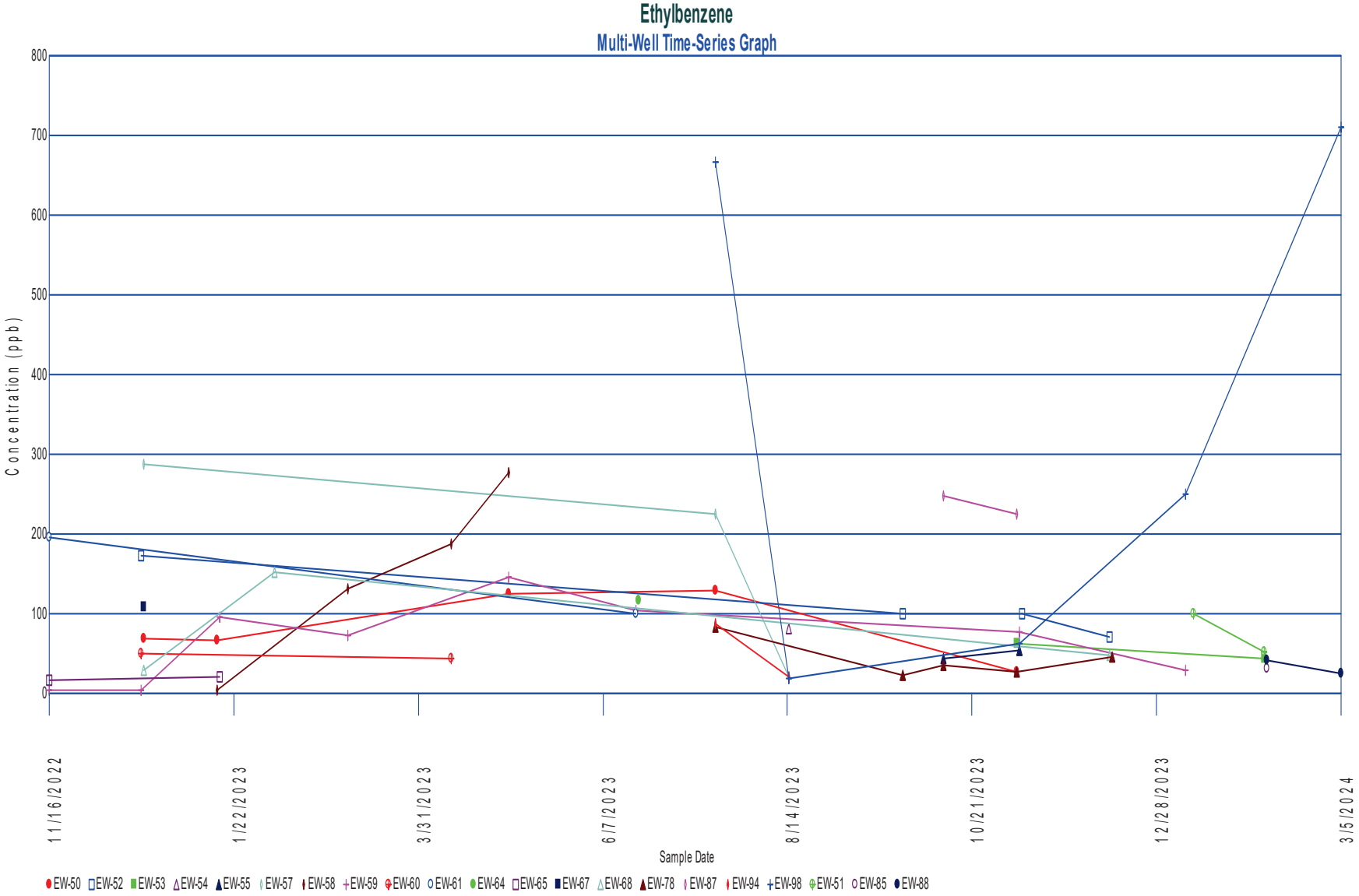
ND = Not Detected

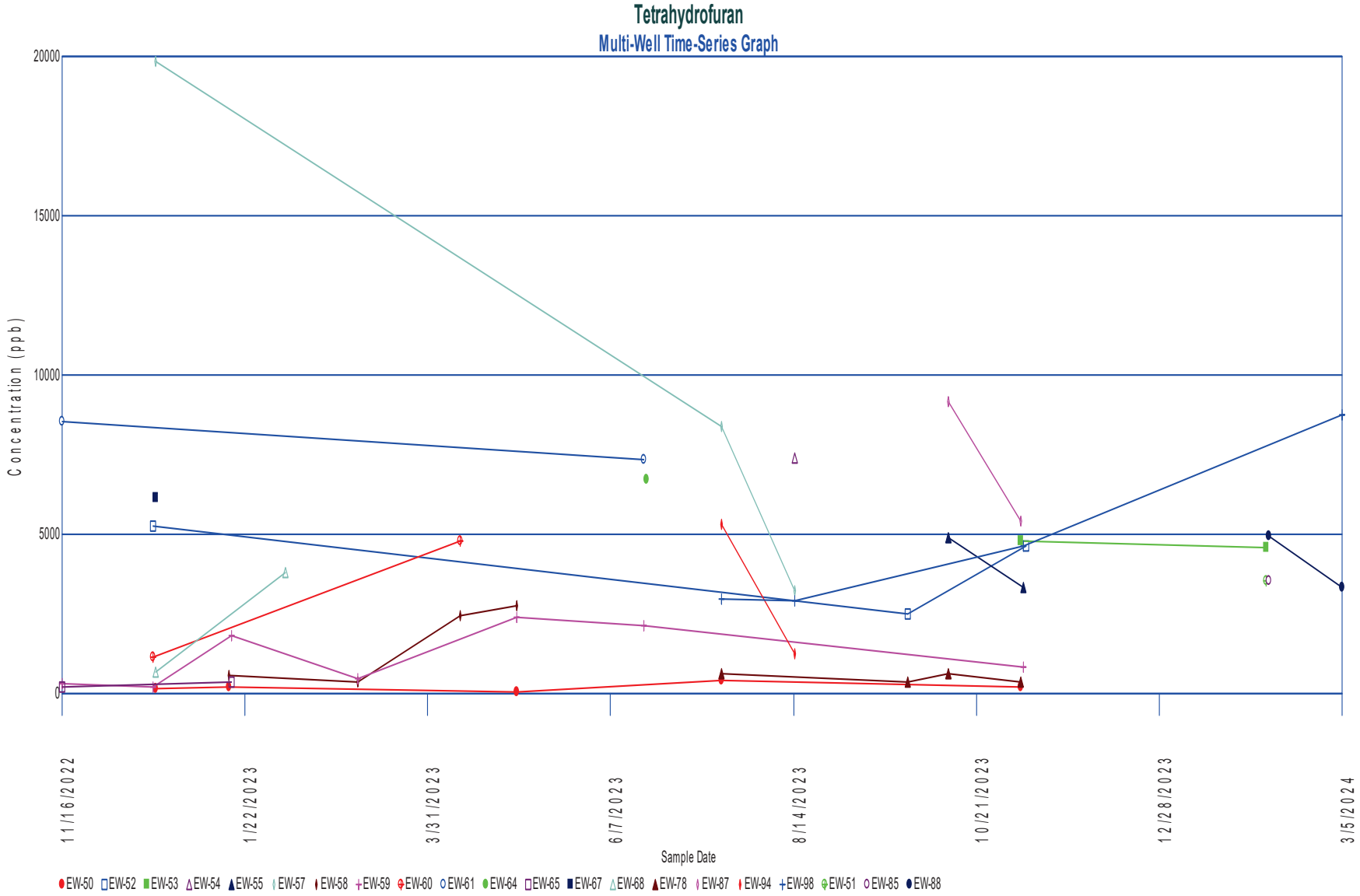
ug/L = micrograms per liter

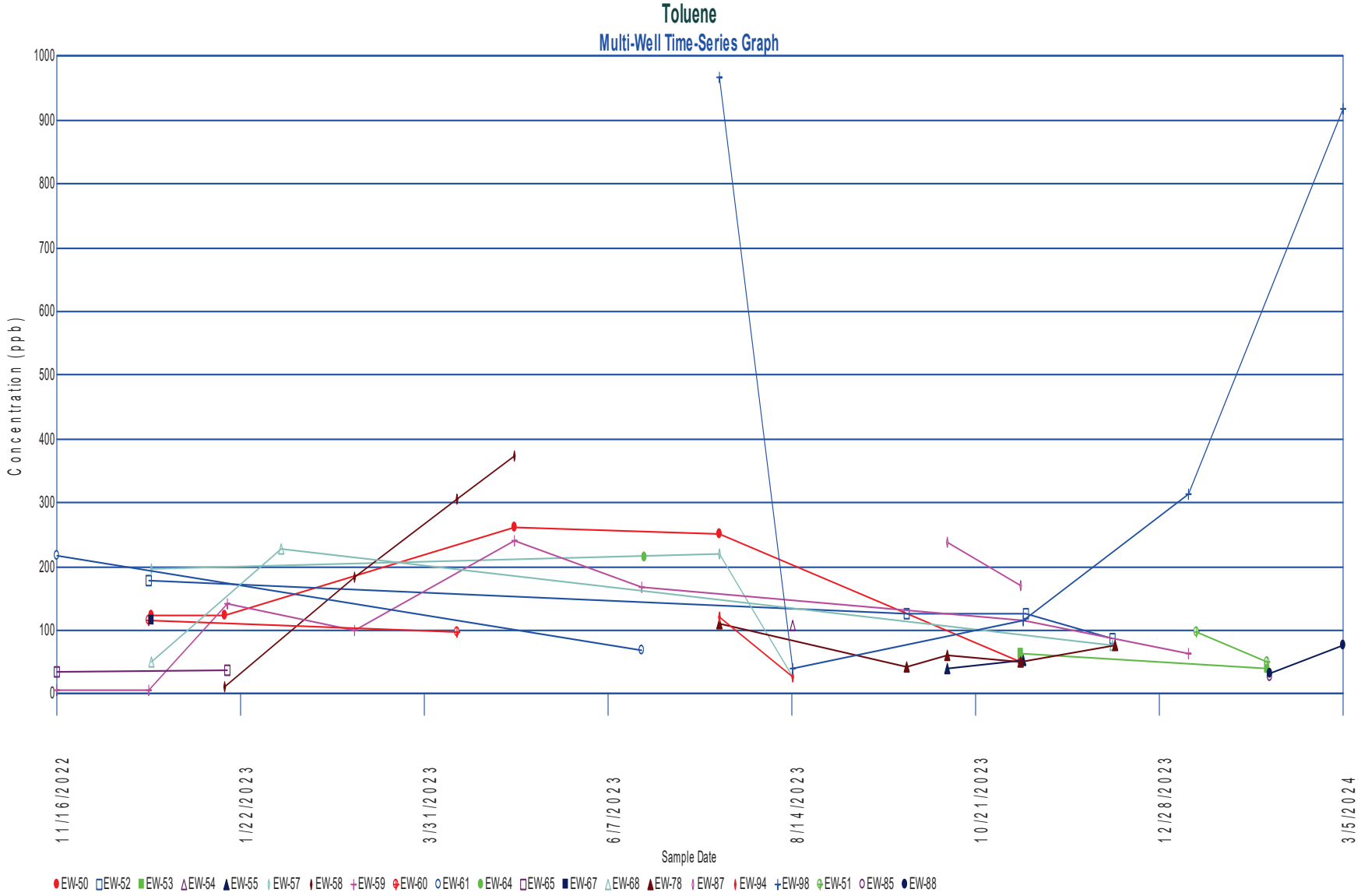

2-Butanone
Multi-Well Time-Series Graph
Concentration (ppb)
40000
35000
30000
25000
20000
15000
10000
5000
0
11/16/2022
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 EW-87 EW-94 EW-98 EW-51 EW-85 EW-88

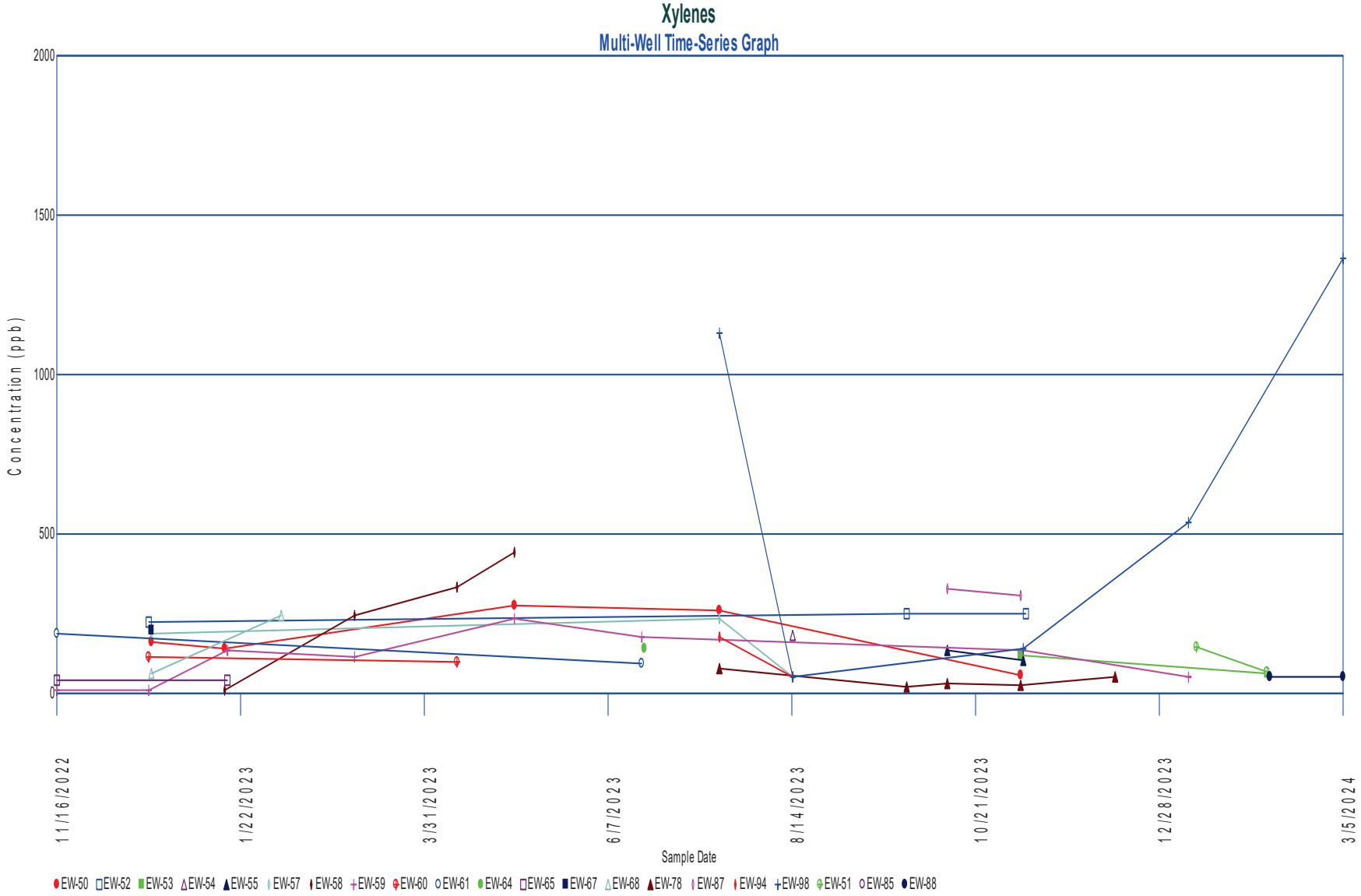

Acetone
Multi-Well Time-Series Graph
Concentration (ppb)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
11/16/2022
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
Sample Date
EW-50 EW-52 EW-53 EW-54 EW-55 EW-57 EW-58 EW-59 EW-60 EW-61 EW-64 EW-65 EW-67 EW-68 EW-78 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
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
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)
800
700
600
500
400
300
200
100
0
11/16/2022
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
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
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
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
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
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
1/22/2023
3/31/2023
6/7/2023
8/14/2023
10/21/2023
12/28/2023
3/5/2024
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